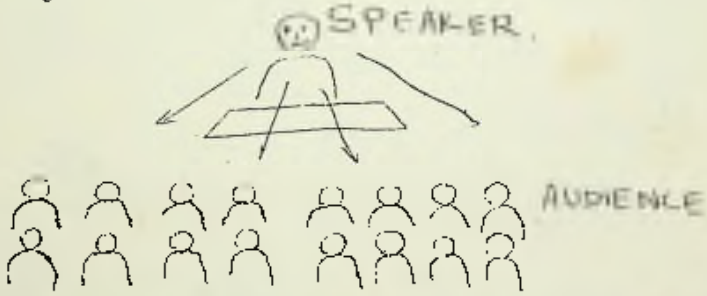
METHODS OF HEALTH EDUCATION

In the implementation of Health Programme, Health of Education is of paramount importance and in the process of Health Education, various methods are employed. When we are dealing with human beings, the method/ methodology is very important in achieving the end results. If the methods are good and sound the people accept and act in the direction we want them to change.

The following are some of the common and practical methods of Health Education which could be employed by the P.H.C. field staff in educating the community for the successful implementation of any Health P Programme.

I. Lecture Method:-

The lecture is an oral presentation by a speaker to deliver organised thoughts and ideas.



In this process of speech, thoughts will be initiated, problems will be identified and the audience may be moved to action.

Advantages:-

1. Could present the material in a logical sequence.
2. Appeals to the audience since it is easy to hear than reading.
3. Easy to impart large number of facts in the shortest time possible to a large group of audience.
4. Simple to organise lectures.

Disadvantages:-

1. One way method.
2. Information is one way flowing
3. No scope to get feed back from the audience
4. No opportunity to get clarification from the speaker.

Duplicate

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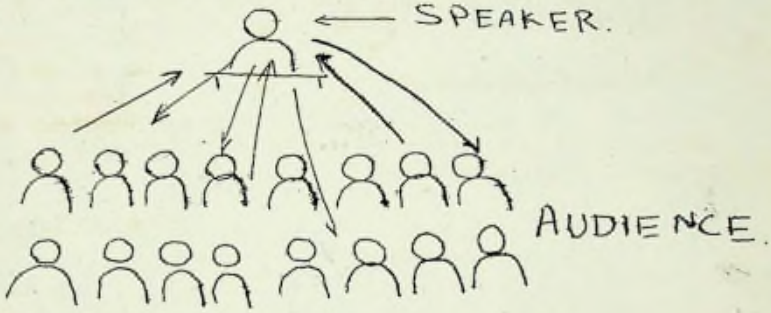
II. Lecture-cum-discussions method:-

- It is a process by which the speaker and audience participate both in lecture and discussion.

- In the process, thoughts will be initiated, problems will be identified to seed solutions.



Advantages:-

1. Learning will be more meaningful and effective
2. Material could be presented in a specified time
3. Could know that is in the minds of the people
4. Doubts may be cleared
5. Two way method
6. Feeling of satisfaction to the audience

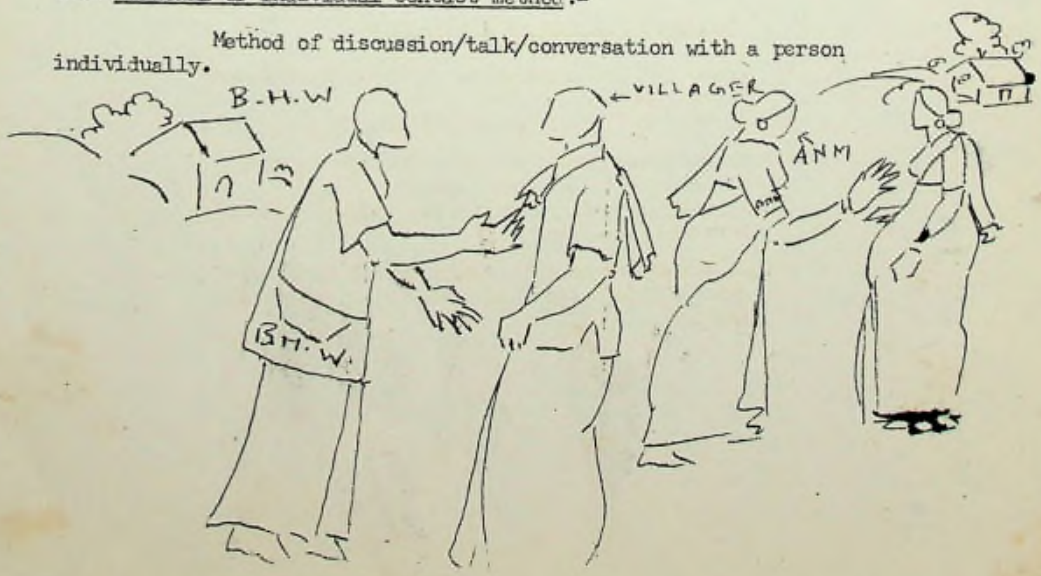
Disadvantages:-

1. Communication may fail in case the Lecturer/Speaker has not prepared properly.

2. May result in the wastage of time, if the audience is asked to discuss subject/topic not relevant to that particular occasion.

III. Personal or individual contact method:-

Method of discussion/talk/conversation with a person individually.



Advantages:-

1. People freely to discuss the problems.
2. Doubts could be clarified.
3. Personal Health problems could be discussed.
4. Health matters could be discussed in confidence.

Disadvantages:-

1. May not be practicable to discuss with other sex.
2. Uncomfortable to the persons who are shy type.

IV. Group discussion method:-

It is a participation of a group of persons in the discussion of some subject or problem for which further information action is mutually desired.

Group discussion

(a) Chairman - lead the discussion:- CHAIRMAN - The Chairman will be the person who leads the discussion and helps the group not only for smooth running of group discussion, but also, for its productivity in terms of arriving at decisions. He will see that there will be no scope for group conflicts and provide opportunities to all the members to participate in the discussions. He will be the person who must be in a position to command the respect of the group and he must be polite and courteous in his dealings with the group.

Responsibilities of Chairman :-

(1) Encourage the expression of ideas by members of the group
(2) To see that facts are available as needed
(3) To ask questions from time to time to give direction to the discussion
(4) To make occasional summaries without injecting personal ideas and
(5) To serve as an efficiency expert to smooth out the rough spots without using autocratic tactics.

(b) Rapporteur - Establishing rapport and recording

(c) Resource person - Guide the group

(d) Members - participants

- Group discussion provides each participant an opportunity to express his or her view point.

Advantages:-

1. A valuable educational method which provides opportunity to all the members to participate
2. Stimulate people to become aware of mutual problems.
3. Help them to identify problems.
4. Help to explore the other possibilities of solving the problems.
5. Provides an opportunity for them to place programmes of action.
6. Assist them to find out solution to problems.
7. Easy to implement because of group support.
8. Learning will be more effective as the members discuss elaborately and clearly.
9. Bring together the opinions of all the members to conclusion.
10. The contribution of each member in the group discussion will add to the group knowledge.

Disadvantages:-

1. If there is no planning, it will not reach the desired [illegible] success.
2. If all the members do not participate, group discussion will not be a success.
3. The leader, if he is not well-versed with the topic/problem, the discussion will not be effective.

V. Seminar Method:-

Seminar is also a type of formal discussion in which 3-5 members speak on different aspects of a particular programme/topic followed by audience participation.

Example:- Mid-day meal programme.

Chairman (Medical Officer of Health)	.. Introduction
Member (B.H.E.)	.. Role of the Community
Member (Lady Health Visitor)	.. Nutritional aspects
Member (Senior Health Inspector)	.. Sanitation aspects

Advantages:-

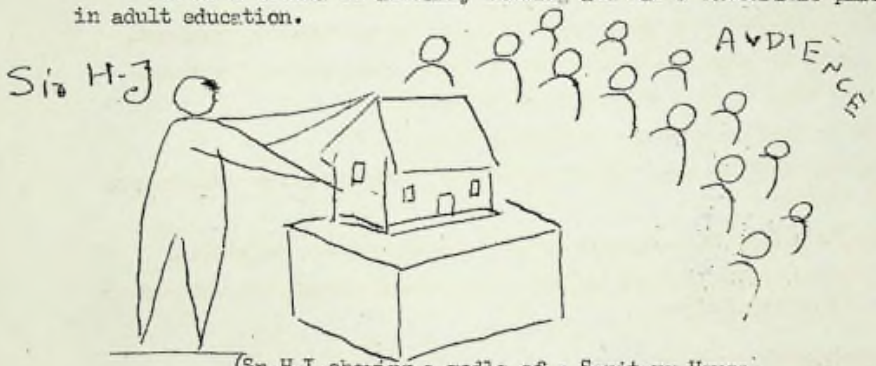
1. Learning is great, as the members speak different aspects.
2. Creates interest among audience
3. Practicable to any situation.

Disadvantages:-

1. In the absence of pre-planning, the entire show may be ineffective.
2. Members may have to be well prepared for the probable questions from the audience.

VI. Demonstration Method:-

It is a method of actually showing and has a favourable place in adult education.



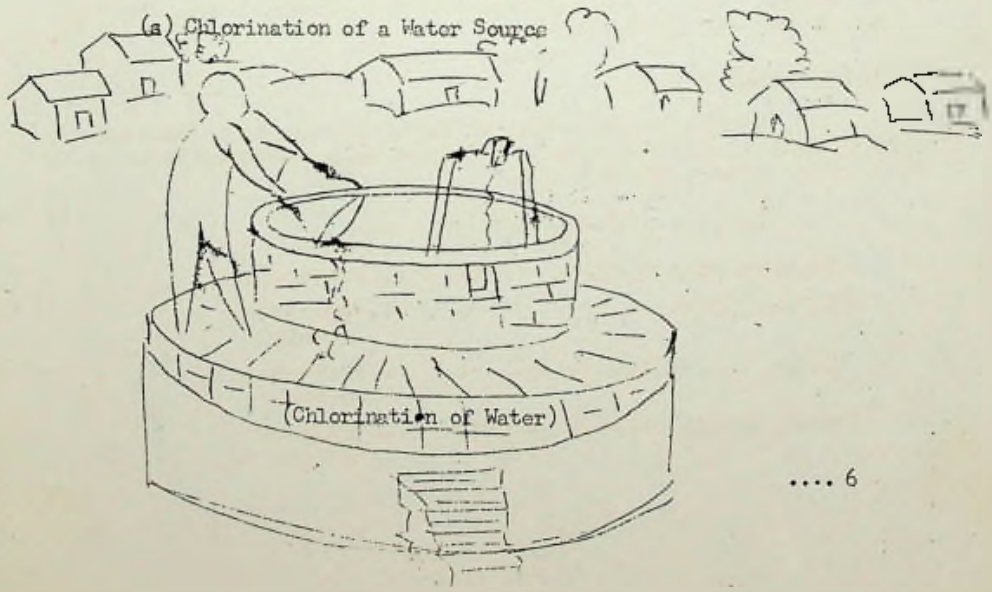
(Sr.H.J.showing a model of a Sanitary House)

Two types:-

1. Method demonstration:-

Actually demonstrates the method of doing

(a) Chlorination of a Water Source



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2. Result Demonstration:-

Actually demonstrating the results with evidence after practice.

Example:- (1) A baby attending the well baby clinic with that of a baby not attending. The baby who is attending the Clinic naturally will be more healthy than the one not attending.

(2) A pregnant lady who attends the Antenatal Clinic regularly with that of another pregnant lady who is not attending the Antenatal Clinic. In this case, the Lady who attends the Antenatal Clinic will have a safe delivery and healthy Child.

(3) Regular primary vaccinations and periodical revaccinations lead to Erradication of Small Pox.

Advantages:-

1. Attracts and holds attention and it is interesting
2. Can present subject matter in a way that can be under- stood easily.
3. Convince those who may have doubts
4. Objective and concrete
5. Proves the example of practical application and knowledge
6. Permits both theory and practice.

Disadvantages:-

1. Very difficult to make good demonstration
2. This method is restricted to certain kinds of teaching situations.
3. Requires a large amount of preliminary preparation.

VII. Field trips and tours:- It is planned to visit places outside the Class room or the meeting place of the Organisation. Field trip involves the taking of a group to a specific place for a specific purpose. Short duration of 1 to 3 hours.

Tour: A visit to several points of interest - requires more time than field trip.

- Duration from one day to several weeks.

Advantages:-

1. Provides opportunities to gain new experiences and information.
2. Objects may be observed in their natural settings.
3. Observation is stimulated.
4. Provides a sense of reality to problems of adult nature.
5. Facilitates learning by seeking.
6. Provides an opportunity to integrate theory with practice.

Disadvantages:-

1. May fail if there is no pre-planning and proper arrangements.

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Primary Health care and Family Planning
Programme in Rural Gujarat : Some Issues.

In the post 1961 are fertility control seems to have become the main objective of the health plans in India shadowing the efforts to contain morbidity and mortality among the population in general and infants in particular. Plan allocations for the Family Planning (FP) programme jumped from Rs 22 million in the second Five year (FY) Plan to Rs 249 million in the Third FY Plan - more than 10 fold increase ! During the Sixth FY Plan - the allocation was Rs 10,000 million. The share of FP programme in the total health plan outlay increased from 1.54 percent during the second FY Plan to 35-67 percent during the Sixth FY Plan. (Appendix Table 1). Such a massive allocation for FP Programme at the Centre obviously had an impact on the state plan expenditure on FP programmes in the states. Gujarat, too, experienced a steep rise in the central allocations for the FP Progtamme since the beginning of the Fourth FY Plan. During the first, second, third FY Plans and the three annual plans (ending 1968-69). The Gujarat state plans allocated modest sums for the FP programme (not exceeding 3.5 percent of the total states health plan outlays). From 1969 onwards almost entire allocation, constituting 37 to 55 percent of the state's total health plan outlays, started flowing from the centre. The seventies and eightees witnessed plethore of FP compaigns, drives, camps, prestige camps etc. in Gujarat to achieve the targets set for sterilizations and other methods of fertility control. Not only that hundreds of FP centres and sub-centres were created and manned by doctors and other para-medical staff in all parts of the state, the primary health machinery, village, taluka and district level machinery including teachers, officials non-officials etc. were geared to work for achieving the FP targets set by the Centre. Persuation overt and convert pressures and all types of tactics were and are being used to achieve the targets.

Background paper for XIII Annual Meet of the MFC at Udaipur 26-27, January 1987. Prepared by Sudarshan Iyengar and Ashok Bhargava.

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That there is an urgent need for a comprehensive health the family welfare programme in the state is known. Relatively high infant mortality, generally poor health conditions of pregnant women, lactating mothers and all other women in general and inability to create effective demand for primary health care services necessitate the state's intervention in creating health and family welfare facilities at the door step of the poorer sections of the population. How far the government has been able to achieve in last 20 years needs a proper review and assessment. The scope of present discussion is mainly limited to a review of family planning programme in the state. Nevertheless, the review on FP programme itself will have definite bearing on other facets of primary health care and the paper intends to bring forth relevant issues in that regard too. Specifically the objectives of the paper are the following.

a. to present a brief review of the health and FP programme in Gujarat and examine the likely future trend; and
b. to show the neglect of primary health care consequent upon the emphasis on FP programme in Gujarat.

The paper is divided into three sections. The first section discusses the theme and objectives of the paper. In the second section a review of physical and financial aspects of health and FP programme are presented. In the third and final section relevant issues are raised.

Health and Family Planning Programme in Gujarat- An Overview:

As stated earlier, direct efforts to check the population growth in Gujarat started with the beginning of the fourth FY plan. The draft fourth FY plan of the Government of Gujarat states "rapid growth of population has the effect of diminishing the impact of economic growth. During 1951-61, the population of Gujarat registered a growth of 26.88 percent or 2.7 per annum against the all India growth of 21.5 percent or 2.2 per annum. The rapid growth points to the need for intensifying the measures for controlling the growth of population through family planning methods.

High priority, therefore, needs to be accorded to the Family Planning Programme. This will be fully centrally sponsored scheme in the Fourth Plan". The financial allocations for the FP programme thus experienced a spurt from the fourth FY Plan. The financial outlays for health and FP programme during plan periods for Gujarat are presented in Table.

Following observations may be made on the basis of .

Table 1.

1. Control of communicable diseases was the single most important plan component till fourth FY plan and since then it was relegated to second place.
2. Almost one half of the total Plan outlays (all plan outlays taken together) has been allocated for FP programme.
3. Building new Primary Health Centres (PHCs) and strengthening old ones received third priority largely due to minium needs programme (MNP). About one seventh of the total Plan Outlays (all plan outlays taken together) has been allocated for MNP. It should be mentioned that from sixth FY plan onwards MNP included a major outlay for multi-purpose health workers scheme with an objective to integrate the services of vertical programmes like maleria, TB, Control etc. into primary health care at village level.

Both the control of communicable diseases and the FP programme are centrally sponsored. The former programme was fully centrally sponsored till the sixth FY plan. Since then the state has to provide 50 percent of the total outlay for the programme. The FP programme is almost fully centrally sponsored. The state provides a very small portion for FP for incentives to the acceptors and motivators. Table 2 shows the centre's share in the total health plan outlay.

Table ; 1: Financial Outlays for Health and Family Planning During Plan Periods in Gujarat.

(Rs in lakhs)

Major Heads.	1st FY Plan. (1951-56)		2nd FY Plan. (1966-61)		3rd FY Plan. (1961-66)		Annual Plans. (1966-69)	
	a	b	a	b	a	b	a	b
1. Control of Communicable Diseases.	N.A	-	431	43.0	220	13.3	597	68.5
2. Medical Education Research and Training.	N.A	-	34	3.4	170	10.3	107	12.3
3. Hospitals, Dispensaries and PHC.	N.A.	-	108	10.8	175	10.6	62	7.1
4. Indian System of Medicines.	N.A	-	-	-	28	1.7	40	4.6
5. Minium Needs Programme.	N.A.	-	242	24.1	270	16.3	-	-
6. Other Health Programmes	N.A	-	187	18.6	739	44.8	38	4.4
7. Family Planning.	N.A	-	1	Neg	50	3.0	28	3.2
Total	*1652	100	1003	100.0	1652	100.0	872	100.0

Table 1 Contd.

*Includes Water Supply, (a) Outlay (b) Percentage to total Outlay
N.A. Not Available.

Sources: 1. Health Statistics of Gujarat. 2. Draft Seventh FY Plan.

(₹ in lakhs)

Major Heads.	4th FY Plan (1969-74)		5th FY Plan (1974-79)		6th FY Plan (1980-85)		7th FY Plan (1985-90)		Total 2nd to 7th FY Plan.	
	a	b	a	b	a	b	a	b	a	b
1. Control of Communicable Diseases.	1,615	35.9	1,912	31.3	6,573	36.4	6,905	20.6	18,253	27.7
2. Medical Education, Research & Training	269	6.0	262	4.3	690	3.8	1,357	4.0	2,889	4.4
3. Hospitals, Dispensaries & PHC	283	6.3	607	9.9	620	3.4	1,021	3.0	2,876	4.4
4. Indian System of Medicines.	80	1.8	203	3.3	120	0.7	325	1.0	796	1.2
5. Minimum Needs Programme	30	0.7	592	9.7	2,910	16.1	5,342	15.9	9,386	14.3
6. Other Health Programmes	138	3.1	135	2.2	396	2.2	110	0.3	1,743	2.6
7. Family Planning	2,085	46.2	2,400	39.3	6,762	37.4	18,524	55.2	29,850	45.4
TOTAL	4,500	100.0	6,111	100.0	18.071	100.0	33.584	100.0	65,793.	100.0

Table 2 : Centre's Share in State's Health Plan Outlays

(Rs. in Lakhs)

Plan Period	Total Outlay for Health and FP	Centre's Share			State's Share		
		FP	Others	Total	FP	Others	Total
Second FY Plan Percentage.	1,003 (100)	Nil	431 (43.0)	431 (43.0)	1 (0.1)	571 (56.9)	572 (57.0)
Third FY Plan. Percentage	1,652 (100)	Nil	720 (43.6)	720 (43.6)	50 (3.0)	882 (53.4)	932 (56.4)
Annual Plan Percentage.	872 (100)	Nil	597 (68.5)	597 (68.5)	28 (3.2)	247 (28.3)	280 (31.5)
Fourth FY Plan Percentage	4,500 (100)	2,085 (46.3)	1,615 (35.9)	3,700 (82.2)	Nil	800 (17.8)	800 (17.8)
Fifth FY Plan Percentage.	6.111 (100)	2,400 (39.3)	1,869 (30.6)	4,269 (69.9)	Nil	1,841 (30.1)	1,841 (30.1)
Sixth FY Plan Percentage.	18.071 (100)	6,477 (35.8)	4,594 (25.4)	11,071 (61.2)	285 (1.6)	6,715 (37.2)	7,000 (38.8)
Seventh FY Plan Percentage.	33.584 (100)	18.232 (54.3)	5.043 (15.0)	23.275 (69.3)	298 (0.9)	10,017 (29.8)	10,309 (30.7)

Source : Plan Documents.

Columns 5 and 8 show the share of centre and the state respectively to the total health plan outlay. It may be observed that centre's share has been more than 60 percent since the Annual Plan Period. The centre's share is very high mainly due to the allocation for the FP Programme. It may be of some interest therefore to examine changing priority of the health programme in the state's total plan allocation for all the programmes. Table 3 below shows the changing share of health plan allocation to the total ~~xxx~~ state plan.

It may be observed that the share of health plan allocations show a falling trend since Annual Plans. If one excludes FP programme, the falling share is more pronouncely evident. During the seventh FY plan the share of allocation for health programme shows an all time low of 2.5 percent to the total plan allocation in the state.

Let us now turn our attention to the physical achievement in the field of health as well as FP programme. For the purpose of this discussion we shall mainly report on the status in rural Gujarat. Table 4 below contains information on some of the physical health infrastructure in Gujarat.

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Table 3 : Share of Health and FP Allocations to the Total State Plan Allocations During Plan periods.

(Rs. in Lakhs)

Plan Periods	State Plan Outlay	Allocation for Health Plan	
		Including FPP	Excluding FPP
Second FY Plan	26,624 (100)	1,003 (3.8)	1,002 (3.8)
Third FY Plan.	24,385 (100)	1,652 (.6.8)	1,602 (6.6)
Annual Plans.	20,810 (100)	872 (4.2)	844 (4.1)
Fourth FY Plan.	50,439 (100)	4,500 (8.9)	2,415 (4.8)
Fifth FY Plan.	122,194 (100)	6,111 (5.0)	3,711 (3.0)
Sixth FY Plan.	376,000 (100	18,071 (4.8)	11,309 (3.0)
Seventh FY Plan	600,000 (100)	33,584 (5.6)	15,060 (3.5)

Source: Figures in parantheses indicate percentages.

The data in Table 4 permit the following two observations:

1. The pace of establishing PHCs and various types of sub-centres picked up with the beginning of the third FY Plan.

2. FP sub-centres constitute a major share in the total number of the sub-s centres.

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Table 4 : Establishment of Primary Health Centre and Sub-Centres in Gujarat.

Period	PHC	Sub Centres				
		MCH	MNP	FP	Total	FP as % to Total
Beginning of 1st FYP	6	18	-	-	18	-
2nd ,,	96	288	-	-	288	-
3rd ,,	142	426	-	260	686	61.0
Beginning of Three Annual Planning	244	732	-	350	1082	32.3
Beginning of 4th FYP	251	786	134	1000	1920	52.1
5th ,,	251	786	134	1000	1920	52.1
6th ,,	251	886	134	1000	2020	49.5
* As on March 1983	251	986	134	1600	2720	58.8

* 25 more PHCs have been sanctioned under MNP that are not included in the figures on PHCs.

Source: Health Statistics of Gujarat 1984.

The Government of Gujarat has accepted certain norms for providing the physical infrastructure. We present below in Table 5 the norms and the actual status using 1983 figures for physical achievements against 1981 rural population which was 234,04,494 persons.

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Table 5 : Norms and Actual Status of Health Infrastructure in Rural Gujarat.

Particular	Norm	Actual Status
Upgraded PHC	1: 100,000	1: 19,50,000
PHC	1: 30,000	1: 93,000
Sub-Centres	1: 5,000	1: 8,600
Community Health Volunteers (CHVs)	1: 1,000	1: 1,286

Source: Health Statistics of Gujarat 1984 (for norms and Number of Establishments).

It may be observed that the gap in the availability of health infrastructure widens as one moves towards the upgraded facilities. The establishment of sub-centres appears to be near the norm largely due to the FP sub-centres which constitute 58.8 percent of all types of sub-centres. Assuming that the FP sub-centres catre only to FP services the ratio of other sub-centres to the population works out to the 1: 21,000!

Target and Achievements of FP Programme in Gujarat : The major flank of the FP programme in Gujarat is fertility control through by and large terminal method. The propertion of couples currently protected during a given year seems to have increased substantially since 1966.67, Table 6 contain the relevant information.

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1. Couple protection through terminal method i.e. sterilization, has generally risen steadly, over years. However, within a span of 17 years (1966.67 to 1982-83) two years may be noted for sharp increase; the year are 1971-72 and 1976-77.

2. The proportion of couples currently protected during any year through spacing method has been very low compared with the terminal method. The couples protected through IUD have been fluctuating with in a range of 0.9 to 2.1 percent of the total estimated eligible couples. The proportion of couples protected through conventional contraceptive (CC) methods have been fluctuating over a relatively larger range of 0.8 to 3.9 percent. What is apparent from Tanle 6 is that the efforts to control fertility have been largely concentrated on terminal method rather than on spacing method. This particular aspect in further confirmed when one looks at the FP Acceptors' profile.

The data are given in Table 7.

1. Reading Table 6 and 7 together for terminal method one can note some inconsistency which is not explained. The number of acceptors of terminal method rose sharply in 1967.68, 1971-72, 1974-75 and 1976-77 (Table 7). However the number of couples currently protected through terminal method (Table 6) rose sharply only in two years viz. 1971-72 and 1976-77. One fails to understand as to how the large relative increases in 1967-68 and 1974-75 were absorbed.

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Table 6 : Number of Couples Currently Protected Due to Various Methods of Family Welfare by the Respective Year.

Year	Estimated Couples in retroductive age group (in '000)	Sterilisation		IUD		C.C. Users		Total	
		Number	Percentage	Number	Percentage	Number.	Percentage.	Number	Percentage
1	2	3	4	5	6	7	8	9	10
1966-67	4,405	1,28,797	3.2	86,874	2.1	31,672	0.8	2,47,343	6.1
1967-68	4,142	2,05,268	5.0	81,484	1.9	40,990	1.0	3,27,742	7.9
1968-69	4,239	2,93,050	6.9	70,852	1.6	54,267	1.3	4,18,169	9.8
1969-70	4,316	3,70,348	8.6	61,512	1.4	61,121	1.4	4,92,981	11.4
1970.71	4,374	4,44,005	10,1	53,640	1.2	76,733	1.8	5,74,378	13.1
1971-72	4,719	7,09,113	15.3	47,056	1.0	1,27,173	2.7	8,83,342	19,0
1972-73	4,747	7,67,962	16.2	42,416	0.9	81,818	1.7	8,92,196	18.8
1973.74	4,850	7,88,061	16.3	46,211	1.0	78,263	1.6	9,12,535	18,1
1974.75	4,953	8,99,546	18.2	55,299	1.1	1,18,544	2.4	10,73,389	21.7
1975-76	5,057	10,03,768	19.8	61,219	1.2	1,84,789	3.7	12,49,776	24.7
1976-77	5,161	12,62,764	24.5	69.524	1.3	1,99,837	3.9	15,32,135	29.4
1977-78	5,264	13,08,634	24.9	78,315	1.5	1,54,966	2.9	15,41,915	29.3
1978.79	5,489	15,78,636	26.7	88,755	1.6	2,05,379	3.8	18,29,770	32.1
1980.81*	5,433	16,94,562	31.2	92,361	1.7	92,059	1.7	18,78,982	34.6
1981-82*	5,689	18,35,392	32,3	1,02,327	1.8	89,639	1.6	20,27,358	35.7
1982-83*	5,842	19,64,149	33.6	1,12,230	1.9	1,23,277	2.1	21,99,756	37.6

* Couples Effectively Protected.

Source : Directorate of Health, Medical Services and Medical Education (Health Section), Ahmedabad.

Table 7 : Methodwise Number of Acceptors in Gujarat by year.

Year	Terminal	Spacing	Ratio
1966.67	40	66	1: 1.65
1967.68	85	61	1: 0.72
1968.69	101	66	1: 0.65
1969-70	94	72	1: 0.77
1970.71	95	86	1: 0.91
1971-72	295	136	1: 0.46
1972-73	97	90	1: 0.93
1973-74	60	96	1: 1.60
1974-75	155	128	1: 0.83
1975-76	153	208	1: 1.34
1976-77	317	228	1: 0.72
1977-78	112	185	1: 1.65
1978-79	197	241	1: 1.22
1979-80	220	208	1: 0.95
1980-81	201	225	1: 1.12
1981-82	237	227	1: 0.96
1982-83	242	283	1: 1.17
Total (1971-72 to 1980-81)	1807	1745	1: 0.96
All India Average for (1971-72 to 1980-81)			1: 1.45

Source: 1. Health statistics of Gujarat 1984.

2. Diagnostic study of Population Growth Family Planning and Development, Gujarat 1971-82, P. 54, for All India Estimates.

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2. It is established beyond doubt that the emphasis by the Gujarat Government has been on terminal method rather than the spacing method.

Assuming for a moment that the emphasis on terminal method of family planning was correct in the context of high fertility rate in Gujarat, it would be of some interest to examine the profile of acceptors of terminal method in Gujarat. We present below two characteristics of acceptors that will reflect upon the possible impact on fertility. The two characteristics are age of wife at the time of acceptance and the number of living children.

Table B : Percentage of Acceptors of Terminal Methods Above 30 Years of Age-Gujarat.

Year	Vasectomy	Tubectomy	Weighted* Average of Vasectomy and Tubectomy
1974-75	59.8	58.2	58.5
1975-76	43.3	59.2	56.0
1976-77	60.6	54.1	55.4
1977-78	55.8	51.9	52.7
1978-79	60.4	56.3	57.1
1979-80	58.3	56.8	57.1
1980-81	55.1	53.8	54.1

* We have used 0.8 and 0.2 as weights for Tubsectomy and Vasectomy respectively. They are the actual weights for the year 1981-82.

Source: "Diagnostic Study of Population Growth, Family Planning and Development in Gujarat". The Family Planning Foundation Study 1984. p.62.

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It may be observed that the intensive efforts to motivate couples for sterilisation has resulted in acceptance of the method largely by couples where wife's age has crossed 30 and the couple already has 4 or more living children. This group constitutes 50 percent of the total sterilisations performed over number of years since 1974-75. Rambadhran categorically states, "the tubectomy programme (in Gujarat) is still focussed on women with high parity, 4 + which could be cases of 'complete family' ".1/

Table 9: Percentage of Acceptors of Terminal Methods with 4 or More Living Children - Gujarat

Year	Vasectomy	Tubectomy	Weighted* Average of Vasectomy and Tubectomy
1977-78	41.8	57.7	54.6
1978-79	40.6	57.5	54.1
1979-80	36.7	57.8	53.6
1980-81	36.7	57.8	53.6
1981-82	37.7	51.5	48.7

* We have used 0.8 and 0.2 as weights for Tubectomy and Vasectomy respectively. This are the actual weights for 1981-82.

Source: Same as Table 8.

1/ Rambadhran V.K. "Diagnostic Study of Population Growth. Family Planning and Development Gujarat" November 1984 p. 63.

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The characteristics of the acceptors thus show that the emphasis on fertility control efen if carrect, is likely to have had a very limited impact on fertility control.

Such a lop.sided performance may now be viewed in the context of financial allocations on health in general and FP programme in particular. Earlier we have shown relatively higher increases in the planned expenditure on FP. We now examine the trend in per capital expenditure on FP during different plan periods. Table 10 contains the details.

Following observations may be made on the basis of Table 10.

1. Per capita expenditure has increased both for health as well as family planning, but overall increase has been more rapid for family planning. The changes between sixth and seventh five year plans deserve special attention. Per capita allocation during the seventh plan period is more than the per capita allocation for all programmes of health. Viewed in the context of lopsided approach of the FP programme in Gujarat, such a significant increase in allocation for FP programme should be a cause for concern.

2. Allocation to FP programme implies allocation for eligible couples (With the hope that the FP drive would leave alone the singles, unmarried, old and the children!). We thus calculated the allocations

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Table 10 : Per Capita Expenditure on Health and Family Planning During different Plan Periods in Gujarat.

	II Plan 1956-61	III Plan 1961-66	Annual Plans 1966-69	IV Plan 1969.74	V Plan 1974-79	VI Plan 1980-85	VII Plan 1985-90
1. Control of Communicable Dieses.	1.24	1.01	2.48	7.27	6.35	19.03	18.30
2. Medical Education, Research & Training	0.18	0.78	0.44	0.78	0.87	2.00	3.60
3. Hospitals Dispensaries and PHCs.	0.56	0.81	0.26	1.06	2.01	1.79	2.71
4. Indian System of Medicines.	0.00	0.13	0.17	0.30	0.67	0.35	0.86
5. Minimum Needs Programme	1.26	1.24	0.00	0.11	1.99	8.42	14.15
6. Other Health Programme.	0.97	3.40	0.16	0.52	0.42	1.15	0.29
TOTAL.	5.21	7.37	3.51	10.04	12.31	32.74	39.91
Family Planning							
a. All Population.	0.01	0.23	0.12	7.81	7.97	19.58	49.09
b. Eligible Couples	N.A	N.A	0.68	45.32	46.50	119.58	309.93
c. Currently Protected Couple	N.A.	N.A	16.39	277.59	166.04	339.23	818.55

NOTES:
1. For estimating population during plan periods average annual exponential growth rates have been used. The growth rates were worked out for 1951-61, 1961-71 and 1971-81. For VI and VII plan periods we have used mid-year estimates given in Health Statistics of Gujarat 1984.
2. For eligible couples upto VI plan the estimates given by the Directorate Health are used. For the seventh plan the average annual exponential growth has been calculated for 17 years to 1966-67 to 1982-83 and the same rate has been used to project the growth during VII plan.
3. Similar exercise as donw for estimated eligible couples has been done for currently protected couples figures given by the Health Divertorate.

Per eligible couple which shows that the allocation since fourth five year plan has been much higher than the per capita allocation for all the health programmes taken together.

3. Assuming that the actual expenditure in almost equal to the allocations made, we have estimated the amount likely to have been spent after each protected couple. Date on protected couple by year from 1966-67 to 1982-83 and estimating figures for the year upto 1990, we have worked out the allocation for each protected couple. The rise in the allocation per currently protected couple is astronomical. One is tempted to go a little further and perform some more arithmetic on these figures. Of the currently protected couples in any year, 90 percent are protected through terminal method i.e. sterlisation. Further, the records suggest that atleast 50 percent of the sterilisations have been performed on those couples who fall in the category of 'complete family'. The money spent on those couples are less likely to make any positive dent on fertility control that has been the avowed policy of the government of Gujarat. In effect the actual expenditure on each protected couple is to be read as double the amount reflected in row 'C' of Table 10.

The argument may have been stretched a little too for but the point one wishes to make is that FP programme in Gujarat should be considered a failure even judging through government's own objective of fertility control. One more aspect that needs attention at this stage relates to the method of implementation of FP programme. It is generally contended that the programme is for family welfare and not for family planning and hence it is only motivation through which the FP methods are pushed. Under such relaxed circumstances one would expect that the acceptors would by and large belong to relatively more literate class with better socio-economic conditions. The tables below will indicate that it is not so. Table II below gives the percentage of couple that are covered by sterilisation by district for the years 1980 and 1983.

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The list of districts in Table 11 as has been serialised by the conventional regions, Kachchh, Saurashtra (2 to 7), central Gujarat (8 to 11), North Gujarat (12 to 14) and South Gujarat (15 to 18). Gandhingar belongs to Central Gujarat but we have listed it at the end since it has only one taluka consisting of a few villages and it is the capital town of the state.

One can clearly see that the coverage in South Gujarat districts is highest. A special feature of the districts in South Gujarat is that all of them are partially or fully tribal and socio-economically backward. Obviously one would not be required to go through the Census volume to check for the literacy rate in general and female literacy in particular. It may be alleged that the government functionaries are pushing the sterilisation into tribal areas taking advantage of the poverty (through incentive) and ignorance (overt and covert presures). The question is: how far such steps are justified?.

Two districts Dangs and Gandhinagar deserve special attention. They are comparable in one major respect. Both are one taluka districts. The Dangs in located in the remotest south-west corner of the state and it is inhabitated by tribals alone. The facts reagarding the abject poverty over there is well known. Gandhinager is located centrally adjoining Ahmedabad and 22% population lives in the state capital. How is it that official machinery can not motivate couples in villages spread within a radius of 10 kms where as the couple protection in remote Dangs is as high as 57 percent - double the rate of the one obtained for Gandhinagar? Another district which has gained popularity on the success count of FP programme in Gujarat is Bharuch. The district and state officials are never tried of quoting statistics on this district. It has turned into a showpiece which has been put on display byofficials for the outstate visitors and visitors from centre. The district has a large population of tribals and acceptance of FP is more among them due to abject poverty.

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One should not be surprised to find number of cases where both the husband and wife have been sterilised'.

The analysis is sufficient to establish that the FP programme in Gujarat is basied in approach, implementation and performance. It seems to be providing expensive and to a great extent ineffective (in relation to what it sought to achieve). With a two and a half time increase in allocation in seventh plan over the sixth plan, some basic issues will have to be resolved.

That the Gujarat has historically high fertility rate and that the population pressure is likely to adversely effect the efforts to improve socio-economic conditions is well taken. However, one should think for a rational approach to the problem rather than a hurried and baised approach of fertility control.

The desire to have more* children is a result of (a) total uncertainty regarding the survival of children atleast upto the age of 5 and (b) lack of adequate opportunities for livelyhood. Coupled with these are the socio-cultural traditions all of which cultimate into the desire. for having more children. At the conceptual level atleast the Health and Family Welfare Programme is designed to take adequate care of the first factor namely improving the child survival and other health

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* By more children one does not mean any number of children. The couple and/or family does seem to consider various factors in determining the size of the family. An all India survey conducted by Operational Research Group (ORG) Baroda, in 1982 on attitude of people towards FP and composition of families etc. came out with a finding that 82 percent of the respondants considered small family to be happy family-small being 3.2 children and large being 4.8 children.

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aspects. However, in implementations overemphasis on fertility control through FP methods seems to have completely shadowed all other integral parts of the programme. The implementing machinery has failed even to implement successfully the MCH programme which is an important component of the FW programme. A study 1/ conducted by the the Extended Programme of Immunization (EPI) division of the Health Directorate of Government of Gujarat shows that upto 1981 the percentage of children who completed three does of Polio, DPT and BCG was 22.4, 40.4 and 26.0 respectively.

The community health norms for gaining herd immunity is 80 percent i.e. if 80 percent of the children in the community are immunised, the changes of occurances of a particular disease are reduced significantly.

Among the other health programmes the control of communicable diseases has been important all along the Plan periods atleast in terms of allocations.

The communicable diseases covered under this programme are : Malaria, Tuberculosis, Leprosy, Filaria and blindness prevention. Since the sixth five year plan the state governments are supposed to provide matching contribution (50 percent) to the allocation. But the fact remains that state governments not only fail to contribute the 50 percent share but they also do not make use of provisions made by the centre. For instance, the states have not even lifted their full quota of Insecticides alloted to them by the centre (for Malaria). 1/*

1/ Health Statistics of Gujarat 1984.

1/* Parenthesis added. V.N. Rao and others "Indepth Evaluation of Report of the Modified Plan of Operation under NMEP", Ministry of Health and Family Welfare, Government of India 1985.

Regarding another communicable disease namely T.B. too the performance has been far from satisfactory. During 1981-82out of 69,150 new cases registered under twenty point programme 9,996 or 14 percent completed treatment which meansthat the 'case holding' in Gujarat is far behind the national average of 30 to 35 percent.

The gross neglect of most of the health programme is cause of serious concern. The FP programme receives a very high priority and adversely effects the implementioned of all other health programmes. This has been sharply brought out by a study of Ministry of Health, Government of India itself. The study, which is an in-depth evaluation of the Modified Plan of Operation under National Malaria Eradication Programme, states that after the introduction ofmultipurpose health workers the implementation of Malaria programme suffered. It says, "There has been epidemiological [illegible] black outs in large areas due to totally absent or inadequate case detection even in the transmission season". The report takes note of the inadequate staff, vacant posts, staff in position avoiding field works etc. and finally states, working in NMEP has reached a low level of morale not only because of the problems faced by them (workers), but also because of the low priority being given to malaria with the Family Planning Programme virtually sweeping it out.

What is true for Malaria programme is true for all other programmes. If the Government has accepted the objective of 'Health for All by 2000 A.D.' there are no signs of achieving it with the present state of affairs in reaching the health and family welfare schemes to the rural areas.

There is need for a drastic change of priorities both in allocation of funds and approach and strategy of implementing the health and family welfare programme in an integrated fashion.

./Chavan/
Npn.

MEDICO FRIEND CIRCLE

PO: GOPURI, DISTT.WARDHA.(M.S.)

Ref.No. Date: January'1980

Dear Friend,

We are glad to note you are attending the Medico-Friend Circle Meet in Jamkhed from the 24th to 26th January'1980.

Attached kindly find a little information about the Front Line Workers and a few questions which come to our minds.

Kindly go through the paper and think over the questions and possible answers based on your experiences,we would perhaps find answers to some of these questions,when we see Jamkhed.

This little spadework would help to make discussions more likely and the sharing more useful.

(LUIS BARRETO)
Medico Friend Circle

FRONT LINE WORKERS

INTRODUCTION:

1. The Health status of hundreds of millions people in the world is far from satisfactory and in fact unacceptable. More than half the population does not have the benefit of adequate health care. There is wide gap between the developed and the developing countries in the level of health and in the resources they are devoting to the improvement of health. Moreover within individual countries whatever their levels of development, wide disparities exist between health facilities and health conditions of different groups of population.

2. The present medical manpower produced both in the developed and in the developing countries has been inadequate and more important still, incapable of delivering health care to the people who need it and in places where it is needed the most.

3. The World Health Assembly has in its 31st Meeting in 1976 decided that the main social target of governments and W.H.O in the coming decades should be "the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life."

4. The Alma-Ata declaration stressed the need to the provide Primary Health Care. This was to be the key to attaining the target of health for all by the year- 2000.

5. The main people for delivery of primary health care would be the Front Line Workers. It is to be noted however that neither primary health care nor front line worker are a new concept. At best one could say it is a new jargon. But new jargon is not a bad thing, for it evokes renewed interest. But it is bad, if it does not take into consideration our past experiences. It is based on the sharing of experiences of various countries on utilisation of front line workers in delivery of primary health care that this concept has come to be envisaged as one of the main pillars of the National Health Care Delivery System. One must also note that in India projects like Jamkhed in particular and others like Mandwa, R.A.H.A.etc. have been utilising front line workers even before the Alma-Ata Conference.

6. The Government of India launched the C.H.W.'s Scheme on Oct. 2, 1977 in an attempt to strengthen the health services at the grass roots and solve the two main problems our countries' health services has been facing namely:

a) Outreach b) Active community participation.

7. Projects in various countries like Bangladesh, Burma, Thailand, Indonesia, Nepal, Ceylon and India and in some Latin America

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countries have since long been trying to deliver primary health care through front line workers known as either village health workers, community health workers, village health communicators village health volunteers, village health promotors etc. These workers are either part-time or full time, paid or unpaid, literate or illiterate or both, male or female or both etc.

8. In our country the former government launched the C.H.W.'s scheme on Oct. 2nd, 1977. This new rural health policy incidentally is supposed to reflect the ideological concept and rural bias in the field of health. By September, 1979, it was estimated that 180,000 C.H.W had been trained. The scheme had been extended to 981 PHCs. The scheme covers all states in India, except Kerala, T.N. & Jammu and Kashmir, Karnataka agreed to the implementation of the scheme only since April, 1979.

It is to be noted before we proceed that in 123 blocks (out of 892 blocks in the tribal areas) PHCs. have yet to be set up.

9. Front Line Workers in India:

The front line workers in different projects in India are:

a) Village Health Workers in Jamkhed & Mandwa.

b) The village health promoters in Raigarh (RMA).

c) The Anganwadi workers in the 100 Integrated Child Development Services Scheme in the various tribal, rural and urban blocks in different parts of the country.

d) Link workers in the Tea and Coffee Plantation in the South.

e) The Community Health workers in different parts of the country in our villages, etc.

10. What is the role of the front line workers in delivery of primary health care? Different projects have assigned different roles varying from mainly a role of an informant and an educator, as in the plantations, to treatment of minor ailments and collection of data and treatment of malaria, sanitation and health education as in the case of village health promoters, C.H.W's etc. In projects like Jamkhed the VHW's have besides delivery of primary health care, also been involved in total socio-economic development and in social change in the community.

a) What according to you should be the role of these front line workers, taking into consideration in particular the C.H.W.'s Scheme?

b) Should they involve in activities besides health?

11. Criteria and process of selection: In Jamkhed the community is informed about the type of worker required by the doctor, and the social workers and ANMs. and the community select the worker.

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In the plantation, the selection is made by the supervisor and the manager of the tea garden in consultation with the medical officer and the community.

In the Integrated Child Development Service Scheme, the Block Development Officer and Child Development Project Officer are the main selecting authorities. In Raigarh Ambikapur Health Association the church authorities in collaboration with their social worker and community select the worker- The CHW's should ideally be selected by the Gram Sabha- but this seldom happens and it is largely the Panchayat workers and the Medical Officers and other political workers who eventually select their protegees.

a) Which system according to you is better? Why?

b) Do you have any suggestion as to how the workers could be selected?

c) Considering C.H.W.'s scheme in particular -how could one ensure that the right people get selected?

d) What should the sex/caste/economic class/education of the worker be?

12. TRAINING: The mode of training differs from place to place.

In Jamkhed an initial training in the headquarters for a week is followed by in service training in the field in their respective villages and coupled with refresher session they work for a whole day, where working come to the headquarter every Friday stay and eat together(this gives them an opportunity to share their problems and occasionally find solution from each other experiences). This is followed by another day(Saturday) of review of the weeks' work, collection of data and checking of records(done by M.O. and A.N.M, Social Worker), teaching of a new lesson and solving their problems or rather helping them to find solutions.

Link workers from different gardens come in batches to the headquarters in Coonoor or to their respective garden hospitals for weekly training mainly in data collection, sanitation and are also thought the methods of production and transmission of disease and treatment of the same by the Medical Advisor or the Medical Officers.

In R...H.A. -training is given by social workers and Nurse-Midwives in one of the villages for 15 days and followed up with refresher session for 15 days every 6 months.

The Anganwadi Workers are trained in different institutions selected for the purpose by the Project staff. They are trained by doctors, social workers etc. for 3 months. Some of them receive in service training.

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The CHW's are trained by the M.O. and M.H.W. with occasional guest lectures at the P.H.C. and some field training.

Most of the projects utilise audio-visual aids, but much stress is laid in Jamkhed and plantations and R.A.H.A. and some of the PHCs. Jamkhed utilised locally relevant audio-visual aids.

The methods of training vary from mainly didactic lectures with not much stress on in service and field training to much stress on field training and purposeful, problem, solving meetings as in Jamkhed and Plantations.

a) Who should actually give the training?
b) Are the doctors in our PHC capable of imparting training to CHW's.
c) Should these doctors receive a training themselves?
d) If so, where should they be trained? For how long?
e) What type of training should they be given?
f) Should the PHC-MO's train their MHW'S to teach the CHW?
g) Could Medical colleges involve themselves in training of the M.O. + M.H.W's.
h) What according to you would be the best way of training the C.H.W.'s.
i) Contents of training, skills imparted to VHW's and the level to which they should be trained. Should the training be uniform?
j) What educational methods and principles should be utilised in training the VHWs.
k) Main training emphasis on professional (health work) skills or on how to conscientise people about socio-economic problems and actions? or Both?

13. a) Should workers be part time/full time?
b) Should they be honorary or paid?
c) If paid, how much? Cash/Kind?
d) Who should contribute the money and through whom should the payment be done? One who do payment will effectively control V.H.W.

14. Reactions of community to CHWs. : In projects like Jamkhed, R.A.H.A., Mandwa and Plantation majority of people are happy to have some body to give them basic health care.

However there is large amount of dissatisfaction with the government in various parts of the country also in some of the projects. Some of the reason are: -

i) Not a dedicated worker ii) Not enough knowledge
iii) Does not give injection iv) Not accepted by the community
v) Helps only the rich and affulent.

What according to yo-u are the main reesons for this?

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15. a) What should be the sex/age of the worker?

b) Could religion/educational status/sex/age affect performance?

c) Should socio-economic conditions be a criteria for selection?

16. Evaluation: What should be the methods of evaluation of performance of front line workers?

a) Decrease in morbidity and mortality in the community/vulnerable groups.

b) Immunisation status of the community

c) Nutritional status of children?

d) Socio-economic changes

e) Changes in Knowledge Attitude Practices in the community.

f) Acceptance by the community.

g) On going evaluation/terminal evaluation(for projects)?

h) Decrease M.R.. improvement of M.C.H. services?

i) Any other.

j) Who should evaluate? How can the community participate in evaluation of CHW And in supervision and control of their workers.

17. REMUNERATION: Workers are most often part-time and are expected to devote 3-4 hours a day per month.

In the I.C.D.P.S. the workers are full-time drawing about Rs.100/- to Rs.150/- per month.

In most other projects workers are paid Rs.30/- to Rs.50/- per month. The Govt. CHW get Rs.200/- per month(full time during their initial training) and Rs.50/- per month later on after their initial training.

In R.A.H.A. and Plantations the workers are honorary. Evaluation of workers in most projects and PHCs, shows that the workers want higher honorarium.

17. i)What population should each worker cover?

ii) How many villages should he/she cover?

18. Supervision:

a) Should the CHW be responsible to the village? Or the MHW's and PHC- M.O?

b) Should village health committees be formed?

c) Should Block Development Officer supervise?

19. a) Should CHW's shheme be part of the PHC- set up?

b) Should it be independent?

c) What should be the interphase between the District Health authorities and other development authorities and CHW's.?

d) What should be the interphase between the C.H.W. and the community?

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20. a) Should there be refresher training for the workers? How frequently? For how long?

b) Should avenues for promotion and increment in wages be worked out for CHW's? If so how.?

21. a) How could medical colleges with the new schemes for take over of 3 PHCs. - take responsibility for the scheme?

b) Could they involve in the training of the workers and evaluation of the scheme?

22. Primary health care envisages the involvement of health department with various departments like agriculture, social welfare etc. in development of the community.

a) How could front line workers do this?

b) Are the doctors capable of functioning in unison?with other development agencies.

These are only a few facts about front line workers and a few questions to stimulate discussions in view of what we have observed in Jamkhed which perhaps is one of the best projects today. We must attempt however to project how some of the things done here, could be implemented in other pockets and parts of India.

Primary Health Care it has been said, marks the changing point which a future historian would perhaps call the beginning of health revolution.

Let us all hope the future historian gets an opportunity to do this!

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a) Who should actually give the training?
b) Are the doctors in our PHC capable of imparting training to CHW's.
c) Should these doctors receive a training themselves?
d) If so, where should they be trained? For how long?
e) What type of training should they be given?
f) Should the PHC-MO's train their MHW'S to teach the CHW?
g) Could Medical colleges involve themselves in training of the M.O. + M.H.W's.
h) What according to you would be the best way of training the C.H.W.'s.
i) Contents of training, skills imparted to VHW's and the level to which they should be trained. Should the training be uniform?
j) What educational methods and principles should be utilised in training the VHWs.
k) Main training emphasis on professional (health work) skills or on how to conscientise people about socio-economic problems and actions? or Both?

13. a) should workers be part time/full time?
b) Should they be honorary or paid?
c) If paid, how much? Cash/Kind?
d) Who should contribute the money and through whom should the payment be done? One who do payment will effectively control V.H.W.

14. Reactions of community to CHWs. : In projects like Jamkhed, R.A.H.A., Mandwa and Plantation majority of people are happy to have some body to give them basic health care.

However there is large amount of dissatisfaction with the government in various parts of the country also in some of the projects. Some of the reason are:

i) Not a dedicated worker ii) Not enough knowledge
iii) Does not give injection iv) Not accepted by the community
v) Helps only the rich and affulent.

What according to yo-u are the main reasons for this?

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15. a) What should be the sex/age of the worker?
b) Could religion/educational status/sex/age affect performance?
c) Should socio-economic conditions be a criteria for selection?

16. Evaluation: What should be the methods of evaluation of performance of front line workers?

a) Decrease in morbidity and mortality in the community/vulnerable groups.
b) Immunisation status of the community
c) Nutritional status of children?
d) Socio-economic changes
e) Changes in Knowledge Attitude Practices in the community.
f) Acceptance by the community.
g) On going evaluation/terminal evaluation(for projects)?
h) Decrease B.R.. improvement of M.C.H. services?
i) Any other.
j) Who should evaluate? How can the community participate in evaluation of CHW and in supervision and control of their workers.

17. REMUNERATION: Workers are most often part-time and are expected to devote 3-4 hours a day per month.

In the I.C.D.S. the workers are full-time drawing about Rs.100/- to Rs.150/- per month.

In most other projects workers are paid Rs.30/- to Rs.50/- per month. The Govt. CHW get Rs.200/- per month(full time during their initial training) and Rs.50/- per month later on after their initial training.

In R.A.H.A. and Plantations the workers are honorary. Evaluation of workers in most projects and PHCs, shows that the workers/higher honorarium.

17. i)What population should each worker cover?
ii) How many villages should he/she cover?

18. Supervision:

a) Should the CHW be responsible to the village? Or the MHW's and PHC- M.O?
b) Should village health committees be formed?
c) Should Block Development Officer supervise?

19. a) Should CHW's shhome be part of the PHC- set up?
b) Should it be independent?
c) What should be the interphase between the District Health authorities and other development authorities and CHW's.?
d) What should be the interphase between the C.H.W. and the community?

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20. a) Should there be refresher training for the workers? How frequently? For how long?

b) Should avenues for promotion and increment in wages be worked out for CHW's? If so how.?

21. a) How could medical colleges with the new schemes for take over of 3 PHCs. - take responsibility for the schemes?

b) Could they involve in the training of the workers and evaluation of the schemes?

22. Primary health care envisages the involvement of health department with various departments like agriculture, social welfare etc. in development of the community.

a) How could front line workers do this?

b) Are the doctors capable of functioning in unison?with other development agencies.

These are only a few facts about front line workers and a few questions to stimulate discussions in view of what we have observed in Jamkhed which perhaps is one of the best projects today. We must attempt however to project how some of the things done here, could be implemented in other pockets and parts of India.

Primary Health Care it has been said, marks the changing point which a future historian would perhaps call the beginning of health revolution.

Let us all hope the future historian gets an opportunity to do this!

lb/ks.

Relative Risk of Pregnancy vs.
Risk of Contraception.

In the note I shall first discuss the possible adverse effects of childrearing on maternal health (and on the health of the child), and then examine contraception method-specific problems or risks. I draw on available studies and research on these two themes. In the final section, various issues which emerge are outlined for discussion.

I. Effects of Child bearing on Maternal Health:

It has been a common wisdom that childbearing, the aspect of human reproduction which is unique to female sex, requires optimal age, say between the ages 20 and 30, good health and good medical care to minimize maternal risks. The factors which increase these risks are : i) pregnancy at the two extremes of childbearing span, i.e. before age 20 or teenage pregnancy and after age 30, but really speaking, after age 35; (ii) high parity, i.e. large number of children; and (iii) short inter-pregnancy inervals.

It has been shown that these pregnancies are more likely to cause hemorrhage or high blood pressure, which lead to maternal death. Also, closely spaced pregnancies may lead to anemia and malnutrition among women.

Many surveys are replete with findings that support this list of risk factors. "Risk" is measured in terms of maternal mortality, and there are many studies both in developed and less-developed countries which indicate that maternal mortality or complications arising due to pregnancy are higher among teenagers, among older women, at the time of deliveries fourth and subsequent children and when the birthinterval or inter-pregnancy interval is very short. However, in developed countries, thanks to good or excellent medical or obstetric care, maternal mortality even in these "high risk" categories has been brought down considerably, although compared to the risk

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Background paper for XIII Annual Meet of the MFC at undaipur 26 - 27 January, 1987 prepared by Leela Visaria

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of maternal mortality in the ideal age group 20-30, deaths in the presence of these factors are still several times higher.

Maternal mortality rates for select countries or areas shown in Table 1, suggest that the overall problem is quite massive in Asia compared to any other region of the world. However, one must concede that the estimates based on vital statistics may underestimate the levels of maternal mortality compared to the survey results.

In developed countries, the low level of maternal mortality is believed to be achieved by reduction in the number of high-risk pregnancies; i.e. only a small fraction of births occur in the presence of the four high risk factors. In the developed countries, maternal deaths account for less than 2 percent of all deaths among women in the age group 15-44. In Mexico, this proportion is 10 percent and according to Matlab data, maternal deaths accounted for 27 percent of deaths among women in the reproductive ages.

Further, in addition to those who die, many women probably suffer from serious illnesses related to pregnancy, abortion or childbirth. A survey in Alwa region in Rajasthan state conducted between 1974 and 1979 found that, for each maternal death, there were 16.5 illnesses related to pregnancy, childbirth and the puerperium.

Wherever relatively good quality data are avilable, maternal mortolity rates form a J-shape when plotted against age and when plotted against parity. However, the scales for developing countries are two to four times higher than those for developed countries at every age, although the shapes are similar.

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Table - 1

Maternal Deaths per 100,000 Live Births,
Selected Areas, 1951 - 1982.

Country or Area	Year	Rate
Vital Statistics		
Kenya	1970	204
Mauritius	1979	99
Hong Kong	1980	5
Philippines	1976	142
Costa Rica	1980	24
Ecudar	1977	199
Mexico	1978	103
Egypt	1978	83
Australia	1980	10
Japan	1980	21
Sweden	1979	1
U.S.	1978	10
Area Surveys		
Matlab, Thana, Bangladesh		
132 villages.	1967-68	770
Total Matlab	1976-85	570
Villages of Bakripalnagar Alwar, Rajasthan, India	1974-79	592
Bali, Indonesia	1980-82	508

Note: Maternal death rate is the annual number of deaths among women per 100,000 live births, caused by deliveries and complications of pregnancy and childbirth and the puerperium. Deaths resulting from complications of induced abortion are also included in these statistics.

Source: Rinehart, Ward and Kols, Adrienne, "Healthier Mothers and Children Through Family Planning " Population Reports, Series J., Number 27, May - June 1984. P. J-661.

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However, in recent years, there are certain studies, which do question this model of "too many, too early or too late, too quickly" leading to high maternal mortality, Increasingly, it has been found that atleast in developmed world, teenage pregnancy per se is not risky or is ~~m~~ any more or less risky than childbearing in the early twenties. The factors causing higher mortality are not the age but socio-economic and environmental factors. The methodogical problems related to measuring effects of childbearing on maternal health are discussed in the last section.

The life-threatening complications affecting the mothers are hemorrhage, pregnancy-induced hyper-tension and sepsis. Hemorrhage is much more common among older women with many children. Pregnancy-induced hypertension or pre-eclampsia affects mainly women with no children and older women with several children. Sepsis or infection, on the other hand, is not directly linked to maternal age or parity and can accompany any delivery.

In developing countries, the major problem among mothers is believed to be malnutrition and anemia, or often referred to as maternal depletion syndrome, by Jellife. Given the estimated extra untritional demands due to pregnancy and breast -feeding, it is assumed that closely spaced pregnancies, when work, are a cumulative drain on nutritional status of women. If a woman cannot recover fully from the effects of her last pregnancyand period of breast-feeding before becoming pregnant again, her nutritional status might be expected to deteriorate with each successive pregnancy.

The evidence on this syndrome of maternal depletion is, however, is inconsistent and weak. Studies conducted in El Salvador, Bangladesh, Sudan, Thailand support this hypothesis. On the other hand, the WHO studies on Family Formation Patterns and Health (using a height for weight as a measure of malnutrition, and hemoglobin level as a measure of iron -deficiency anemia) found no link between malnutrition or anemia and age ornumber of children.

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Childbearing Patterns and Infant Mortality:

The patterns of childbearing which are statistically found to be risky for mothers, are also found to be risky for the infants. When pregnancies occur before age 18, after age 35 or in women with four or more children or within two years of another pregnancy, there is a greater risk of stillbirth or death during infancy.

Most research that has examined the effects of the birth interval has done so in the context of the interval before the birth of the child under study. Such studies undertaken in most developing countries (thanks to the World Fertility Surveys) point to the conclusion that a short preceding birth interval is dangerous to the infant and that shorter the birth interval, the higher the infant death rate.

When this is examined in the context of the mother's age and birth order, it was shown that birth spacing had more impact on infant mortality than either birth order or mother's age.

However, it has been shown that early antenatal care, a nutritious diet, safe delivery conditions, etc. do compensate for some of the risk factors, Also, socio-economic status of the families is believed to be an important confounding variable, and yet, due to problems of small numbers, the socio-economic differences are not taken into account in most studies.

II. Risk of contraception:

It has often been stated in literature that relative to the risk of childbearing, the risk of contraception as an alternative to maternity - is minimal. Not only that, some methods are even considered to be prophlactic and thus help in reducing the risk of mortality.

However, it has been recognized that the contraceptive methods are equally safe; they very in their risks and side effects. Before we examinemethod-specific risks or dangers as well as advantages, tew two methodological points should be made.

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One, the relative safety of contraception compared to pregnancy and childbearing has been established statistically so far for developed western countries. Further, it has been assumed that in the developing countries, the safety of contraception is even greater because the dangers associated with childbearing are high. This set of premises are being increasingly questioned now as more and more research is done on the effects of some of the contraceptives on women's health.

Two, there are disparities in the safety of various contraceptives and therefore, the relative risks of each method should be assessed in different ways. Often people simply add up the relative risks of each method, but this procedure is clearly faulty. Adding up deaths directly caused by each method is to an extent, warranted. However, since the various methods do very in their reliability, a realistic assessment should take into account deaths associated with pregnancy and childbirth when contraceptives fail.

Table 2 presents the relative risk of each contraceptive method. This exercise was undertaken in the early 70s and since then medical research has brought to light certain risks which were unknown then. The long term effects of certain methods have become known only recently. Also the data are for developed countries, where the health status of women is relatively good. The same method may, in the presence of certain physiological conditions, increase the risk factor. For example, IUD was considered a fairly safe method even through it is associated with increased blood loss and infection. In a developing country, where anemia or iron deficiency among women is highly prevalent, excess blood loss can be dangerous for the already anemic women.

A check-list xxx comparable to Table 2 for developing countries is in order. However, good quality method-specific large data set is needed to generate such probabilities or simulation methods. Also recent evidence on the side effects or complications which do not manifest themselves

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in the short run, but which become evident in the long run has to be built in such a model. This is, however, not the place or time to undertake such an exercise, although its need is very great. I shall at this juncture draw on redent evidence to examine contraceptive method-specific risks.

Table 2

Safety of Family Planning Alternatives for Women Beginning Birth Control at Age 30 (Developed Countries)

Method of Fertility Control.	Cumulative Repredduction Related Deaths from Age 30 to End of Reproductive years 1/ (Deaths per 100,000 women)
1. No. contraception	245
2. Legal abortion (first trimester)2/	92
3. Oral contraception to end of reproductive years3/	188
4. Oral Contraception to age 40, followed by diaphram or condom use.	80
5. Intrauterine devise (IUD)	22
6. Diaphram or condom	55
7. Diaphram or condom with leval abortion as back up	14
8. Tubal sterilization.	10 -20
9. Vasectomy (male risk)	0

1/ Includes contraceptive-associated deaths, abortion-associated deaths and birth-associated deaths in case of contraceptive failure or nonuse.

2/ Assumes abortion is the only fertility control used, resulting in an average of 13 abortions per women.

3/ Oral contraceptives are not recommended for women over 40 in developed countries, where safer alternatives are available.

SOURCE: Based on data from the United States and Great Britain and adapted from : Tietze, C., Bongaarts, J. and Scheater, B., "Mortality Associated with the Control of Fertility", Family Planning Perspectives, Vol. 8 No.1 January - February 1976, pp. 6-14.

Intra-Uterine Device or IUD:

In the mid-1970's after more than a decade of experience, IUD, was considered to be the ideal contraceptive for world wide use. It has not quite lived upto its promise, although a lot of research has focussed on improving its performance. Three areas where research has been concentrated are: (1) improvements in technique and training for insertion (to reduce perforation and infection), (2) optimal size and configuration of the device itself and (3) addition of bioactive substances to reinforce the contraceptive effect or reduce beeding and pain.

After a lull period, IUD appears to be coming back again world wide as one of the safest, and effective forms of birth control. The basic problems of IUD - increased menstrual bleeding, expulsion soon after insertion, pain and increased frequency of pelvic infection - remain unresolved.

In addition, problems that are rarer but more serious than pain, bleeding and expulsion have emerged now when long term and widaspread use has made it possible to detect these events. The serious complications are a higher risk of ectopic pregnancy, a septic second trimester abortion (in cases where pregnancies occur with the device in situ), and a higher risk of subsequent infertility caused by pelvic infection than among women not using IUDs.

Survey data on pregnancy and expulsion of various types of IUDs world wide are available and indicate that pregnancy rate per 100 women is relatively low; it falls in the range of 0.4 to 3.0. Expulsion rate for certain types of IUDs is relatively high. Lippes loop is the worst among various IUDs on this score. The expulsion rate per 100 women has ranged from 2.2 to 19.3.

However, due to bleeding and pain, women opt for removal and it is estimated that 8 to 18 percent of the women have the device removed within one year. It has also been estimated that these problems are more serious or that

both expulsion and removal rates are higher in developing countries like India and Bangladesh than in European countries or in the US.

As far as the newer problems which have come to light, the available data base is scant and there is need to closely monitor the performance of the device in a given population. The need for better health service support and follow-up is very very essential if the method has to become acceptable as a safe reversible spacing method. In the last three years, the number of yearly acceptors of IUD - mainly Copper T - have increased from 751,000 in 1981-82 to 2,562,000 in 1984-85, indicating nearly three and a half fold increase in just three years. Continuation rates remain very low, but if the device has to gain popularity, better follow-up and health service support must receive priority.

Sterilization :

i) Vasectomy

As indicated in Table 2, the male risk in vasectomy a surgical sterilization, is zero or nil. Vasectomy is acclaimed as the safest, simplest and most effective method of contraception. Yet, it is a neglected method in much of the world, including India. After becoming quite popular, through camps in India in the early 1970's, the number of vasectomies has been declining, as the emphasis has shifted to female sterilization.

The number of vasectomies performed per year in India ranged between 879 thousand and 2613 thousand during 1967-73. Since then barring the emergency period of 1976-77, this number has steadily declined and in the 1980's around 500 thousand vasectomies are performed every year. There are several possible reasons for the recent declines in the annual number of vasectomies. The increasing availability of other methods, new procedures making female sterilization safer and simpler than before (although still more complex compared to vasectomy) are some of the possible reasons for the popularity that vasectomy has lost.

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Equally, if not more important are the male attitudes or fear that vasectomy will adversly affect their sex lives or virility. Even though such fears are totally unfounded, nothing much has been done to counter these attitudes. Quite the contrary. By officially promoting female sterilization, on a mass scale, an indirect support is being given to the prevailing attitude on vasectomy, even when the procedure is extremely simple and the medical problems are non-existent or minimal at best.

It is possible that vasectomy would become popular and more acceptable if it were a reversible method. Theoretically, surgical rejoining of the vas is possible but as of today, its reversibility cannot be guaranteed on a large scale.

Female Sterilization:

In recent years, female sterilization - tubectomy, laparoscopy or minilaparotmy - is the most widely used method all over the world. In India, out of 32.3 percent of effectively protected couples (in 1984-85), 25.0 percent (or 77 percent of all protected couples) were protected by sterilization procedures. Of these 85 percent depended upon female sterilization to control their fertility. This rapid spread of female sterilization in the last decade or so has been made possible partly by improvements in the technique of sterilization. The new techniques are believed to be highly effective and safe.

It is stated that female sterilization does not cause any long-term complications. Some discomfort or pain is likely after surgery. The risk of complications depends not only on the type of procedure but also on the experience of the doctor and the characteristics of the women. Female sterilization should cause very few deaths, if performed by trained, skilled doctors in acceptic situation and if the clients are carefully screened before hand. Large surveys have reported 3 to 19 deaths per 100,000 procedures in developing countries. In India, an ICMR survey of 13 teaching hospitals, however, reported higher mortality rates of over 70 per 100,000 procedures. It is possible

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that many of these deaths could have been prevented by following certain guidelines ~~of~~ for proper selection and insisting on asceptic conditions during surgery, since infection and hemorrhage are the major causes of death.

Among the procedures of female sterilization, laparoscopy is being promoted in the national family planning programme because it can be performed very quickly and requires a small indision and no hospitalization. However, it has been increasingly brought to ~~him~~ light that the failure rate of laparoscopy is quite high - may be as high as 20 percent.

It appears that some of the assential preconditions are overlooked in a mass drive to promote family planning. Laproscopy is suited to a specilized setting with the availability of certain back-up facilities. Doctors performing it should have experience in abdominal surgery or be specialists in obstetrics and gynaecology. Some of us, on the other hand, are aware of or have personal experience of situations where laparoscopy has been conducted in camps with minimal facilities by doctors whose skill is also less than optimal. While the sufferer is the poor women who has opted for sterilization, the long term effect of such instances of the programme would be very adverse.

In sum, Table 3 attempts to present rather succinctly the comparative advantages of vasectomy and female sterilization. It is time, in my opinion, to propogate and popularize vasectomy as a permanent method of family planning mainly because of its very low score ofassociated risks, if for no other reason.

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Table - 3.

Comparison of Vasectomy and Female Sterilization.

Vasectomy.	Female Sterilization
Effectiveness.	
Very effective, but slightly higher rate of spontaneous recanalization and pregnancy.	Very effective; slightly lower failure rate
Effective 6 to 10 weeks after surgery.	Effective immediately
Complications	
Procedure involves almost no risk of internal injury or other life -threatening complications.	Procedure involves slight risk of serious internal injuries and other life-threatening complications
Very slight possibility of serious infection	Slight possibility of serious infection.
No anesthesia-related deaths	Few anesthesia-related deaths.
Acceptability.	
Minute scar.	Scar can be small but still visible.
Slightly more reversible	Slightly less reversible.
Less expensive	More acceptable in many cultures.
Personnel.	
Can be performed by one trained person with or without an assistant	Team needed including one doctor, one trained anesthetist, and at least two assistants with more training than needed for vasectomy assistant.
Safely performed by trained paramedics	More difficult for paramedics to learn and to perform
Can usually be performed in half the time of most female sterilizations	Usually only physicians with training in gynecology can perform laparescopy and laparotomy. Minilaparotomy is simpler.
Equipment	
Requires no specialized equipment. Equipment readily available	Laparoscopy requires expensive, complex equipment, which needs to be carefully maintained. Manilaparotomy requires only simple standard surgical instrument.

Can usually be performed under local anesthesia	Systemic sedation necessary as well as local anesthesia.

Back-Up Facilities.

No. back-up facilities needed for immediate complications.	Back-up facilities needed in case of damage to abdominal organs and blood vessels or other complications that require laparotomy.

Possible Long-term Side Effects.

None demonstrated. Uncertainty about effect of increase in sperm antibodies.	Slight risk of ectopic pregnancy

Source: Liskin, Lauria, "Vasectomy - Safe and Simple", Population Reports, Series D, Number 4, November - December 1983, p. D-69.

Oral Contraceptives:

In India until recently, oral contraceptives or OCs were essentially available from private sources only; they were not part of the national programme until 1974. Although oral pills were included in the programme on a small pilot project basis in 196[illegible], the project was extended to urban centres and to those PHCs which had "adequate monitoring facilities" in 1974 only. Since then, pills have been promoted as a form of birth control initially rather cautiously and in the last two to three years quite vigorously. Compared to the distribution performance in 1982-83 of 2.4 million cycles of oral pills, the number increased to 9.5 and 16.8 million during 1983-84 and 1984-85, respectively. This several fold increase has been possible because the pills are now distributed by all the health personnel associated with the PHCs and their subcentres. The only condition is that the acceptor of the oral pills must be examined by a doctor within three months of acceptance.

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Knowledge of the benefits and risks of the pill has grown considerably in recent years. Pills are acclaimed as the most effective reversible means of preventing pregnancy (effectiveness depends upon regular use). It has also been noted that oral pills protect women against pelvic inflammatory disease and also against ectopic pregnancy (IUD fares badly on both these counts), against uterine and ovarian cancer. In addition, pill provide relief from a wide range of common menstrual disorders.

As far as risks are concerned, it has been found that among the women who smoke and who are over 35 years of age, there is a siggificant increased risk of problems of circulatory system. More specifically, pill users who smoke and are over 35 years of age, non-smokers who are above 40 years of age reported significantly higher incidence of venous thrombo-embolism, heart attack, stroke and hypertension. A large study undertaken in Britain reported that these high risk women (i.e. older smokers) were four times more likely to die of any of the circulatory system ailment than nonusers of oral pills, Pills are therefore not recommedned as a method of birth control for older women.

However, most of the research on oral pills has been done in the US and the UK and the large surveys have been conducted in these countries. It is difficult to know the extent to which these findings hold true for women in developing countries like India. It is often hypothesised that women in developing countries do not smoke as much as they do in developed countries or that they do not suffer from heart diseases to the same extent, and therefore, they are likely to be less adversely affected by the problems of oral pills. All the same, one ought to be very coutious before prescribing pills to all and sundry. A lot more medical research is still needed with the specific health conditions of Indian women in mind before promoting them for wider use.

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Injectables and Implants:

The place of injectables in family planning has remained quite incertain. While the manufacturers consider them to be quite effective and convenient, controversy surrounds their safety. Depo Provera was until recently used as the most popular injectable and was pushed in countries like Thailand. However the controversy over the injectables in the US, ranged for more than a decade, and finally the Public Board of Inquiry on Depo Provera recommended in its report to the Food and Drug Administration that it not be approved for use as a contraceptive in the US. However, this has international implications and the injectable has come under attack in many other areas.

The risks associated with the injectables are breast and endormerial cancer, although most of the studies are animal studies. Studies on women suing Depo Provera are not of long duration or of adequate number to positively essets that its use leads to malignancies. Other problems associated with the use of injectable are excessive bleeding, depression, headache, weightgain, etc. These side effects, important in themselves, are not considered to be ofserious medical consequences.

In India, another injectable known by the name of NETEN is being tried out. Several phases of clinical trials have been underway, and a decision to include NETEN in the official family planning programme has been taken. The results of the earlier trials are not in the public domain. What is known is that the ICMR conducted as a part of the WHO project, a two year study (1981-83). This study pointed to a high pregnancy rate among the users & a high dropout rate because of menstrual problesm.

In addition to these, of course, are the conventional contraceptives such as condom, diaphragms, foam tablets etc. which are, if used correctly, quite effective and at the same time safe. They, however, require a fairly high level of motivation and mutual understanding. Since the risks associated with them are minimal, I have not touched upon them in this note.

Issues:

What the brief foregoing discussion points to is that the risk of mortality due to different methods of fertility control varies, that the risk varies also between various age groups, i.e. a given method may be quite safe during a certain phase of the reproductive span, but not towards the beginning or the end of the period.

Further, any method which tampers with the normal hormonal balance carries greater risk than the mechnical methods. This is quite evident in Table 4.

What is noteworthy is also that the risk of childbearing is higher at most ages than the risk of mortality due to contraception use except for pills used by smokers. It is tempting to conclude that the safest (in terms of risk factor) approach is to use the condom and to back it up

Table 4

Cumulative Risk* of Mortality per 100,000 Nonsterile Women, by Fertility Control Method, According to Age - Group.

Regimen	15-44	15-34	15-19	20-24	25-29	30-34	35.39	40-44
No control	462	192	35	37	46	74	129	141
Abortion	41	26	3	6	7	10	9	6
Pill/nonsmoker	251	21	3	3	5	10	70	160
Pill/smoker	977	132	12	18	34	68	257	288
IUD	43	25	6	6	6	7	10	10
Condom	23	19	6	8	4	1	2	2
Diaphragm/ spermicide	53	28	10	66	6	6	11	14
Condom and Abortion	1	1	@	@	@	@	@	@
Phythm	68	36	12	8	8	8	14	18

* Calculated by multiplying the age-specific annual death rares by five.

@ Less than 1.0

Source: Howard W.Ory,"Mortality Associated with Fertility and fertility Control : 1983", in Family Planning perspectives, Vol. 15, No.2, March/April 1983, P. 60.

with abortion in the event of method failure. However, women or individual couples do not make choices soley on the basis of perceived risk of mortality. Similarly, the decision to have children or to postpone childbearing is generally make independently of the mortality risks associated with such choices.

What seems the most humane approach is to make available various methods to the couples without zealously promoting one over the other in order to fulfill certain tergets, along with knowledge about the associated risks, failures etc. Equally important can be a sound education on childbearing under certain risk conditions.

Methodologically, one must not add up the relative risks of each method to arrive at a figures of contraceptive risks because a given couple uses only one method at a time. We must not ~~not~~ cloud the issues unnecessarily.

/Thereon/
Dpn.

Extracts from 'Tuberculosis in Children : Diagnosis, and follow up' by Susie Graham Jones, Medical Officer, Save the Children Fund, Chautara Project, Sindhupalchowk: Souvenir Nepas J. 1984, 3 (1) 61-73.

Tuberculosis in Children : Diagnosis, and follow up

Introduction

The incidence and prevalence of tuberculosis (TB) in children in Nepal is not known. The adult prevalence is about 1.6% (sputum positive) Diagnosis in children is a problematic affair, as there are no reliable diagnostic tests. Chest x-rays are not diagnostic in children; Mantoux tests are unreliable, especially in malnourished children; and the pick up rate from laryngeal swabs and gastric washings is poor, even when facilities are available. Sputum tests are rarely of any use in children.

Nevertheless the experience of the Save the Children Fund (SCF) Mother and Child health clinics in 4 districts in Nepal shows that childhood TB is common and carries a high mortality. This report of the TB cases diagnosed at the new SCF clinic in Sindhupalchowk between Srawan 2039 and Kartik 2040 (15 months) is a follow up to a report on TB child patients at the Surkhet SCF clinic (Wiseman, 1980). We emphasise that health workers can be trained to make a clinical diagnosis of TB without any laboratory investigations, and that progress can be monitored by weight gain as well as regression of symptoms. A search has been made for factors associated with good or poor outcome of treatment.

I. Diagnosis of TB in Children

Following Wiseman (1980), we look first for a history of illness of more than one month in duration, and make enquiries for a suggestive family history of chronic illness. On examination, we look for signs of localized disease in lymph nodes and lungs, and for chronic atypical skin lesions. We also maintain a high index of suspicion in children who are chronically undernourished or unwell, but who do not have localized symptoms or signs. These children may show deterioration and anorexia after measles or whooping cough. There are also the children who do not respond to conventional treatment for chest infections, diarrhoea, or skin lesions.

We rarely diagnose TB, except for obvious gland TB, on a child's first visit to the clinic. But if we suspect it, we call patients back to the clinic within 2 weeks for a repeat history and examination. Family history is often elicited more fully at this second interview, and we ask for sputum tests from suspect adults. We also use the BCG vaccination as an abjunct to diagnosis. Unfortunately, scarpositive BCG does not seem to give a very good protection against TB in children in South India (WHO, 1979 b).But an early reaction to BCG taking the form of skin ulceration over the injection site within 2 weeks of vaccination (as opposed tothe normal reaction which takes 1-2 months to develop as a small scar) may indicate active tuberculosis. This is a rather more sensitive test than the standard Mantoux test (Miller, 1978).

Training for clinic staff, health post staff and field workers in our programme has included much discussion and comparison of the signs and symptoms of TB in adults and children. We use posters and flip charts including emphasis on BCG vaccination for children and referral of patients to health services. These visual aids, and training booklets produced by the Britain-Nepal Medical Trust (BNMT) Biratnagar, and by the Shining Hospital, Pokhara, are also used in health education sessions in schools, for patients at health posts, and in the clinic. We encourage health workers and field workers to attend the weekly TB follow up clinics at the Chautara clinic to see patients at various stages of treatment. The parents of these TB patients are often the most enthusiastic teachers.

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II. Treatment

We continue to use the standard TB drugs available to hospitals and health posts through the Tuberculosis Control Project (HMG). The mainstay of treatment in children is ISONIAZID (Isonex) which is both bactericidal and bacteriostatic and causes very few side effects in appropriate doses. It is combined with THIACETAZONE (TB 1) in most cases, a convenient formulation being RD-ZONE FORTE (isoniazid 300 mg + TB 1 150 mg): but in order to avoid the side effects associated with thiacetazone we use the following dosage schedule according to the child's weight, including extra isoniazid and a relatively smaller dose of thiacetazone.

TABLE 1

Dosage of TB Drugs (Oral) According to Child's Weight

	RD-ZONE FORTE	+	Extra Isoniazid
Weight less than 5 kg	¼ tab	+	50 mg
6-14 kg	¼ tab	+	100 mg
15-20 kg	½ tab	+	100 mg
21 kg upwards	1 tab		--

This oral regimes seems sufficient for many children with pulmonary disease, gland TB, skin TB and for those with non-specific signs and avoids the necessity for injections and frequent clinic attendances. In seriously ill children, especially those with bone or meningeal disease, we start streptomycin injections (40 mg/kg up to a maximum dose for children of 500 mg) daily for in patients or 3 times weekly for out patients, always combined with the above oral regime. Streptomycin is given for 2 months, if possible. Isoniazid alone is given occasionally to children less than two years old who are not seriously ill, have no localized symptoms and are unlikely to develop resistant strains of mycobacteria. All patients are expected to continue treatment for a minimum of 12 months and this is made clear at the start. A special review is undertaken at 12 months to decide which patients should continue for a further 6 months. In a few cases with persistence of symptoms, ethambutol has been given for a two month trial period at 20-25 mg/kg.

Other medicines are kept to an absolute minimum in order not to confuse the parents. Anemia (Hb $\leq$10g%) is treated with ferrous sulphate, and nutrition is discussed with all parents.

VI. Treatment regimes and side effects of TB drugs

No severe side effects have been reported during the study period, and drugs have not had to be changed because of side effects. Mild side effects were reported in 5 cases within 2 months of starting treatment:

1. vomiting in a three year old on oral INH and TB 1
2. vomiting in a 9 month old on streptomycin and oral INH and TB 1
3. diarrhoea and vomiting in at 2 year old on oral INH and TB 1
4. itchy rash at 2 weeks after starting oral INH and TB 1 in a 2 year old
5. fever in a five year old on streptomycin and oral INH and tb 1

This low incidence of side effects is probably due to the care with which dosage is related to the child's weight.

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The isoniazed only regime has been used in 4 children under 2 years of age who have been followed up. Two have done well and two have shown only slight improvement. This regime cannot yet be properly assessed.

Ethambutol has been added to oral INH and TB in 3 older children with persistent symptoms after 6 months of the standard regime. Two are now improving and there have been no side effects.

VII. DISCUSSION

Diagnosis of TB in Children

With specific training for clinic health workers, TB diagnoses have risen from 3 to about 18 cases per month at the Chautara MCH clinic, out of an average of 225 new patients seen per month. We now estimate that about 10% of the total work load of the clinic is associated with TB diagnosis and follow up. This is one of the main topics for the in-service training programme for HMG health workers at the Chautara MCH project.

Follow up of TB in children - whose job?

Follow up rates in most TB programmes are disappointing, since patients have to be exceptionally well motivated to continue attending when symptoms have subsided. In this study, 30% of newly diagnosed TB patients (under 10 years old) were not followed up at all; and there was a 45% drop out rate at 2 months after diagnosis, by the time the programme had running for 15 months.

At present, the defaulter chasing duties of Tuberculosis Control Project staff (HMG) are restricted to sputum positive adult cases, who are the most infectious group. In this field district, we are working together with TBCP staff, health post staff, MCH/FP workers, and other agencies to try to ensure that 'at risk' individuals such as TB defaulters of all ages can be rapidly contacted.

Outcome of Treatment

Symptomatic improvement was marked in 40% of patients followed up to at least 2 months in this study. The mortality rate was 10% in the 15 month study period. Improvement in nutritional status was well defined. Wasting was present in 42% of newly diagnosed TB cases but only 14% in those followed up at 2 months and 6% in those followed up at 6 months. Once weight gain has started, progress can be rapid; of those who gained weight at all, the average weight gain was 269% of reference weight gain at 2 months, and 169% at 6 months. More than half of all patients followed up gained weight faster than the expected reference rate of weight gain for children of similar ages.

Correlation of weight gain with reported clinical progress, however, was not reliable. This is partly due to reporting of intercurrent illness, and partly also to improvement unrelated to weight gain.

The search for factors indicating likely outcome of treatment

In this study, factors such as sex, previous BCG immunization, family history, ethnic group, presenting symptoms,

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and different drug regimes were found not to carry predictive power. The only useful indicator so far discovered is age of the child TB patient.

Younger children definitely bear a higher risk than older ones. A poor clinical outcome is found in 21% of the TB patients under 3 years old at the time of diagnosis, but in only 9% of those aged between 3 and 10 years. And there are relatively more 'under threes' in all the poor outcome groups than in the good outcome groups, whichever outcome measure is used.

Malnutrition at the time of diagnosis may be followed by rapid weight gain during the first few months of treatment, and is not per se an indicator of poor prognosis. When outcome is assessed clinically the good and poor outcome groups both contain approximately 30% of wasted children. This percentage falls faster in the good outcome group than in the poor-outcome group.

There may be a small group of wasted children who do not gain weight well on TB treatment. Further analysis on a larger sample will be needed to see if there are other characteristics of this group which would help to detect them early on as needing special care.

REFERENCES

- Wiseman, David (1980) J. Inst Med, 2, 31-36 Tuberculosis Report for Surkhet District
- WHO (1979b) Bull Wld Hlth Org., 57, 819-827 Trial of BCG vaccinations in South India for tuberculosis prevention; first report
- WHO (1979a) Publication FAP/79.1, Geneva A gudeline for the measurement of nutritional impact of supplementary feeding programmes aimed at vulnerable groups.
- Miller F J W (1978) Tuberculosis in Children. London: Churchill Livingstone
- Shining Hospital, Pokhara (1979) TB Handbook (English and Nepali versions)
- Britain Nepal Medical Trust (1981) Treatment of Tuberculosis
- Ratliff, W. (1981) d Base II. California: Ashton Tate Ltd.

Note: Nos. III (Presenting features of children diagnosed as having tb); IV (Follow up of TB patients); and V (Outcome assessment) are not included in this extract. For full text, refer the journal mentioned.

WOMEN AND HEALTH

A Preliminary Annotated Bibliography

This is not an exhaustive or even a selective bibliography. It is a list of books and documents available at the Jawaharlal Nehru Library, Bombay University Women's Studies Unit of the S.N.D.T University and with me. Some of these are are available at the Feminist Resource Centre, F.R.C.H, The only criteria used is that most of these either acknowledge a broadly feminist perspective or could well contribute to it.

Sexism in Medicine and Health Care

1. Bart, Pauline. Biological Determinism and Sexism: Is it all in the Ovaries. In Biology as a Social Weapon. Burgess Publishing Co. 1977. 69-83

   Shows how science in the 19th century operated in the interest of status quo Includes a content analysis of gynaecological textbooks.

2. Doyal, Lesley and Pennell, Imogen. The Political Economy of Health. Pluto Press 1979.

   Places women's health issues within a global, historical view of health and health care contributing to the emergence of a feminist perspective on health.

3. Duffin, Lorna. The Conspicuous Consumptive: Women as an invalid. In The Nineteenth Century Woman. Ed by Sara Delmont and Lorna Duffin. 1978 Croom Helm. London. 26-56

   Based on content analysis of Lancet between 1850-90, a feminist analysis of women's illnesses such as consumption, neurasthenia, chlorosis, amennorrhoea and their recommended treatment.

4. Easlea, Brian. Science and Sexual Oppression. Wiedenfeld and Nicolson. 1981

   The chapter on Biology, Medicine and Viriculture in 19th century Britain deals with how social myths about women's weakness and proneness to fall ill were incorporated into medicine and suit biological explanations fabricated to lend scientific credibility.

5. Ehrenreich, Barbara and English, Dierdre. Complaints and Disorders: The Sexual Politics of Sickness. Glass Mountain Pamphlet no.2. The Feminist s Press. 1973New York. 1973

   Medicine stands between biology and social policy and is one fof the most powerful sources of sexist ideology in our society. This is a sociological and political analysis of the history of women's ill health and how society has dealt with the problems.wh

6. Jacoby, Robin Miller. Science and Sex Roles in the Victorian Era. In Biology as a Social Weapon. Burgess Publishing Co., Ann Arbor Science for the People Collective. 1977.58-69

   Examines the mutually reinforcing relationship that existed between 19th century biological theories and 19th century ideology on sex roles

7. Leibowitz, Lila. Perspectives on the Evolution of Sex Differences. In Tow Toward Anthropology of Women edited by Rayna R.Reiter. Monthly Review Press 1975. 20-35

   Counters the hypothesis that women's sex-role destiny is determined by their anatomy. Proposes a new hypothesis accounting for the evolution of physical differences.

8. Messing, Karen. Do men and women have different jobs because of their biologic l differences ? International Journal of Health Services. 12(1):43-52,1982

   Well-researched facts and convincing arguments demolish myths -- weaker sex' myth, 'fairy fingers' myth, 'raging hormones' myth and the myth of protecting

pregnant workers —which are used to keep women in specific jobs.

9. Rothman, Barbara Katz. Women, Health and Medicine. In Women: A feminist perspective. edited by Jo Freeman. Mayfield Publishing Co., 2nd. edition. 1979 27-40.

An excellent analysis showing how the individualist and mechanist 'world view of medicine directly results in medical procedures and treatment which contribute to the oppression of women.

Women's health status

10. Gupta, J.L. The problem of Burns in Women. Annals of Indian Academy of Medical Sciences, 12(4): 260- 1976

In a span of ten years more than 31 per cent of the burn victims in a Delhi hospital were women and 45 per cent children. Causes include badly designed kitchens and equipment, lack of safety devices on household gadgets

11. Jussawalla, D.J and Jain, D.K. The problem of Cervical and mammary cancer in India. Annals of Indian Academy of Medical Sciences, 12(4); 239-50, 1976

Reviews statistics from 42 hospitals in 15 states. Cancer, is the ninth cause of mortality among women in Bombay in 1971. Records the predominance of cervical and breast cancer.

12. Kulkarni, Suresh, N. Demographic and Nutritional Background of the Health status of women in India. Mimeo. Institute of Economic Growth. New Delhi

Some analysis of statistical data from 1921 on health indices with reference to women. Demonstrates that declining sex ratio is a function of health status. Sex-wise health care of population of age group 0-14 has received little attention as compared to that given to age group 15-44. Lack of appropriate data ensures that female mortality is examined only in terms of pregnancy management.

13. Mohanty, Bidyut. Women, Disease and Death in Historical Perspective: A case study of Orissa (1881-1921). Paper presented at the Conference on Women's Studies, 1981

A very brief paper about what appears to be an exhaustive study showing that more men than women died in the 19th century. Old diseases have changed and several social factors have resulted in their intensification killing more more women

14. Nathanson, Constance. Sex, Illness and Medical Care.: A review of data, theory and method. In Health, Illness and Medicine edited by Gary Albrecht and Paul.c. Higgins. 16-40

Examining data f mostly from developed countries, presents a picture of sex differences in health indices. Method of treatment of data could be a model

15. Shatrugna, Veena. Health status of women and children and the role of community health volunteers scheme. Paper presented at the Workshop on Women and Health , Bombay 1981

Briefly describes the major health problems of women and expresses a reserved approval of the community health programmes.

"If you don't eat ...."

16. Batliwala, Srilatha. Rural Energy Scarcity and Undernutrition: A new perspective. Economic and Political Weekly, 17(Feb.7,1982):

Relates women's undernutrition to wtheir actual energy expenditure obtained from a field study. Suggests that nutritional intake insufficient to make up for energy output may have long term effects such as higher morbidity, shorter life span etc.

17. Eide, Wenche B et al. Women in Food Production, Food Handling and Nutrition (with spr ref. to Africa) Food and Agricultural Organisation. Rome .1979

Critically analyses the problem of women's nutrition in the context of the history of colonialism in Africa and the political, economic and social changes and how they affected women's role in production.

scientific medicine, dominated by men.

30. Leeson, J and Gray.Judith. Women in Medicine . Tavistock Publications.1978

Reviews historical role of women in health care and an analysis of the beginning of unionisation among nurses. Also deals with nurse-women doctor, nurse-women patient, women doctor-women patients relationships

31. Navarro, Vicente. Women in Health Care. In Health, Illness and Medicine Ed. by Albrecht and Higgins. Rand McNally, Chicago. 1979. 327-37

Describes the situation of the women in the U.S.health labour force. This can be understood in the context of an analysis of the socio-economic and political structures.

32. Sadgopal, Mira. Training of Dais. In Health Care: Which way to go . Medico-Friends Circle. 1982 197-206

A critical comment on the dai training programme.

Women's Biology and its Consequences

Menstruation

33. Reigrove, June. Menstrual Cycle. In Biological Rhythms and Human Performance edited by N.P.Colquhoun. Academic Press.London. 1971. 211-40

A well-referenced study asserting that menstruation does effect performance but its extents depends on other sociological and psychological factors as shown in experimental studies and experiments on women athletes.and sports

34. Shuttle, Penelope and Reigrove, Peter. The Wise Wound: Menstruation and Everywoman. Victor Gollancz Ltd. 1978.

A complete book on a phenomena which effects half the human population and has only recently been subjected to comprehensive research. Draws from scientific psychological, mythological and anthropological, historical sources. A never before analysis.

Reproduction

35. Gordon, Linda. Woman's Body, Woman's Rights Penguin Books. 1977.

A socio-political history of the birth control movement in America. Sees three distinct periods in the last 100 years-- 'voluntary motherhood', legalised abortion and the period of commoditization of birth control.

36. Lahiri,D. and Konar,M. Abortion Hazards. In Journal of Medical Association of India. 66(11): 288-294. 1976

Sepsis accounts for 20% of all abortion hazards. 50 per cent of random abortions admitted were ilegally induced. Data from one hospital, many years.

37. Lawrence, Virginia. Contraception. In Women's Undercurrents, U.K. 29, 26,1978

Short but significant. Offers that the tchnology which provided contraceptives is a male technology . Women must infiltirate the scientific network and influence priorities and methods.

38. Newland, Kathleen. Women and Population Growth: Choice beyond childbearing World Watch Paper 16, December 1977

A critical review reassessing existing information. FP programmes do not recognise women as individuals but as mothers and yet they seek to diminish the only role that they explicitly recognise for women.

39. Rao, Kamala Gopal. Status of women in India related to the study of FP ICSSR Mimeo. Undated.

There exists a two-way relationship, between FP programmes and women's status which is explored here. Considers such questions as: does contraception redefine the female role in society and alters the meaning of marital relationship

40. Rose, Hilary and Hanmer, Jalna. Women's Liberation, Reproduction and the Technological Fix. In The Political Economy of Science. The Macmillan Press London. 1976

Exposes the inherent sexism of new developments in reproduction technology f

and challenges the viewpoint held by some radical feminists that technology is neutral and so can be made use of as such.

41. Savage, Wendy. Taking Liberties with Women: Abortion, Sterilization and Contraception. International Journal of Health Services. 12(2); 293-308,1982

Analyses four area of concerning reproductive freedom , based on U,K data.

42. Savara, Mira. Women, Health and Reproduction: Some issues. Paper presented at the Women and Health workshop in 1981.

Discussion paper with a feminis perspectiveSuggest action programmes.

43. Schiff, Jill. Vasectomy. Newsletter Cultural Survival. 5(4): 1981 . pp8

There appears to be a link between atherosclerosis and vasectomy. Could there be acardiovascular disease epidemic on the horizon ?

44. Serlin, Renee. Contraceptives: Back to the barriers. New Scientist, July30 281-84. 1981

An anniversary article on Marie Stopes who fought for birth control in the '30 '30s. Notes how fertility control today is surrounded by a 'morass of prejudice.'

45. Vandenbroucke, J.P et al . Oral contraceptives and rheumatoid arthritis: further furtherevidence for a preventive effect. Lancet. 1982 ii 839-42

Report of a case control study of women with a history of oral contraceptive use and diagnosis of probable rheumatoid arthritis or soft tissue rheumatism Confirms earlier findings of that)C use halved rates of rheumatoid arthritis

Obstetrics and child care

46. Cohen, Marlge. Book Review of Men Who control womeb's ehalth by Diana Scully Reproductive Rights Newsletter , Fall 1980 20-21

Analyses the practice and training of in Ob and Gyn at two major urban hospitals

47. Comer, Lee. The Myth of Motherhood. Spokesman Pamphlet. Undated.

A feminist critique of society's definition of motherhood.

48. Frankfort, Ellen. Vaginal Politics. Quadrangle Bros. New York. 1972

An early book on how women are breaking the medicine's grip on their bodies.

49. Haire, Doris. The cultural warping of childbirth. In The cultural Crisis of modern medicine Ed by John Ehrenreich. Monthly Review Press. 1978. 185-200

Excellent article examines current Ob practices such as use of anaesthesia, insistence on the lithotomy position during childbirth, use of forceps etc.

50. Hewell, Mary C. Paediatrician and Mothers. In The cultural Crisis of Modern Medicine. Elited by J.Ehrenreich. Monthly Review Press. 1978 201- 222

Informal content analysis exp of teaching material in paediatrics.

51. Miller, Barbara. What hospital admission s tell us about childcare in India Syracuse University.Mimeo.

Higlights the difference in male-female care from the analysis of secondary data on hospital admission from regional and area studies.

52. Scully, Diana and Bart, Pauline. A Funny thing Happened on the Way to the Orifice: Women in Gynaecology Textbooks. In The Cultural Crisis of Modern Medicine. Ed. By John Ehrenreich. Monthly Review Press. 1978. 212-28

A report on the content analysis of 28 gynaecological textbooks for sexist bias. The emphasis is on how female sexuality has been dealt with

53. Sebastian, E.V. Health Services for Women. Annals of Indian Academy of Medical Sciences, 12(4): 222-34, 1976

Begins with a historical review of health services for women but the focus shifts to a discussion of health services for children and their mothers.

54. Sethna, N.F. Maternal and Child Health Services in India. All India Institute of Hygiene and Public Health. Background paper for the ICSSR-ICMR Committee on Health and Medical Services. 1978.

Describes the development of MCH services in India, reviews the reports of committees on health and the ir recommendations for MCH between1947-1968

55. Singh, Gayatri and Savara,Mira. A case study on Child Care Facilities in Metropolitan Bombay. Asian and Pacific Centre for Women and Development, 1980

Studies the functioning of a creche runa by a textile mill, a balwadi programme, a mobile creche run for construction workers. Highlights drawbacks for instance, women workers given only half-an-hour to feed babies, when it takes ten minutes to get to the creche alone.

56. Singh, Shamer. Environmental hazards during pregnancy and birth defects. Annals of National Academy of Medical Sciences , 14(2): 53-65. 1978

Environmental hazards are a major or contributing factor in 65-70 per cent of birth defects. Also discusses the effects of drugs and chemicals.

Recent Issues concerning Women's health and Biology

57. Chhachi, Amrita and Sathyamala,C. A World without Women? Sex determination tests - a technology which will eliminate women. Hindustan Times, Aug.8,1982

Explains amniocentesis in non-medical language and offers a socio-political background to the issue.

58. Hosken, Fran P. Female Genital Mutilation in the World Today: A global review International Journal of Health Services, 11(3); 415-30, 1981.

A well-documented review of the ethical and health issues posed by female genital mutilation which affects at least 74 million women and female children

59. Minkin, Stephen. Depo-Provera: A critical analysis. Institute of Food and Development Policy. U.S.A. 1980

A comprehensive review on Depo-Provera, an injectable contraceptive, which many studies show lowers resistance to viral infection and worse, causes cancer. Attempts to clarify some of the political and economic issues involved in the ongoing controversy.

60. Sathyamala,C and Shiva, Mira. Are Hormonal Pregnancy Tests safe ? Volunteer Health Association of India. New Delhi. 1982

This was a background for many other articles on the same subject appearing in newspapers and journals on or around March 8,1982, launching the successful campaign focussing on the dangerous side effects and relative irrelevance

61. Sipe, Patricia. The wonder Drug we should know about. Science for the People 14(6):9-16,30-32. 1982

DES or stilbestrol, prescribed to millions of women to prevent miscarriage was,in the late '60s, suspected of having caused cancer in the daughters of women who used them. Written by a DES daughter, this article discusses the history of DES but also the health issues affecting DES daughters.

62. Wilson, Mark. Bottle Babies and Managed Mothers. Science for the People , 13(1): 17-24.1981

An analysis of the structural elements in capitalism and patriarchy which give rise to the problem of babyfood/infant formula. This is one feature of the larger problem of malnutrition, disease, oppression of women and the exploitation of the Third World. More proof that technological developments are not necessarily liberating.

63. ____, Britain: Foreign Husbands and Virginity Tests. ISIS International Bulletin, 14: 23-24, 1980

A short report on 'virginity tests' which were introduced for Asian women immigrants to Britain, and the protest actions that have taken place in Britain and in India.

Regaining Control of Health Care : Some Alternatives

64. Boston Women's Health Book Collective. Our Bodies, Ourselves. Simon and Schuster, New York, 1979. (Available from Manushi, New Delhi)

A pioneering book on women's biology, and their health written by a group of non-medical women who clarify misconceptions perpetuated by the medical system. It's an all-you-ever-wanted-to-know book which has already made history.

65. Eve's Weekly. Special issue on Health and Fitness . Eve's Weekly Ltd. March 13-19, 1982.

Mainly a 'how-to' issue with a cut-and-keep section on common ailments and emergencies, but includes a discussion of 'sensitive' topics such as psychiatric care of women and sexuality.

66. Fee, Elizabeth. Women and Health Care: A comparison of theories. International Journal of Health Services, 5(3): 397-415, 1975

Discusses three distinct approaches to women's health in the U.S -- liberal feminist, radical feminist and Marxist-feminist. May not be mutually exclusive

67Health for the Million. Special issue on Women and Health. Voluntary Health Association of India, New Delhi, 8(4); 1982

A representative collection of articles covering the entire range of health issues concerning women. Well researched and collated issue, Includes reports of efforts at organising women on the health front

68. ICSSR-ICMR Study Group. Health for All: An Alternative Strategy Indian Institute of Education, Pune. 1981

Incorporates a more comprehensive understanding of women's role than other similar health plan documents in the past. Attempts to view women as individuals rather than only as mothers. Does not wholly succeed.

69. Jha, Saroj.S. The development of Health Education programmes for women in a Bombay Slum. Paper presented at the National Conference on Women's Studies , S.N.D.T University, 1981.
Brief description of health education programmes directed at women

70. Kay, Bonnie and Regan, Carol. Steering Clear of the Medical Mainstream. Science for the People, 14(6): 28-9, 1982

How an experiment at providing abortion servies grew into an alternative health service for women in a city in the U.S.

71. Lok Vidnyan Prakashan. Stree-Aarogy (In Marathi) Lok Vidnyan Sanghatana, Pune Pune branch, 1981
Deals with women's health problems -- including infertility, VD, cancer--- in non-medical terms. An easy-to-understand booklet.

72. Parsons, Patricia and Hodne, Carole. A collective Experiment in Women's Health. Science for the People, 14(4): 9-13, 1982

Describes and successess of establishing an alternative health service for women in a town in the U.S. Offers some guidelines which may be of use

73. Prakash, Padma. Women and Health: Some issues . Paper presented at the Conference on a Perspective for a women's movement in India, Bombay.1980
A discussion paper attempting to show that health issues for women's movement in India are different from those in the West and highlighting the need for a feminist critique of 'alternative developments in health care e.gCH,etc.

74. Sen, Ilina and Sen, Binayak. An Experimental Health course for Rural Women Paper presented at the Women and Health Workshop, Bombay 1981.

A note on theexperiences of organising an experimental health course for women. Open to all women with no selection of candidates with the intention of avoiding the creation of a new . . hierarchical level in health care

AND MANY MORE
If there exists a comprehensive bibliography on women and health, please make it more accessible!

WOMEN AND HEALTH

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Reviews statistics from 42 hospitals in 15 states. Cancer, is the ninth cause of mortality among women in Bombay in 1971. Records the predominance of cervical and breast cancer.

12. Kulkarni, Suresh, N. Demographic and Nutritional Background of the Health status of women in India. Mimeo. Institute of Economic Growth. New Delhi

Some analysis of statistical data from 1921 on health indices with reference to women. Demonstrates that declining sex ratio is a function of health status. Sex-wise health care of population of age group 0-14 has received little attention as compared to that given to age group 15-44. Lack of appropriate data ensures that female mortality is examined only in terms of pregnancy management.

13. Mohanty, Bidyut. Women, Disease and Death in Historical Perspective: A case study of Orissa (1881-1921). Paper presented at the Conference on Women's Studies, 1981

A very brief paper about what appears to be an exhaustive study showing that more men than women died in the 19th century. Old diseases have changed and several social factors have resulted in their intensification killing more more women

14. Nathanson, Constance. Sex, Illness and Medical Care.: A review of data, theory and method. In Health, Illness and Medicine edited by Gary Albrecht and Paul.c. Higgins. 16-40

Examining data f mostly from developed countries, presents a picture of sex differences in health indices. Method of treatment of data could be a model

15. Shatrugna, Veena. Health status of women and children and the role of community health volunteers scheme. Paper presented at the Workshop on Women and Health , Bombay 1981

Briefly describes the major health problems of women and expresses a reserved approval of the community health programmes.

"If you don't eat ...."

16. Batliwala, Srilatha. Rural Energy Scarcity and Undernutrition: A new perspective. Economic and Political Weekly, 17(Feb.7,1982):

Relates women's undernutrition to wtheir actual energy expenditure obtained from a field study. Suggests that nutritional intake insufficient to make up for energy output may have long term effects such as higher morbidity, shorter life span etc.

17. Eide, Wenche B et al. Women in Food Production, Food Handling and Nutrition (with spr ref. to Africa) Food and Agricultural Organisation. Rome .1979

Critically analyses the problem of women's nutrition in the context of the history of colonialism in Africa and the political, economic and social changes and how they affected women's role in production.

18. ICMR. Anaemia in Pregnancy. Indian Council of Medical Research Bulletin. 5 (11): 1-4, 1975

Comprehensive review article on a health problem which accounts for 20 per cent maternal deaths.

19. Jayarao, Kamala. Who is Malnourished: Mother or the Woman ? In Health Care care : Which way to Go. Medico Friends Circle. 1982. 53-74

Welfare activities conserning women never attempt to bring them into the main stream of developmental activity. Their nutritional status is rooted in their their inferior status in society, although nutritional programmes treat them only as mothers or potential mothers. Examines effect of new technologies on women's nutritional status through changes in their employment.

"Work(outside the home) causes ill health"

20. Ansley, Fred and Bell, Brenda. Diagnosis: Work related diseases. In Science for the People. 7(5): 19-21,34-5.

Examines workihg conditions of women in cotton mills in the U.S and demonstra tes that 'women's illnesses' are in fact, rooted in their social location, work

21. Feminist Network Newsletter. The Sandoz Strike. In Feminist Network Newsletter 1979.1

Describes health damaging conditions of work of women in Sandoz plant.

22. SftP East Bay. Danger: Women's Work. In Science for the People.12(2) 1980

Anlysis of workpkalce hazards in new and traditional industries in the U.S where women work in large numbers.

23. CALL. Women and Labour Law . Committee for the Advancement of Legal Literacy

Brief introduction to welfare measures and protection afforded to working women under the Factory Act, Maternity Benefits Act and ESIS ACT.

"It's all in the mind"

24. Chesler, Phyllis. Marriage and Psychotherapy. In International Socialist Review. November 1980. 32-34

Traditional psychoanalytical theories about women are at best confused and at worst, false. The ethic of mental health is masculine. We need to seek a new, a first , psychology of women.

25 Fee, Elizabeth. Psychology, Sexuality and Social Controlin Victorian England In Social Science Quarterly, 58(4): 632-46.

A well-documented article with extensive reference showing how psychology was used to impose social control as well as male bourgeois norms of sexuality

26. Mackay, Judith Longstaff. Women and Madness . Hong Kong 1979. Mimeo

A good overview of how social and cultural norms influence psychiatric diagnoses and the solution of psychiatric problems of women. The normal woman of psychiatry is an emotional, weak, passive, non-aggressive wife or mother.

Women as Healers

27. Bang, Rani. NursesL The cursed women in Medical System. In Health Care way to Go. Medico Friends Circle. 1982. 75-90

Discusses the current distressing status of nurses in India and suggests that their low status within health care may be because of the nature of their job. Nurses have a key role to play in women's struggle.

28. Gamarnikov, Eva. Sexual Divsion of Labour: the case of nursing. In Feminism and Materialism. Ed by Annette Kuhn and AnnMarie Wolpe. Routledge, Kegan and Paul, London. 1978. 96-123

Under capit lism patriarchal re ations are reproduced in the sexual division of labour in the health care system. The occupational ideology of nursing necessarily genderises the division of labour , associating men with science and authority and women with caring and maintenance. Contributes towards a theoretical understanding of nursing and nurses/

29. Ehrenreich, Barbara and English, Dierre. Witthes, Midwives and Nurses. Glass Mountain Pamphlet no.1. The Feminist Press. New York. 1973

A short feminist history of women healers from witchcraft to the rise of s

scientific medicine, dominated by men.

30. Leeson, J and Gray.Judith. Women in Medicine . Tavistock Publications.1978

Reviews historical role of women in health care and an analysis of the beginning of unionisation among nurses. Also deals with nurse-women doctor, nurse-women patient, women doctor-women patients relationships

31. Navarro, Vicente. Women in Health Care. In Health, Illness and Medicine Ed. by Albrecht and Higgins. Rand McNally, Chicago. 1979. 327-37

Describes the situation of the women in the U.S.health labour force. This can be understood in the context of an analysis of the socio-economic and political structures.

32. Sadgopal, Mira. Training of Dais. In Health Care: Which way to go . Medico-Friends Circle. 1982 197-206

A critical comment on the dai training programme.

Women's Biology and its Consequences
Menstruation

33. Redgrove, June. Menstrual Cycle. In Biological Rhythms and Human Performance edited by N.P.Colquhoun. Academic Press.London. 1971. 211-40

A well-referenced estudy asserting that menstruation does effect performance but its extents depends on other sociological and psychological factors as shown in experimental studies and experiments on women athletes.and sports

34. Shuttle, Penelope and Redgrove, Peter. The Wise Wound: Menstruation and Everywoman. Victor Gollancz Ltd. 1978.

A complete book on a phenomena which effects half the human population and has only recently been subjected to comprehensive research. Draws from scientific psychological, mythological and anthropological, historical sources. A never before analysis.

Reproduction

35. Gordon, Linda. Woman's Body, Woman's Rights Penguin Books. 1977.

A socio-political history of the birth control movement in America. Sees three distinct periods in the last 100 years-- 'voluntary motherhood', legalised abortion and the period of commoditization of birth control.

36. Lahiri,D. and Konar,M. Abortion Hazards. In Journal of Medical Association of India. 66(11): 288-294. 1976

Sepsis accounts for 20% of all abortion hazards. 50 per cent of random abortions admitted were ilegally induced. Data from one hospital, many years.

37. Lawrence, Virginia. Contraception. In Women's Undercurrents, U.K. 29, 26,1978

Short but significant. Offers that the tchnology which provided contraceptives is a male technology . Women must infiltirate the scientific network and influence priorities and methods.

38. Newland, Kathleen. Women and Population Growth: Choice beyond childbearing World Watch Paper 16, December 1977

A critical review reassessing existing information. FP programmes do not recognise women as individuals but as mothers and yet they seek to diminish the only role that they explicitly recognise for women.

39. Rao, Kamala Gopal. Status of women in India related to the study of FP ICSSR Mimeo. Undated.

There exists a two-way relationship, between FP programmes and women's status which is explored here. Considers such questions as: does contraception redefine the female role in society and alters the meaning of marital relationship

40. Rose, Hilary and Hanmer, Jalna. Women's Liberation, Reproduction and the Technological Fix. In The Political Economy of Science. The Macmillan Press London. 1976

Exposes the inherent sexism of new developments in reproduction technology

f

and challenges the viewpoint held by some radical feminists that technology is neutral and so can be made use of as such.

41. Savage, Wendy. Taking Liberties with Women: Abortion, Sterilization and Contraception. International Journal of Health Services. 12(2); 293-308,1982

Analyses four area of concerning reproductive freedom , based on U,K data.

42. Savara, Mira. Women, Health and Reproduction: Some issues. Paper presented at the Women and Health workshop in 1981.

Discussion paper with a feminis perspectiveSuggest action programmes.

43. Schiff, Jill. Vasectomy. Newsletter Cultural Survival. 5(4): 1981 . pp8

There appears to be a link between atherosclerosis and vasectomy. Could there be acardiovascular disease epidemic on the horizon ?

44. Serlin, Renee. Contraceptives: Back to the barriers. New Scientist, July30 281-84. 1981

An anniversary article on Marie Stopes who fought for birth control in the '30 '30s. Notes how fertility control today is surrounded by a 'morass of prejudice.'

45. Vandenbroucke, J.P et al . Oral contraceptives and rheumatoid arthritis: further furtherevidence for a preventive effect. Lancet. 1982 ii 839-42

Report of a case control study of women with a history of oral contraceptive use and diagnosis of probable rheumatoid arthritis or soft tissue rheumatism Confirms earlier findings of that)C use halved rates of rheumatoid arthritis

Obstetrics and child care

46. Cohen, Marige. Book Review of Men Who control women's ehalth by Diana Scully Reproductive Rights Newsletter , Fall 1980 20-21

Analyses the practice and training of in Ob and Gyn at two major urban hospitals

47. Comer, Lee. The Myth of Motherhood. Spokesman Pamphlet. Undated.

A feminist critique of society's definition of motherhood.

48. Frankfort, Ellen. Vaginal Politics. Quadrangle Bros. New York. 1972

An early book on how women are breaking the medicine's grip on their bodies.

49. Haire, Doris. The cultural warping of childbirth. In The cultural Crisis of modern medicine Ed by John Ehrenreich. Monthly Review Press. 1978. 185-200

Excellent article examines current Ob practices such as use of anaesthesia, insistence on the lithotomy position during childbirth, use of forceips etc.

50. Hewell, Mary C. Paediatrician and Mothers. In The cultural Crisis of Modern Medicine. Edited by J.Ehrenreich. Monthly Review Press. 1978 201- 222

Informal content analysis exp of teaching material in paediatrics.

51. Miller, Barbara. What hospital admission s tell us about childcare in India Syracuse University.Mimeo.

Higlights the difference in male-female care from the analysis of secondary data on hospital admission from regional and area studies.

52. Scully, Diana and Bart, Pauline. A Funny thing Happened on the Way to the Orifice: Women in Gynaecology Textbooks. In The Cultural Crisis of Modern Medicine. Ed. By John Ehrenreich. Monthly Review Press. 1978. 212-28

A report on the content analysis of 28 gynaecological textbooks for sexist bias. The emphasis is on how female sexuality has been dealt with

53. Sebastian, E.V. Health Services for Women. Annals of Indian Academy of Medical Sciences, 12(4): 222-34, 1976

Begins with a historical review of health services for women but the focus shifts to a discussion of health services for children and their mothers.

54. Sethna, N.F. Maternal and Child Health Services in India. All India Institute of Hygiene and Public Health. Background paper for the ICSSR-ICMR Committee on Health and Medical Services. 1978.

Describes the development of MCH services in India, reviews the reports of committees on health and the ir recommendations for MCH between1947-1968

55. Singh, Gayatri and Savara,Mira. A case study on Child Care Facilities in Metropolitan Bombay. Asian and Pacific Centre for Women and Development, 1980

Studies the functioning of a creche runa by a textile mill, a balwadi programme, a mobile creche run for construction workers. Highlights drawbacks for instance, women workers given only half-an-hour to feed babies, when it takes ten minutes to get to the creche alone.

56. Singh, Shamer. Environmental hazards during pregnancy and birth defects. Annals of National Academy of Medical Sciences , 14(2): 53-65. 1978

Environmental hazards are a major or contributing factor in 65-70 per cent of birth defects. Also discusses the effects of drugs and chemicals.

Recent Issues concerning Women's health and Biology

57. Chhachi, Amrita and Sathyamala,C. A World without Women? Sex determination tests - a technology which will eliminate women. Hindustan Times. Aug.8,1982

Explains amniocentesis in non-medical language and offers a socio-political background to the issue.

58. Hosken, Fran P. Female Genital Mutilation in the World Today: A global review International Journal of Health Services, 11(3); 415-30, 1981.

A well-documented review of the ethical and health issues posed by female genital mutilation which affects at least 74 million women and female children

59. Minkin, Stephen. Depo-Provera: A critical analysis. Institute of Food and Development Policy. U.S.A. 1980

A comprehensive review on Depo-Provera, an injectable contraceptive, which many studies show lowers resistance to viral infection and worse, causes cancer. Attempts to clarify some of the political and economic issues involved in the ongoing controversy.

60. Sathyamala,C and Shiva, Mira. Are Hormonal Pregnancy Tests safe ? Volunteer Health Association of India. New Delhi. 1982

This was a background for many other articles on the same subject appearing in newspapers and journals on or around March 8,1982, launching the successful campaign focussing on the dangerous side effects and relative irrelevance

61. Sipe, Patricia. The wonder Drug we should know about. Science for the People 14(6):9-16,30-32. 1982

DES or stilbestrol, prescribed to millions of women to prevent miscarriage was,in the late '60s, suspected of having caused cancer in the daughters of women who used them. Written by a DES daughter, this article discusses the history of DES but also the health issues affecting DES daughters.

62. Wilson, Mark. Bottle Babies and Managed Mothers. Science for the People , 13(1): 17-24.1981

An analysis of the structural elements in capitalism and patriarchy which give rise to the problem of babyfood/infant formula. This is one feature of the larger problem of malnutrition, disease, oppression of women and the exploitation of the Third World. More proof that technological developments are not necessarily liberating.

63. ____, Britain: Foreign Husbands and Virginity Tests. ISIS International Bulletin, 14: 23-24, 1980

A short report on 'virginity tests' which were introduced for Asian women immigrants to Britain, and the protest actions that have taken place in Britain and in India.

Regaining Control of Health Care : Some Alternatives

64. Boston Women's Health Book Collective. Our Bodies, Ourselves. Simon and Schuster, New York, 1979. (Available from Manushi, New Delhi)

A pioneering book on women's biology, and their health written by a group of non-medical women who clarify misconceptions perpetuated by the medical system. It's an all-you-ever-wanted-to-know book which has already made history.

65. Eve's Weekly. Special issue on Health and Fitness. Eve's Weekly Ltd. March 13-19, 1982.

Mainly a 'how-to' issue with a cut-and-keep section on common ailments and emergencies, but includes a discussion of 'sensitive' topics such as psychiatric care of women and sexuality.

66. Fee, Elizabeth. Women and Health Care: A comparison of theories. International Journal of Health Services, 5(3): 397-415, 1975

Discusses three distinct approaches to women's health in the U.S -- liberal feminist, radical feminist and Marxist-feminist. May not be mutually exclusive.

67. Health for the Million. Special issue on Women and Health. Voluntary Health Association of India, New Delhi, 8(4); 1982

A representative collection of articles covering the entire range of health issues concerning women. Well researched and collated issue, Includes reports of efforts at organising women on the health front

68. ICSSR-ICMR Study Group. Health for All: An Alternative Strategy Indian Institute of Education, Pune. 1981

Incorporates a more comprehensive understanding of women's role than other similar health plan documents in the past. Attempts to view women as individuals rather than only as mothers. Does not wholly succeed.

69. Jha, Saroj.S. The development of Health Education programmes for women in a Bombay Slum. Paper presented at the National Conference on Women's Studies, S.N.D.T University, 1981.
Brief description of health education programmes directed at women

70. Kay, Bonnie and Regan, Carol. Steering Clear of the Medical Mainstream. Science for the People, 14(6): 28-9, 1982

How an experiment at providing abortion servies grew into an alternative health service for women in a city in the U.S.

71. Lok Vidnyan Prakashan. Stree-Aarogy (In Marathi) Lok Vidnyan Sanghatana, Pune Pune branch, 1981
Deals with women's health problems -- including infertility, VD, cancer--- in non-medical terms. An easy-to-understand booklet.

72. Parsons, Patricia and Hodne, Carole. A collective Experiment in Women's Health. Science for the People, 14(4): 9-13, 1982

Describes and successess of establishing an alternative health service for women in a town in the U.S. Offers some guidelines which may be of use

73. Prakash, Padma. Women and Health: Some issues. Paper presented at the Conference on a Perspective for a women's movement in India, Bombay.1980
A discussion paper attempting to show that health issues for women's movement in India are different from those in the West and highlighting the need for a feminist critique of 'alternative developments in health care e.gCH,etc.

74. Sen, Ilina and Sen, Binayak. An Experimental Health course for Rural Women Paper presented at the Women and Health Workshop, Bombay 1981.

A note on theexperiences of organising an experimental health course for women. Open to all women with no selection of candidates with the intention of avoiding the creation of a new . . hierarchical level in health care

AND MANY MORE
If there exists a comprehensive bibliography on women and health, please make it more accessible!

Anand, MFC EX Annual Meeting, 1983 Padma Prakash

A Discussion Paper on

"Targets and Coercion in the Family Planning Campaign"

Manisha Gupte

Target planning and coercion (directly during the period of Emergency and indirectly through motivational strategies) are integral components of the Indian Family Planning Campaign. What needs discussion is whether target planning or motivation for the 'voluntary acceptance' of the small family norm are well intentioned strategies of a government that truly believes in its own goodness or whether coercion in Family Planning (FP) is a reflection of more basic maladies in society. Though Mamdani (1972) conclusively proved that motivation and coercion are not even practically able to reduce population numbers, the Indian Government has continued to base its FP programme through the setting of targets, conveniently glossing over the socio economic factors that are responsible for population growth.

Coercion, whether explicit or implicit, is riddled with prejudicial biases, be they of gender, nationality, class or ethnicity. This explains why the targets of population control programmes are the poor, the coloured, the tribals, the dalits and their women. Dumping of dangerous contraceptives in Third World countries and their testing on poor women without proper informed consent, the selection of Puerto Ricans or Mexicans for sterilisation in the United States or the distribution of a chicken alongwith each shot of Depo provera in the Phillipines are examples. The result of such biases can be genocidal when for instance, tribals who are already a persecuted section are tricked into mass sterilisations (FRCH 1987).

Incentives and disincentives:

Explicit coercion in the Family Planning programme in India can be seen in the form of incentives and disincentives to assure that the required targets are achieved. Incentives, be they an extra portion of rations, a few hundred rupees or a pair of new clothes can work wonders in impoverished societies. Ironically the leanest agricultural period coincides with the financial year ending (the month of March) when FP activity at the Primary Health Centre (PHC) level has reached to hysterical proportions.

An incentive based FP programme can understandably create distortions. In North Arcot 20,000 government employees signed a pledge to observe 1985 as a 'childless year'. They pledged to register one lakh sterilisations in 1984-85, doubling the number of operations from the previous year (The Hindu, Sept. 25,1984). The Punjab government introduced a raffle for a lakh of rupees as well as the slogan 'Get sterilised and win' (Indian Express,Jan.1,1985). Laparoscopes and their accesories have been exempted from customs duty 'in view of the growing popularity (sic) of laparoscopic sterilisation among women' During 1983-84, 80% of those sterilised were women (Hindustan Times, Nov.25,1984). There was also a proposal by Mr.Krishna Kumar,Ex Minister of State for Family Welfare, to give income tax concessions to private sector companies who offered to set up PHCs and who showed significant results in the FW programme (The Times of India, June 26,1986).

The ridiculous emphasis on incentives not surprisingly has also led to malpractice. A Bangalore based doctor was arrested in 1985 for issuing bogus sterilisation certificates to 220 employees of the New Government Electric Factory (NGEF). The cash incentives offered by the NGEF for vasectomies was Rs.1700 per person (Deccan Herald, Jan.12,1985). Dr.Khandwala, General Secretary of the Indian Association of Gynaecological Endoscopists criticised surgeons in mass sterilisation camps and doubted as to how they could perform 300-500 laparoscopies in a single day when the maximum possible was only 50 (The Daily, Dec.1,1984). The depressing results of such callous operations is only too well known through the case of the eighteen deaths in the Solapur PHC following laparoscopic sterilisations and similar such reports. The pressure of completing targets can be seen through incredible figures of acceptors shooting up at year ending by 4.4 million (only for the period of the month of March, 1986) when the average monthly figure of acceptors is 1.33 million (The Daily, May 5,1986). The Copper-T fraud of the Maharashtra Government is only too well known.

Disincentives for motivators in the form of humiliation, punishment transfers, delays in salaries as well as promotion, and sexual harassment can reach dangerous limits when motivators as single women, sometimes sole financial supporters for their families and living in alien villages cannot fulfil the prescribed targets. In March 1986, Manda Padwal, a female health functionary (an ANM) in the Talasari PHC of Thane district committed suicide after a reprimand and order from the doctor in charge to sterilise twenty /tribals (Barse,1986). In November 1986, thousands of primary school teachers from rural Maharashtra gathered for two days in Nagpur and while voicing other grievances clearly demanded for a withdrawal of FP work (Date, 1986). Doctors attending the first national conference on 'medico legal and social problems in professional services associated with infertility and fertility control' were critical of the government for setting targets in the FP programme (TOI, Nov.10,1986). Hundreds of Haryana government employees are fighting orders that force them to arrange voluntary sterilisations. The new monthly target for a woman worker in Haryana is four vasectomies, twenty IUDs and forty nirodhs. For males the target is four vasectomies and a hundred nirodhs each (IE, Jan.16,1986). The protests are numerous.

The government has introduced the concept of Net Reproduction Rate Unity (NRR-1) in its Family Welfare Programme "..... after considerable experience in this regard (need to control population growth, the country has set before itself the long term demographic goal of achieving NRR unity by 2000 AD, with a birth rate of 21.0, death rate of 9.0 (life expentancy at birth being 64.0 years) and infant mortality rate less than 60.0" (GOI, 1985, p.164).

Implicit forms of coercion:

The official acceptance of NRR-1 by the government is especially sinister because in lay persons' terms it spells that only one daughter should replace her mother. Whereas the concept of NRR-1, is explicitly coercive, the implicit meaning is dangerous for women especially. Female foeticide through sex determination or sex selection is inbuilt in this strategy.

The government makes no bones about the fact that inspite of Dr.Karan Singh's lofty slogan of 'Development is the Best Contraceptive' at Bucharest in 1984, population control is seen as a substitute for development. Sarla Grewal, the then Additional Secretary, Ministry of Health and Family Welfare writes that "..... A reduction in human fertility per se has to be regarded as an important component of, if not an essential prerequisite for, socio economic development. To assume that socioeconomic development will automatically bring about a reduction in fertility is perhaps too optimistic to hope. In any case, the country cannot afford to wait for socio economic development to take its course and show up its impact"(emphasis mine) (Grewal,1984).

Against this background it is not surprising that maternal and child health services, female literacy and employment opportunity, or child survival are seen by the State as the means to reduce population. MCH and child survival therefore get reduced to 'spacing methods' and therefore most basic services such as ante, peri and post natal care, immunisation or for that matter even primary health care are covertly and overtly used as a screen to achieve fertility control. The Centre in an attempt to create the Neighbourhood Big Brother decided to finance the raising of 1.5 million strong corps of women volunteers to catalyse the FP programme at grass roots. The volunteers would be mothers above 30 years of age with not more than two children each and would themselves be acceptors of FP. To achieve NRR-1 by 2000 AD, each woman would, in rural and urban areas, monitor sixty families (TOI, June 4,1986).

Targets and Primary Health Care

The integration of FP with primary health care has had an adverse effect on the utilisation of the latter. A substantial majority of the rural population utilises the private practitioner in times of illness and the major reason for nonutilisation of government services is the absurd emphasis of the latter on FP (FRCH, 1987). Women still prefer to be delivered at home by traditional dais or relatives one reason being that any contact with a woman in peurperum is seized for FP. For the same reason, many children stay without immunisations.

The overshadow of the population control programme over all other essential public health services is naturally resented and feared by the poor. With low access to health services, the public health services are the only ones that most people can really afford for utilise. Through a worsening of access and utilisation to these essential services, a double crime against the rural working class is committed by those in power. Those sections who require health care most and who have little choice in choosing health care facilities are prevented from utilising basic health services that are in principle provided by the government for the people. They are denied what is rightfully theirs.

It is angering that public health services, especially maternal and child services are used as a bait to lure people towards reducing population growth. K.K. Pooviah, a member of the Central Council of Health and FW, while writing about enforcing the two child norm, states that the fourth Pay Commission had suggested a discontinuance of maternity benefits to employees after the second child. It had also been suggested to the various ministries that while selecting beneficiaries under the poverty alleviation schemes, preference be given to those who accept the small family norm. For instance, the agriculture ministry was required to give FP acceptors preference in loans for buying agricultural employment. In all schemes of employment only

those who accepted the two child norm were to get training or jobs (Peoviah, 1986).

Coercion and human relations:

The entire fabric of human relations is erodéd, especially in rural areas due to motivational strategies. Since health workers, petty bureaucrats and all government employees are burdened with the completion of targets throughout the year, most of their conversation with any human being ends with FP motivation. It is not a rare scene when motivators pay from their own meagre salaries or honoraria to escort 'eligible' individuals to the PHC and on some occasions there are fist fights among motivators over potential cases (FRCH, 1987). Human relations of motivators vis a vis the targets and amongst motivators themselves are full of mutual mistrust and contempt.

This hatred that the working class harbours for their own kind helps the real oppressors to escape without being questioned. To the rural masses the only visible oppressors are helpless motivators such as Manda Padwal, and it then becomes easy to forget that she too is a victim of the entire design of a coercive population control programme. This anger directed towards each other helps the ruling classes through a divide and rule strategy. Coercion thrives on the helplessness and the inability of the unorganised oppressed sections to rebel and further it breaks working class solidarity.

Choice versus coercion:

The concept of coercion is by definition based on the concept of choice. It is implicitly understood that if coercion as we understand it, is absent, then people are free to choose what they want. It is therefore necessary to discuss and debate whether choice in the form that it exists today, allows for most people, even in the absence of overt coercion, to make decisions regarding their own lives.

The working class today have no choice except to live in subsistance, they have no choice today to produce those commodities which they need most, and neither do they have the choice to decide in a socio economic vaccum as to how many children they will have.

Working class women as a gender also suffer from the unavailability of the above mentioned choices, but in addition they have no choice regarding their own sexuality, reproduction, child rearing and other family labour. For instance, a woman does not have the choice to mother a child outside of marriage and conversely, she does not have the choice to stay childless within marriage. Her choice is snatched away from her at either end: infact within marriage a woman's control over her own sexuality is markedly reduced.

Similarly, she does not have the choice to use or not to use contraceptives or the type of contraceptive she desires, nor does she universally have the choice to undergo abortion. These decisions are often made through the top down political structure.

The concept of 'choice' as we understand today therefore is a capitalist concept, where in a 'cafetaria approach' one can 'choose' from amongst the available limited options. These options are seen as commodities and not as active decisions to be taken. Thus we have the choice of birth control which really means that women choose the lesser evil among the available contraceptives when the family or the state decides that she must not have a child. The tussle between the wage market and the family leave the couple and especially the woman on a constant tight rope walk about child bearing and on that shaky ground she makes her 'choice' of pregnancy, contraception and abortion. In the same context, with an enforced small family norm and in a woman hating environment the woman 'chooses' to abort a female foetus.

In the absence of the true freedom for the majority of the people of the world to be able to make decisions regarding their own lives, it is possible to narrow down the horizon of choices in the very name of giving the right to choose. Thus along with the freedom of child survival come motivations to use spacing methods for birth control. In the same manner, sex preselection replaces sex determination techniques under the guise of giving a woman the 'choice' of pre-selecting the sex of her unborn child to 'avoid bloodshed through the abortion that follows sex determination'. In the absence of a thoughtful definition of choice, coercion and choice do not as expected, stand poles apart from each other, but ironically are separated from each other only by a thin line.

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References:

1. Barse Sheela: The Afternoon Despatch and Courier, (A Report), April 21, 1986.

2. Date Vidyadhar: The Times of India (A Report), Nov.10,1986.

3. The Foundation for Research in Community Health: NGOs in Rural Health Care, Vol.II (under publication), Jesani Amar, Gupte Manisha and Duggal Ravi, 1987.

4. Government of India: Ministry of Health and Family Welfare, Annual Report, 1984-85 (1985).

5. Grewal Sarla: In 'Population Policy in India', Compiled by Gandotra M.M. and Narayan Das, Population Research Centre, Baroda, pp.3-7 (1984).

6. Pooviah, K.K.: The Times of India, Dec.13,1986.

A Discussion Paper on

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Manisha Gupte

Target planning and coercion (directly during the period of Emergency and indirectly through motivational strategies) are integral components of the Indian Family Planning Campaign. What needs discussion is whether target planning or motivation for the 'voluntary acceptance' of the small family norm are well intentioned strategies of a government that truly believes in its own goodness or whether coercion in Family Planning (FP) is a reflection of more basic maladies in society. Though Mamdani (1972) conclusively proved that motivation and coercion are not even practically able to reduce population numbers, the Indian Government has continued to base its FP programme through the setting of targets, conveniently glossing over the socio economic factors that are responsible for population growth.

Coercion, whether explicit or implicit, is riddled with prejudicial biases, be they of gender, nationality, class or ethnicity. This explains why the targets of population control programmes are the poor, the coloured, the tribals, the dalits and their women. Dumping of dangerous contraceptives in Third World countries and their testing on poor women without proper informed consent, the selection of Puerto Ricans or Mexicans for sterilisation in the United States or the distribution of a chicken alongwith each shot of Depo provera in the Phillipines are examples. The result of such biases can be genocidal when for instance, tribals who are already a persecuted section are tricked into mass sterilisations (FRCH 1987).

Incentives and disincentives:

Explicit coercion in the Family Planning programme in India can be seen in the form of incentives and disincentives to assure that the required targets are achieved. Incentives, be they an extra portion of rations, a few hundred rupees or a pair of new clothes can work wonders in impoverished societies. Ironically the leanest agricultural period coincides with the financial year ending (the month of March) when FP activity at the Primary Health Centre (PHC) level has reached to hysterical proportions.

An incentive based FP programme can understandably create distortions. In North Arcot 20,000 government employees signed a pledge to observe 1985 as a 'childless year'. They pledged to register one lakh sterilisations in 1984-85, doubling the number of operations from the previous year (The Hindu, Sept. 25,1984). The Punjab government introduced a raffle for a lakh of rupees as well as the slogan 'Get sterilised and win' (Indian Express,Jan.1,1985). Laparoscopes and their accesories have been exempted from customs duty 'in view of the growing popularity (sic) of laparoscopic sterilisation among women' During 1983-84, 80% of those sterilised were women (Hindustan Times, Nov.25,1984). There was also a proposal by Mr.Krishna Kumar,Ex Minister of State for Family Welfare, to give income tax concessions to private sector companies who offered to set up PHCs and who showed significant results in the FW programme (The Times of India, June 26,1986).

The ridiculous emphasis on incentives not surprisingly has also led to malpractice. A Bangalore based doctor was arrested in 1985 for issuing bogus sterilisation certificates to 220 employees of the New Government Electric Factory (NGEF). The cash incentives offered by the NGEF for vasectomies was Rs.1700 per person (Deccan Herald, Jan.12,1985). Dr.Khandwala, General Secretary of the Indian Association of Gynaecological Endoscopists criticised surgeons in mass sterilisation camps and doubted as to how they could perform 300-500 laparoscopies in a single day when the maximum possible was only 50 (The Daily, Dec.1,1984). The depressing results of such callous operations is only too well known through the case of the eighteen deaths in the Solapur PHC following laparoscopic sterilisations and similar such reports. The pressure of completing targets can be seen through incredible figures of acceptors shooting up at year ending by 4.4 million (only for the period of the month of March, 1986) when the average monthly figure of acceptors is 1.33 million (The Daily, May 5,1986). The Copper-T fraud of the Maharashtra Government is only too well known.

Disincentives for motivators in the form of humiliation, punishment transfers, delays in salaries as well as promotion, and sexual harassment can reach dangerous limits when motivators as single women, sometimes sole financial supporters for their families and living in alien villages cannot fulfil the prescribed targets. In March 1986, Manda Padwal, a female health functionary (an ANM) in the Talasari PHC of Thane district committed suicide after a reprimand and order from the doctor in charge to sterilise twenty/tribals (Barse,1986). In November 1986, thousands of primary school teachers from rural Maharashtra gathered for two days in Nagpur and while voicing other grievances clearly demanded for a withdrawal of FP work (Date, 1986). Doctors attending the first national conference on 'medico legal and social problems in professional services associated with infertility and fertility control' were critical of the government for setting targets in the FP programme (TOI, Nov.10,1986). Hundreds of Haryana government employees are fighting orders that force them to arrange voluntary sterilisations. The new monthly target for a woman worker in Haryana is four vasectomies, twenty IUDs and forty nirodhs. For males the target is four vasectomies and a hundred nirodhs each (IE, Jan.16,1986). The protests are numerous.

The government has introduced the concept of Net Reproduction Rate Unity (NRR-1) in its Family Welfare Programme "..... after considerable experience in this regard (need to control population growth, the country has set before itself the long term demographic goal of achieving NRR unity by 2000 AD, with a birth rate of 21.0, death rate of 9.0 (life expentancy at birth being 64.0 years) and infant mortality rate less than 60.0" (GOI, 1985, p.164).

Implicit forms of coercion:

The official acceptance of NRR-1 by the government is especially sinister because in lay persons' terms it spells that only one daughter should replace her mother. Whereas the concept of NRR-1, is explicitly coercive, the implicit meaning is dangerous for women especially. Female foeticide through sex determination or sex selection is inbuilt in this strategy.

The government makes no bones about the fact that inspite of Dr.Karan Singh's lofty slogan of 'Development is the Best Contraceptive' at Bucharest in 1984, population control is seen as a substitute for development. Sarla Grewal, the then Additional Secretary, Ministry of Health and Family Welfare writes that "..... A reduction in human fertility per se has to be regarded as an important component of, if not an essential prerequisite for, socio economic development. To assume that socioeconomic development will automatically bring about a reduction in fertility is perhaps too optimistic to hope. In any case, the country cannot afford to wait for socio economic development to take its course and show up its impact" (emphasis mine) (Grewal,1984).

Against this background it is not surprising that maternal and child health services, female literacy and employment opportunity, or child survival are seen by the State as the means to reduce population. MCH and child survival therefore get reduced to 'spacing methods' and therefore most basic services such as ante, peri and post natal care, immunisation or for that matter even primary health care are covertly and overtly used as a screen to achieve fertility control. The Centre in an attempt to create the Neighbourhood Big Brother decided to finance the raising of 1.5 million strong corps of women volunteers to catalyse the FP programme at grass roots. The volunteers would be mothers above 30 years of age with not more than two children each and would themselves be acceptors of FP. To achieve NRR-1 by 2000 AD, each woman would, in rural and urban areas, monitor sixty families (TOI, June 4,1986).

Targets and Primary Health Care

The integration of FP with primary health care has had an adverse effect on the utilisation of the latter. A substantial majority of the rural population utilises the private practitioner in times of illness and the major reason for nonutilisation of government services is the absurd emphasis of the latter on FP (FRCH, 1987). Women still prefer to be delivered at home by traditional dais or relatives one reason being that any contact with a woman in peurperum is seized for FP. For the same reason, many children stay without immunisations.

The overshadow of the population control programme over all other essential public health services is naturally resented and feared by the poor. With low access to health services, the public health services are the only ones that most people can really afford for utilise. Through a worsening of access and utilisation to these essential services, a double crime against the rural working class is committed by those in power. Those sections who require health care most and who have little choice in choosing health care facilities are prevented from utilising basic health services that are in principle provided by the government for the people. They are denied what is rightfully theirs.

It is angering that public health services, especially maternal and child services are used as a bait to lure people towards reducing population growth. K.K. Pooviah, a member of the Central Council of Health and FW, while writing about enforcing the two child norm, states that the fourth Pay Commission had suggested a discontinuance of maternity benefits to employees after the second child. It had also been suggested to the various ministries that while selecting beneficiaries under the poverty alleviation schemes, preference be given to those who accept the small family norm. For instance, the agriculture ministry was required to give FP acceptors preference in loans for buying agricultural employment. In all schemes of employment only

those who accepted the two child norm were to get training or jobs (Poovish, 1986).

Coercion and human relations:

The entire fabric of human relations is erodéd, especially in rural areas due to motivational strategies. Since health workers, petty bureaucrats and all government employees are burdened with the completion of targets throughout the year, most of their conversation with any human being ends with FP motivation. It is not a rare scene when motivators pay from their own meagre salaries or honoraria to escort 'eligible' individuals to the PHC and on some occasions there are fist fights among motivators over potential cases (FRCH, 1987). Human relations of motivators vis a vis the targets and amongst motivators themselves are full of mutual mistrust and contempt.

This hatred that the working class harbours for their own kind helps the real oppressors to escape without being questioned. To the rural masses the only visible oppressors are helpless motivators such as Manda Padwal, and it then becomes easy to forget that she too is a victim of the entire design of a coercive population control programme. This anger directed towards each other helps the ruling classes through a divide and rule strategy. Coercion thrives on the helplessness and the inability of the unorganised oppressed sections to rebel and further it breaks working class solidarity.

Choice versus coercion:

The concept of coercion is by definition based on the concept of choice. It is implicitly understood that if coercion as we understand it, is absent, then people are free to choose what they want. It is therefore necessary to discuss and debate whether choice in the form that it exists today, allows for most people, even in the absence of overt coercion, to make decisions regarding their own lives.

The working class today have no choice except to live in subsistance, they have no choice today to produce those commodities which they need most, and neither do they have the choice to decide in a socio economic vaccum as to how many children they will have.

Working class women as a gender also suffer from the unavailability of the above mentioned choices, but in addition they have no choice regarding their own sexuality, reproduction, child rearing and other family labour. For instance, a woman does not have the choice to mother a child outside of marriage and conversely, she does not have the choice to stay childless within marriage. Her choice is snatched away from her at either end: infact within marriage a woman's control over her own sexuality is markedly reduced.

Similarly, she does not have the choice to use or not to use contraceptives or the type of contraceptive she desires, nor does she universally have the choice to undergo abortion. These decisions are often made through the top down political structure.

The concept of 'choice' as we understand today therefore is a capitalist concept, where in a 'cafetaria approach' one can 'choose' from amongst the available limited options. These options are seen as commodities and not as active decisions to be taken. Thus we have the choice of birth control which really means that women choose the lesser evil among the available contraceptives when the family or the state decides that she must not have a child. The tussle between the wage market and the family leave the couple and especially the woman on a constant tight rope walk about child bearing and on that shaky ground she makes her 'choice' of pregnancy, contraception and abortion. In the same context, with an enforced small family norm and in a woman hating environment the woman 'chooses' to abort a female foetus.

In the absence of the true freedom for the majority of the people of the world to be able to make decisions regarding their own lives, it is possible to narrow down the horizon of choices in the very name of giving the right to choose. Thus along with the freedom of child survival come motivations to use spacing methods for birth control. In the same manner, sex preselection replaces sex determination techniques under the guise of giving a woman the 'choice' of pre-selecting the sex of her unborn child to 'avoid bloodshed through the abortion that follows sex determination'. In the absence of a thoughtful definition of choice, coercion and choice do not as expected, stand poles apart from each other, but ironically are separated from each other only by a thin line.

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References:

1. Barse Sheela: The Afternoon Despatch and Courier, (A Report), April 21, 1986.

2. Date Vidyadhar: The Times of India (A Report), Nov.10,1986.

3. The Foundation for Research in Community Health: NGOs in Rural Health Care, Vol.II (under publication), Jesani Amar, Gupte Manisha and Duggal Ravi, 1987.

4. Government of India: Ministry of Health and Family Welfare, Annual Report, 1984-85 (1985).

5. Grewal Sarla: In 'Population Policy in India', Compiled by Gandotra M.M. and Narayan Das, Population Research Centre, Baroda, pp.3-7 (1984).

6. Pooviah, K.K.: The Times of India, Dec.13,1986.

CONTRACEPTIVE CHOICE : SAFETY VS EFFICACY.

(Background paper prepared for the XIII Annual Meet of MFC, Jan 1987).

- Sathyamala

There is a general belief that contraceptives reduce maternal mortality rates considerably. Statements such as -

> "Like all medicines, birth control pills occasionally cause serious problems in certain perons.... Of the 15,000 women who become pregnant, 75 are likely to die from problems of pregnancy or child birth; of the 15,000 women who take the birth control pills only one is likely to die from problems related to having taken the pill. Conclusion: It is much safer to take the pill than to become pregnant."

are made to highlight what a boon the modern day contraceptives are to the procreating women. Even when attempts are made to discuss complications or mortality rates in relation to contraceptive methods, they are usually rationalised as "..It may be emphasised that though the mortality of interval sterlization is much higher than that of post partum sterlizations, the mortality of either of the two procedures is much lower than the maternal mortality for this country (India) which is the risk the patient (emphasis added) would be exposed to if she were not sterlized." (2). Complacency is also expressed in statements like-contraceptive 'X' has no life threatening side effects and therefore it is safe. The underlying assumption in all these statments is that the contraceptive methods that are currently being promoted are far safer than the 'risk' of becoming pregnant.

While it may be true that child bearing adds a certain risk to the woman population, it becomes a definite risk in only those population which has an already high overall mortality rate : and it is the purpose of this paper to present the hypothesis that while contraceptive use may theoretically decrease the possibility of pregnancy related deaths, the quantum of morbidity it produces is far too high to justify its wide use in developing countries where the very factors responsible for the high maternal mortality rate would lead to an increase in mortality due to contraceptive use as well.

Morbidity load due to the currently available female methods of contraception:

An estimate of the probable morbidity load can be made on the basis of the data available on the incidence rates of complications arising from the use of contraceptive methods. The morbidity rates have been calculated on the number of acceptors in 1980-81.

Contraceptive method	Morbidity	Incidence	No. of acceptors in 1980-81	No. of women who would have suffered ill health
IUCDs	Bleeding and pain	10-15/100 users	6,00,000	60,000 to 90,000.
	PID	10/100 users	"	60,000
	Infertility	10/100 users	"	60,000
	Ectopic pregnancies	0.8 to 4% of method failure	"	240 to 1200
	Spontaneous abortions	50% of method failure	"	15,000
	Perforation of uterus	1/2500 users	"	240
Tubectomy	Post op. menorrhagia	5.1%	1,550,000	79,050
	Pelvic infections	12.42/1000	"	19,251

Total morbidity due to these two methods : 293781

Total number of acceptors : 2150000

Morbidity rate due to these two methods : 137/1000 acceptors

Morbidity rate due to IUCD alone : 326-377/1000 acceptors

(ref No.3)

The incidence rates used in these calculations are probably an underestimation of the actual incidence in rural areas. The calculations have also not taken into account the total morbidity subsequent to contraceptive failure. It should be noted that the complication rates for tubectomies are from surgeries performed in teaching hospitals. The incidence rates in the field situation ie. Primary Health Centres and FP Camps would probably be much higher than the ones quoted.

The morbidity due to oral pill use was not included in the table because the acceptance and the continuation rate for oral pill use in India has generally been very low. Infact it is so low that oral pill use rate is not included in the assessment of eligible couple protection rate. In 1983, to overcome the problem of the non acceptance of the pill, the Health Ministry came up with the bright idea of distributing the pills through the Village Health Workers. This plan was dropped later because of the opposition from the Indian Women's Scientists Association on the grounds that such a plan would neither be safe nor effective. However from the report of the 'Revised Strategy for National Family Welfare Programme', it appears that there are definite plans to expand the use of the pills through

social marketing and by using a new cadre of workers, the'Village Level Women Volunteers Corps'. Reports have also come from several parts of the country that this new cadre has swung into action and that the pill is being promoted through the door to door sales technique. An even more worrying aspect of the strategy is for the first time an official policy states "acceptance of oral pills in rural areas can be expanded if medical consultation is not prescribed."(4)
The potential morbidity and mortality due to oral pill use should this scheme become successful can be seen from data available from other countries. The following table presents the episodes of hospitalization and mortality rates in a group of oral pill users from UK.

Serious side effects associated with the use of combined oral contraceptive.

Side effect	Excess morbidity and mortality per year 100,000 users		
	Diagnosis	Hospitalizations	Deaths
Stroke	31	35	9.7
Deep Vein Thrombosis or Pulmonary Embolism	91		
Superficial or unspecified thrombosis	125	70	3.4
Heart attack and other non-rheumatic heart Dis.	17	17	8.0
Gall bladder Disease (surgically confirmed)	79	79	-
Kidney Infection	383	-	-
Benign liver tumor	1	1	0.1
Hypertension	406	-	1.7
Total	1133	202	22.9

(Ref. No.5)
This data indicates that "one out of every 500 pill users are hospitalized annually due to serious side effects caused by this method. An estimated one out of every 5000 users die annually from pill caused strokes, thromboses and heart attacks... roughly two thirds are among smokers and one third among non smokers".(5)

It is generally alleged that these risks do not apply to Asian Women because they do not have the same problems of heart attack and thrombotic disease. This assumption is unfounded because according to the ICMR report of 1981,"...Available data on Indian women with CVD(cardio vascular disease) show that though their lipid levels were higher than the normal Indian women, the levels were far below their Western counterparts".(6) and concludes that epidemiological studies are needed to confirm if Indian women using oral contraceptive might be at a lower risk of developing CVD. Epidemiological studies from Hong Kong have

shown that there has been an increase in heart ailments among women between 1969-75 or since the pill was introduced. If the pill programme indeed becomes successful one could still expect complacency because Indian women especially from the rural areas will neither be diagnosed nor hospitalized to the same extent as their British counterparts for obvious reasons. But one can say with surety that should the programme become successful the mortality and morbidity rate in women users under unsupervised conditions will be very high.

A recently released report (1982) from the Centre of Disease Control USA has shown that for the first time in the USA contraceptive-related deaths outnumber pregnancy - related deaths. This could very well be the situation in India if the trend towards pushing even more hazardous contraceptives persist.

The report of the 'Revised Strategy for National Family Welfare Programme'makes its intentions very clear. Under 'Family Planning Research' it states

> "New technologies like injectables, sub-dermal implants, etc, are currently undergoing trials before introduction in the programme. The procedures and the protocols and the time scales of induction of new technologies will be revised to enable faster introduction of such technologies in the programme." "Development of simple, reversible, safe and long acting contraceptives such as the anti-fertility vaccine would seem to offer great potential. Research efforts in developing such a vaccine will receive high priority."(7)

Anyone with even a rudimentary knowledge of the mechanism of action of these methods would know that the complications arising out of their wide-use will be of a magnitude never witnessed before in contraceptive history. An added problem with these contraceptives is that the morbidity and mortality risks will not be confined to the women alone but is going to be extended to their progeny as well.

The question that gets posed is why then this strange attachment to hazardous contraceptives when available data already indicates that they are a definite threat to women's lives. This is when the red herring in the form of "effectiveness" is thrown up to confuse everyone. It is stated that more and more invasive a method is better and better is its effectiveness because it will act at so many levels that conception will not stand a chance!

The following table shows that if one compares the lowest observed failure rates for the currently available methods, the effectiveness is almost similar.

Method	Lowest observed failure rate (%)
Tubal sterlization	0.4
Vasectomy	0.4
Combined pills	0.5
IUD	1.5
Condom	2
Diaphragm with spermicide	2
Cervical cap	2
Fertility awareness	2 -20

(Ref. No.8)

That means that theoretically at least in a well'controlled' situation the effectiveness of invasive contraceptives are very similar to the non-invasive barrier methods. The problem comes when effectiveness is discussed in terms of actual use. For instance, if a woman takes the pill everyday and does not miss even once then the theoretical effectiveness would apply to her. But in a real situation in a group of pill takers the effectiveness would be influenced by the irregularity or the regularity with which each member takes the pill. Hence the actual failure rate can range from 5(IUD) to 10 (Condom) to 19 (Diaphragm). This is what the population experts are really concerned about: the performance of a method in a population which they may not be able to "control". Hence the attachment to invasive methods which hopefully will not be affected by the vagaries of human nature.

The medical establishment however rationalises in a different way the need for a method whose theoretical use comes closer to the actualise. It is argued that if the failure rate is high with contraceptive use, the women accepting a method with the high failure rate would continue to run the risks of pregnancy. A comparison of cumulative risk of deaths associated with fertility control methods which includes both maternal deaths susequent to contraceptive failure and method-related deaths show that despite the additional risk of high failure rates, condoms backed by abortion is the safest method available.

Cumulative Risk of Death Associated with Fertility Control Methods (per 100,000 nonsterile women)

Method	15-34	35-39	40-44	15-44
Pill/smoker	132	257	588	977
Pill/nonsmoker	21	70	160	251
Rhythm	36	14	18	68
Diaphragm/spermicide	28	11	14	53
IUD	25	10	10	45
Abortion	26	9	6	41
Condom	19	2	2	23
Condom/abortion	1	1	1	1
No method	192	129	141	462

(Ref. No.9)

It is obvious that if a Family Planning policy is really concerned with the health of the women, then it would stop viewing hysterically, the possibility of an inadvertant pregnancy due to contraceptive failure as a national disaster. Till such time it does that, the attempt of the population controllers will be to develop methods which tend towards the mythical 100% effectiveness leaving the concept of safety to the four winds.

The question that remains to be answered is - is pregnancy really such an enormous risk that the wide use of hazardous contraceptives can not only be justified but should in fact be promoted in the interests of women? In this context it must be remembered that while comparing mortality and morbidity risks in contraceptive use and pregnancy there are two different populations at risk. Only women who become pregnant can die of pregnancy related causes. A much larger number of women is at a risk of death from contraception related causes, and this population would have already faced the risks of becoming pregnant before they accept a method. Finally, it must also be remembered the complications arising from contraceptive use are generally long-term effects and could lead to permanet disability.

Notes and References:

1. "Where there is no doctor", Indian adaptation, by Sathyamala, VHAI.
2. ICMR Bulletin, June 1982, P 59.
3. (a) Incidence Rate (IR) for bleeding and pain, 'Contraceptive Technology, 1986-1987,' 13th Revised Edition, Irvington Publishers, p 202.

   (b) IR for PID, 'Population Reports, 'Series B, No.4, July 1982, p. B-121, "Other recent studies in developed countries have found the relative risk of developing PID ranges from 1.5 to 10 for IUD users." I have takenthe higher figure because in developing countries it must be higher than this.

   (c) IR for infertility, population Reports, Series B, No.4, July 1982, "Thus ectopic pregnancy or infertility may occur even after only one episode(of PID in the fallopian tubes)"

   (d) IR for ectopic pregnancies, Population Reports, Sereies B, No.4, p, B-125.

   (e) IR for spontaneous abortions, Population Reports, Series B, No. 4 p. B 124. "About 50% of uterine pregnancies spontaneously abort if the device is not removed". In some studies over half of the spontaneous abortions inIUD users is in second trimester and a spetic second trimester abortion is 26 times more likely in women with an IUD in place. The failure rate in actual users of IUD is 5/100.

(f) IR for perforation of uterus, Contraceptive Technology, 1986-1987, p 208.

(g) IR for post op. menorrhagia and Pelvic infections, ICMR Bulletin June 1982, p 59.

4. "Revised Strategy for National Family Welfare Programme," GOI. 1986 (?) p. 6.

5. "Contraceptives and Developing Countries : the role of Barrier Methods," Bruce and Schearer, International Symposium on Research on the Regulation of human fertility, Sweden, Feb.1983, p 407.

6. ICMR Bulletin, Dec. 1981.

7. "Revised Strategy for National Family Welfare Programme," GOI 1986(?), p 123.

8. Contraceptive Technology, 1986 - 1987, p 102.

9. "Out look", Vol 1, No. 3, Sept. 1983, p 4, Figures adapted from Ory of the US Centres of Disease Control.

A contribution to the discussion :

T.B. and society

-- B.K. Sinha.

The writer wishes to unite with other participants in understanding and taking the necessary steps leading to the elimination of T.B. Although significant strides in medical science has underlined the fact that almost every body has a chance of winning the battle of life and health against T.B., yet is continues to take a heavy toll of men in productive age. The situation is worse in countries like India.

Technical and scientific mastery over the disease and people succumbing to it, often helplessly, is a reality of our social life. This phenomenon, like every thing that exist in nature is a unity of opposites. All things contain two contradictory aspects and have contradictory, mutually exclusive, opposite tendencies, constantly struggling against and getting transformed into each other, leading to the dissolution of the phenomenon i.e., resolution of the contradiction and transformation thereby of the phenomenon itself.

We must therefore ask the question: why do people succumb to T.B., in a situation in which it is claimed that the drugs have been discovered to eliminate the disease ? Is the claim unreal ? Is the treatment and drugs with which to eliminate the disease do not reach those who cuccumb to it ? or, are there inadequacies which are being ignored ?.

Let us go into these questions further. The claim of mastery over the disease presupposes that the causes leading to the disease are fully understood and that all of them are accounted for in the treatment leading to its cure. But bodily process are understood in a number of narrowly defined and distinct terms like biochemistry, neurophysiology etc. and no unifying theory has been put forward in medicine that interrelates all these ways of looking at human organism. Besides, the very instruments we use can impose a limitation on the kind of information we can obtain. Moreover, with the advances in science, unknowability has become a factor in complex computation. In view of all this it may not be scientific enough for a scientist to point physical cause of the disease.

On the other hand, there is growing awareness to define health as a state of physical, mental and emotional well being rather than a mere absence of disease and infirmity. It means that any thing that distrubs the harmonious functioning of physical, mental and emotional functioning of life should be considered as a cause of disease. It is therefore easy to see that the greatest source of such imbalance lies in the relation

... 2.

that men enter into with other men in the society in the process of production and exchange of material and spiritual values necessary for man's existence and growth. It is this relationship which is at the roots of the needy and the sick not getting the treatment and cure : the reality of our social life.

Various aspects of the reality of our social life have been sufficiently debated and desribed from various angles providing quite a lot of information. Some of them is given below:
- Most of the people are forced by the circumstances to live in extreme poverty.
- Govt., policies concerning handicrafts and small scale industry is such that most of them must keep consuption or wages at the lowest failing which they must go bankrupt.
- The percentage of Govt., expenditure on public health and other services of public utility has been declining. It means that fewer and fewer people are in a position of availing these facilities. It means that those able to avail these facilities must have links with the rich and the powerful or must have sufficient means to bribe the authorities.

The other part, services from the private institutions and professionals are prohibitively costly and ruinous to the people.
- Taxes by the provincial as well as the Central Govt. has been increasing and theratio of direct tax to the indirect tax has been decreasing. It means that the poorer ones are more heavily taxed forcing them further deep in poverty and want.
- Drug manufacturing companies are extremely exploitative and profit oriented and go to any length for profit including the advertisement and sale of useless and harmful drugs at exhorbitant price.

And in this the Govt., often lets them do what they want.

If we look more closely then we find that all these aspects of the reality are interrelated and that they together serve the interests of those who control the means of production either through individual ownership or through the Govt. This ought to give rise to another question : is it possible that the claim that science has advanced to such an extent that a disease called T.B., has been conquered and therefore no one need succumb to it is put forward to serve this very interest ? It seems to be so. Otherwise, the reality of the disease having been conquered and the disease taking its toll cannot exist side by side.

This drives us to a conclusion that on the one hand we should look into the very claim critically, i.e., whether or not the claim of having discovered the remedies for cure of T.B., is correct; and on the other hand look for an alternative system of cure which will not suffer from the same antimony i.e., which all can get if they so desire. Another conclusion underlines the need of

waging a struggle against the social reality in which people succumb to such disease which are thought to be curable.

This should also be kept in mind that any single work of the above outlined can achieve its objective in isolation from the rest; all the three must go together to give the desired result.

Homoeopathy seems to offer the solution. It not provides a frame work for looking into the claim critically, i.e., whether or not the remedy for T.B., has been discovered leading to its elimination but it holds the promise of making the remedy universally available in terms of cost. And what's more, it can be a tool in the hands of the people struggling against the exploiters by freeing the people and the contry's economy from the chains of exploitation to a great extent. As manufacture of these drugs does not require such technology in which monopoly can be established leading to super profit and monopolistic exploitation.

But it is not only on these ground that this system of treatment is being recommended. Important though these grounds are, but in the context of treatment, its recommendation rests primarily on its effectiveness in practice. Many case can be cited to demonstrate the effectiveness of this treatmen but I cite only two examples :

1. Mrs. S.K.Suman Khonkar, 40 year old, from Sonegaon Wardha, came to Dr. Bhongade with following complaints:

   Buring in throat, dry cough, amelioration with cold application, feverish, rigour of chill, recurrent coryza, pain in chest, both apex, more in left with pain in back, left side at the region of scapula, stitching and ulcerative pain, agg. slight cold, sour food, slight air current, amel. salt water gargling, tea, lying down, hot application, pain in chest aggravating while coughing, weakness with trembling of whole body agg. at morning, amel. after eating; Rhumatic trouble, pain in lumber region, at circumscribed spot, both sides, more in the left side, aggr. during sleep, touch, changing sides, amel. hot application; spasm and rhumatic pain in legs, agg. sitting, during sleep; amel. hot application. Burning pain in soles, eyes, cracks in soles;
   Thirst : more than normal.
   Sleep : disturbed easily, sleepless for 2 hrs. after 2-3 am.
   dreams : fearful, weeping during sleep. History of profuse menses, presently having early menses after 3 weeks lasting for 4 days, clots, intermingled with red blood.
   Lukoria : milky and thick, after loop insertion.
   Had suffered from T.B two times, both lungs were affected.
   Uncle too had T.B.
   Children very succiptible to cold and coryza, lasting for long.

... 4.

Physian's observation : lean and thin,

Temp. 98.5; Pulse 88 ; B.P. 110 - 60.

Weight : 41 Kg. on 11.9.'81.

She came to the Doctor on 9.10.'80

Treatment : Phosphorus 200 1 dose .

Blood and Sputam tests on 14.10.'80 indicated :

Blood :	H.B.	59
	P.	51
	L .	46
	E.	3
	T.L.C.	9600

Sputam : A.F.B. Positive.

Treatment :	18.10.'80.	Phosphorus 200 1 dose
	1 . 11.	" "
	26.11.	Complained loose motion Aloes 200 3 doses.
	30.11.	Aggravation of cough, sleepless after 3 - 4 am., no remarkable change Phosphorus 1 m 1 dose
	13.12	More cough, harshness, pain in chest, tickling in throat. Rumex 200 1 dose.
	16.12	" "
	17.12	Constipation, ineffectual urging Nux Vomica 200 6 doses
	30.12	Cough aggravated, tickling in throat, pain in abdomen and chest Phosphorus 1m. 1 dose
	15.1.'81.	Cough reduced. Pain in left leg, constipation, ulcerative in vagina, sensitive to cloth Phosphorus 1m 1 dose
	13.3.	Teeth ache, cough Phosphorus 1m 1 dose
	1 .7.	Feels better Phosphorus 1m 1 dose.
	18.7.	Cough agg. tickling in throat Kali carb. 200.
	11.8.	Kali carb. 200.
	20.8.	Feels better, back ache, cough day time Sulphur 200
	19.9.	Alround improvement Sulphur im 1 dose. Improvement continues.

The patient is cured.

Blood and sputam test were done in the meantime, on 16.4.'81

Blood :	H.B.	56	
	P.	56	
	L.	41	Sputam : A.F.B. Negative
	E.	3	
	T.L.C.	11200	

Even after the cure, the patient was given globles for some more time.

... 5.

2. The other example is from Mozari, a village in Amravati District. Ratnamala Tat Shelke, 38 year old, came to Dr.Gumble with following complaints :

extreme weakness, cough, white sticky but easy expectoration, aggravation of cough after delivery and in the summer, burning during urination, urine yellow, worms in stool, unsatisfactory motion, loss of appetite, continious feverishness, thirst, sweat on chest, face and head, regular 5 day menses. Had been treated for T.B. before.

Physician's observation : lean and thin, slow.

Treatment : 26.5.'84. Nitrum sulph 200 3 doses

1 .6. Rhustox 30 4 times daily for 2 days

3 .6. feels better
Tuberculinum 200 3 doses

29.6. Improvement continues
Tuberculinum 200

14.7. Complains of cold, loose motion
Nitrum sulph 1m. 3 doses

30.8. Complains subsided
Tuberculinum 1m. 3 doses

30.11. feels much better. put on weight, cough, feverishness, weakness reduced.
Nitrum supph 1000 3 doses.

Blood test shows the reduction of Esnophelia and increase of Hemoglobin

The patient is almost cured but the treatment is continuing.

There are many more case histories of treatment that can be cited for the proof of effectiveness of this treatment. But the difficulty is that pathological tests have not been done and therefore the kind of proof that is demanded from them is not available. And the reason for this lack of pathological test is that homoepaths following the logic of homoeopathy do not believe in pathological tests.

Moreover, these two case histories will reveal the difference of medicines given to patients.

The reason is that homoeopathy does not believe in entities called disease (S). It treats patients' totality of symptoms rather than a small group of them which give rise to such entities. After all, they merely represent an arbitrary selection of certain manifestations of illness that appear together with a certain degree of frequency. Prescribing in homoeopathy is solely based on actual observation of the effects of homoeopathic medicines on healthy persons. Such observations define the range of the action of the medicines and provide all the information needed to help select a proper remedy for an individual patient. But this does not mean that the suitable medicine for the symptoms categorised as T.B. could be any one from some 2000 odd proved medicines listed in Materia Medica.

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Paradoxical though it may sound, but there are nearly 20 medicines from which the most suitable medicines for most patients can be selected depending on peculiarity of symptoms in individual cases.

Then there is a nosode, Tuberculinum, which is found to be helpful in many cases when there is a history of infection either in the individual patient or in his parents. Although routine prescribing of the nosodes along isopathic lines is not considered to be good homoeopathic practice, it can be of great help. It can be used not only to break up the lingering effects of the disease, but also to reach deep into the constitutional pattern of a patient and clear a chronic miasm that may have been implanted long before through exposure. It builds body resistence against the disease.

Homoeopathic treatment holds a great promise for the sufferers and those interested in removing the causes of suffering but all this lies buried in the heaps of abuse and ridicule against hemoeopathy. It is true that advocated of homoeopathy and homoeopaths themselves provided some basis for it, and did almost nothing to counter and expose the abuse and ridicule, most of which is motivated not by science but by counter-science. But neither evidence nor logic has been put forward to refute the basic premises of homoeopathy. On the contrary, fresh insights have been gathered from laboratory experiments to uphold the effectiveness of the system and cure.

Science is defined as "the cognition of necessity". Its prime task, therefore, is to investigate and analyse the needs of the society and to pave the way for its fulfillment. The significance of a scientific discovery depends solely upon its importance to society in the context of its needs, and the society's awareness towards its needs. But the social needs and its awareness often depends on the recognition of the class in power. It is they who decide what constitutes social needs and use the resources under their command to fulfill it. If their policies produce such results which are contrary to the social needs then it reflects a stage of development of the society in which the ruling class in existence, its ideas and theories, its ' science ' cannot lead the society in its forward march. This precisely is the situation in which we live. In such a situation, the essence of science consists in taking the theory forward by basing itself firmly on such experience, Such data obtained in pracice which articulate and meet the social need in a better way but are not considered 'scintific' enough by the ruling 'science' of the day. It is a task that society will have to take up. My submission is that homoeopathy should be examined in this context, I hope, M.F.C. will come forward in doing the needful.

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NATIONAL TUBERCULOSIS PROGRAMME

:some problems and issues:

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1. conceptual problems

IN THEIR seminal 1962 paper on symptom awareness in tuberculosis, Banerjee and Anderson, re-emphasized the probelm of tuberculosis as a problem of human suffering, and outlined a strategy for tuberculosis control based on this concept. This strategy, abjured a policy of active case finding. Instead, it concentrated its attention on greater diagnostic sensitivity towards and adequate treatment for those people suffering from symptoms suggestive of tuberculosis who presented themselves at the existing hospitals and clinics. Together with the Madras Chemotherapy Centre study on domiciliary treatment, it forms the theoretical basis of our present day tuberculosis programme.

THE CREDIBILITY of this system rests on the adequacy with which the entire range of presenting symptoms is handled. The logical corrolary of the adoption of this approach would, therefore, be the development of an integrated and well-defined system for tackling the entire range of tuberculosis symptomatology.

INSTEAD, THE National Tuberculosis programme has set its sights on a Mirage - the interruption of bacterial transmission. To this end, it defines a'case' of tuberculosis as a person excreting tubercle bacilli, in his sputum. This approach is unscientific because it is only at a much later stage along the exponential curve of falling prevalence that the interruption of transmission becomes even a remote possibility. It also ignores the fact that never in the history of human tuberculosis has a reduction in transmission been brought about by a specifically medical intervention.

AS A result of my four years experience of working in voluntary institutions participating in district tuberculosis control programmes - in Hoshangabad and in Durg - I am familiar with the way in which this approach works in practice. A person who presents himself at a Public Health Institution with symptoms suggestive of tuberculosis is not regarded as a person suffering from a disability and consequently in need of help but simply as an entity to be categorised, ie., TB or not TB. After a cursory physical examination he is sent for a sputum test. If he obliges by producing a positive sputum, that is the end of the matter. He can then be placed on a standard treatment regime (generally INH and Thiacetazone daily) and forgotten about. Once in a way his sputum may be checked but the treatment regime is not affected thereby. I have documented evidence of patients, sputum positive after a year's treatment with INH and thacetazone, being continued on the same drug. When challenged, the government doctor has explained, "that is the only regime available". In point of fact, in practice this is often true.

BUT WE will come to problems of chemotherapy later. The point I am trying to make is that from the point of view of of a desperately sick man, frightened by a dreaded diagnosis, it is cold comfort to be given 30 tablets and told to come back again after a month's treatment and assured that he will get well in 18 months time. This is particularly so since

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A note prepared for the mfc core group meeting (July 84) at Wardha.

B.1971984

there are doctors at every street corner assuring patients (with considerable honesty) that they will get well with some private treatment in six months or less.

LET US now come to the case of those who were sputum negative. The cost of a 'free' MMR X-ray from Durg to a person in Rajhara, is well over Rs.50-00. The cost of a local private X-ray is Rs.35-00. Which should the patient choose?

IT SHOULD be noted that I have been talking all along of the ideal case. We have not taken any account of the government doctor nudging the patient towards his private clinic; the laboratory technician asking for his 'fee'; the X-ray technician's rudeness, or the irregularity in drug supply.

THE PATIENT of tuberculosis is basically a suffering person. It is the least of his concern that he is excreting M tuberculosis in his sputum. What he is much more worried about is the fact that he has cough, chest pain, fever, body ache and nausea. He cannot work. He feels weak. He loses his sexual potency. His children starve and often fall ill in their turn. A physically distant and emotionally remote health centre can offer him nothing. It is well to remember that the Madras Chemotherapy Centre study on domiciliary treatment had weekly home visits as part of their protocol. It is a great pity that this investigation has formed the basis for a programme that thinks it sufficient to throw some tablets once a month at a desperately sick man.

2. primary tb and extra-pulmonary tb

TREATING THE problem of tuberculosis as a problem of suffering people, rather than as a problem of successfully eliminated parasitic myco-bacteria brings us to two sets of illnesses often neglected in the current programmes.

a. primary tuberculosis

Between 10 & 20 percent of Indian children are tuberculin-sensitive by the time they are five years old, though some surveys (Raj Narayan) yield a lower estimate. The popular (medical) conception of primary tuberculosis is of a mild intercurrent illness that is only incidentally detected in a chest X-ray and attains clinical significance only in the 'progressive' form. This is not true. In malnourished children not only is infection itself accompanied by significant morbidity but it is the '<u>interaction</u>' between infection and nutrition--that is the factor that needs to be considered. When we consider that, according to ICMR, 65% of Indian children are severely malnourished, the dimension of the problem becomes a little more plain.

It is a common misconception (even, as I have discovered, among TB 'Specialists'), that clinically apparent primary tuberculosis can safely be treated by a short course of INH alone. This is a notion that goes against all bacteriological logic. One only creates a population of INH resistant bacteria strategically situated to subsequently produce reactivation disease.

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b. Extra Pulmonary Tuberculosis

The chapter on Epidemiology in the Text Book of Tuberculosis (by the Tuberculosis Association of India) has nothing to say about extra pulmonary disease. In my experience this forms a significant proportion of cases of tuberculosis. In particular, scrofula burnt out tuberculous cervical lymphadenitis is still a common finding in backward areas of the country.

3. staff problems

SUCH CASES of ignorance among people working in the field of tuberculosis are not rare. This is because almost the entire field level medical staff of the tuberculosis programme are 'dead-beats' people who have been promoted to an administrative position because their seniority has become an administrative embarassment.

IN A Government District Hospital, despite all the other problems one can atleast meet doctors who are interested in their work in the medical, surgical, gynaecological and other specialist departments. Not so in tuberculosis. The department which should, by all epidemiological logic, claim the most brilliant and dedicated of our technical manpower, is invariably academically dead. In Hoshangabad, the District Tuberculosis Officer was simply absent for a long period of time.

THE PARA-MEDICAL staff on the other hand are often exceptionally dedicated and able. They often run the programme practically independentally. However, they have to pay the price for their competence. In Durg, the statistical assistant--a key person and in this case extremely competent and dedicated--has been on full time deputation to the Civil Surgeon's office, helping to administer the hospital.

4. chemotherapy

a. Existing patterns

In theory, the National Tuberculosis programme provides a wide choice among several alternative regimes. These include daily INH and thiacetazone with or without an initial period of intensive treatment with daily streptomycin and/or PAS. The bi-weekly supervised regimes consisting of INH/SM and INH/PAS, have been designed specially to ensure patient compliance.

Even according to the treatment manual supplied to the district Tuberculosis Officers, only sputum positive patients are eligible for all these regimes. X-ray positive, sputum negative patients often just as sick as their 'positive' brethren and about 5 times as numerous, are eligible only for the daily self-administered INH/-TH regime. Presumably compliance isnot a consideration where they are concerned.

In actual practice, the only regime available with any regularity is daily INH/TH. (Incidentally, pyridoxine tablets necessary to counteract INH induced pyridoxin deficiency are practically unheard of. Patients are told to eat lots of peanuts!) PAS I have not seen in the past one year. Streptomycin is constantly in short supply so that patients are often randomly shuffled back and forth between regimes containing SM and those without. The effect of such regime changes in 'midstream', on treatment effectivity, bacteria

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sensitivity, and patient compliance remains, as they say, a subject for research.

Coming to the INH/TH regime, TH is by no means an uncontroversial drug. Its use is banned in some countries but let that pass. The incidence of 'major' toxicity in a study in Madras showed the following incidence of side effects:

Cutaneous hypersensitivity reactions - 7%;
Jaundice - 3%;
Intractable vomiting - 3%

Apart from these, there are minor side effects such as anorexia, nausea, vomiting and head ache. Weight gain and rise in haemoglobin level are less in patients on TH as compared with those on PAS. The effect of such minor side effects on patient compliance, especially in the absence of adequate medical supervision and reassurance, can only be imagined.

We will consider possible alternative regimes in the next section. For the moment let us stick to the first line/second line chemotherapy model. We have already noted, some of the problems with the bi-weekly INH/SM regime not available for sputum negative patients, and limited and irregular supply of SM. In addition, there is a rule that SM injections can only be given at the PHC level. In other words, this regime is effectively available only to those who live within about 5 kms of a PHC.

b. Drug resistance

Coming now to the problem of resistant tuberculosis there are a number of problems in the existing framework.

(1) Drug resistance in tuberculosis is not a rare phenomenon. Existing studies show that the prevalence of primary drug resistance to both INH and SM in India are (individually) of the order of 5 to 10 percent. The prevalence of acquired drug resistance is not known to me. But the success rate of the standard first line treatment regime is of the order of 80 to 85 percent under ideal conditions.

(2) There is evidence to show that pre-treatment drug sensitivity tests do not affect the outcome of treatment provided standard two phase regimes are used, with an initial intensive phase using three drugs. However in my experience such regimes are available only to a very small proportion of patients even in the district centres, and to practically none in the peripheral centres. Most patients go on a standard two drug regime (general INH-TH).

(3) When a patient fails to respond clinically to a particular regime, there are no facilities for drug sensitivity testing even in these selected cases. Theoretically, in the existing model, they can be referred to Tuberculosis Sanatoria for treatment with 2nd line drugs. In practice, however, (a) practically none of these patients do get referred to Sanatoria; and (b) even among those who arestarted on second line drugs at such centres, there are no facilities to continue such drugs after the patient is discharged.

The lone patient I managed to get referred to a Sanatorium in Bhopal emerged after two months looking much better and clutching a prescription for rifampicin and ethambutol.

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c. Possible Alternatives

It is well known that there now exists a wide variety of alternative drug regimes, for the treatment of tuberculosis many of which result in cure of a higher proportion of patients in a much shorter period of time than existing standard regimes. The conventional wisdom is that these alternative regimes comprise a 'second line' of treatment for patients resistant to the standard regimes.

The fact that the government itself does not take this argument seriously is shown by the free availability of the so called 'second line' drugs in the open market. Of course, the price is far beyond the reach of the ordinary tuberculosis patient. As a result, we have in India the ironic situation, where the District Tuberculosis Officer and the PHC Medical Officers are the only medical practitioners who (in their official capacity) have no access to the newer drugs for the treatment of tuberculosis.

In effect there are today, in tuberculosis, as in every other field of medical and indeed of public life, two sets of policies in operation--one for the poor and one set for those who can (even if only with difficulty) pay.

The argument against the newer regimes can now be seen plainly for what it is a question of cost. It is worth going into this question in some details.

5. the question of cost

a. How much?

The cost of a complete course of treatment with the newer drugs at current market prices is of the order of Rs.500-00 to Rs.1000-00. Regimes containing Streptomycin are liable to cost more because of the administrative cost of giving the injection.

We are not talking of enormous sums of money. The cost of bi-weekly INH/SM with an initial intensive phase, is not much less. Neither is the cost of INH/PAS regimes. The logic of the exclusive dependence on INH/TH now become clear.

Put another way, the cost of treating a case of tuberculosis with the newer drugs and the cost of treating a case of intestinal obstruction or pyogenic meningitis is about the same. The cost of treating a case of ischaemic heart disease or lung cancer or brain tumor or diabetes mellitus or chronic renal failure is several times higher. The comparison becomes ridiculous when one carries the contrast to fields outside medicine--say, to defence or CHOGM.

b. Cost to whom?

The second aspect of the cost equation. Whatis the 'cost' of a twenty percent relapse rate which is the best result obtainable with standard 'first line' regime? What is the 'cost' of a case of thiacetazone induced agranulocytosis or Stevens-Johnson Syndrome? What is the 'cost' of travelling up and down from village to PHC, village to District centre, village to wherever, for 18 months as against the six months with newer regimes? What is the 'cost' in bus fare? What is the 'cost' in lost income? What is the 'cost' in the suffering of a poor man? This is a question which the policy makers of tuberculosis must answer.

..... 6 (objectives of the meet)

A note on the objectives of an mfc annual meeting on tuberculosis

(1) The objectives of the conference should not include the framing of alternative policies to government programmes. The existing policies are faulty both in concept and in implementation. Any alternative systems we may be able to formulate will involve a restructuring too radical for their acceptance to be feasible, quite apart from any other factors militating against their acceptance.

(2) An important part of the programme for the conference should be the understanding of the problem of tuberculosis in its national perspective. Not many mfc people have much an understanding. Unless we can share a common understanding of the problem, it is useless to try to devise programmes of action.

Possible programme outcomes of the conference:

a. A concerted effort to work out a solid critique of existing government policy and its implementation. The responsibility would largely be on academics with access to literature and data.

b. Working out and executing pilot projects based on alternative approaches to the problem of tuberculosis, utilising newer technological as well as sociological insights. These would include intensive small scale field level studies.

i. Surveying the problems of tuberculosis, including the much neglected epidemiological implications of primary tuberculosis in pre-school children, extent and implications of drug resistance etc.

ii. Monitoring government activities intensively including the actual execution of treatment guidelines, patient compliance in government programmes etc.

iii. Working out alternative approaches including newer ways to improve patient compliance, newer treatment regimes, newer diagnostic approaches including newer approaches to diagnosing drug resistance.

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Part - II

REVIEW OF LITERATURE ON CYANIDE POISONING AND TREATMENT

SYMPTOMS : Early stages of acute poisoning resembles an anxiety state with headache, giddiness, excitement and tachycardia. Tachypnoea is a sign of low cyanide concentrations. In severe poisoning drowsiness, coma and convulsions precede death. Reduced oxygen consumption diminishes the arteriovenous oxygen content difference, rendering the retinal artery and vein a similar colour. Palpitations, hypotension, pulmonary oedema and hypoxic ECG changes can occur and a smell of burnt or bitter almonds may be detected on the breath.[1] (The ability to detect such a smell is, however, genetically determined and lacking in a large fraction of the population.[6] In one test 3 out of 5 pathologists and 9 out of 11 members of a biochemistry department could not identify cyanide by smell.[2])

Clinical abnormalities can occur when cyanide exposure is high or when there is abnormality of detoxification or when there is a combination of both factors. Abnormalities in detoxification may arise from paucity of substrate arising from malnutrition. Such situations can give rise to tobacco amblyopia, Leber's hereditary optic atrophy, inherited optic atrophy and subacute combined degeneration of the cord.[4*]

LETHAL DOSAGE AND BLOOD CONCENTRATIONS : The minimum lethal dose is 0.5 mg/kg of body weight and the minimum lethal concentration in air is 0.2 - 0.3 mg/1 (200 - 300 ppm).[7*] Oral ingestion of 250 mg of cyanide salt is usually fatal within minutes as is inhalation of 50 ml (1.85 mmol) of HCN gas.[1]

A blood cyanide level of greater than 0.2 microgram/ml is considered toxic. Acute toxicity may occur as blood cyanide concentrations approach 0.5 micrograms/ml. Fatalities are usually associated with concentrations exceeding 1.0 microgram per ml (John D. Bauer, Casarette & Doull).

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* See also additional notes at the end.

TOXIC ACTION : Cyanide has a high affinity for the ferric ion of cytochrome oxidase (a_3) within the mitochondria. By combining with the aa_3 complex, cyanide prevents O_2 from reoxidizing reduced cytochrome a_3 thus inhibiting electron transfer and preventing both oxidative phosphorylation and oxygen utilisation and cellular respiration (for conversion of glucose to energy).[1] As a result of the inhibition of oxidative phosphorylation, mitochondrial O_2 utilisation ceases and arteriovenous O_2 differences are abolished. The loss of ATP generation in the mitochondrial electron transport chain evokes anaerobic metabolism (Pasteur effect). This increases lactic acid generation leading to lactic acidosis. The buffering of lactic acid leads to a progressive fall in plasma bicarbonate concentration. All organs are affected; eventually there is central nervous system anoxia and finally, death.[2]

Cyanide may also have a direct, though reversible, toxic effect on pancreatic P cells resulting in hyperglycaemia.[2]

DETOXIFICATION : The major pathway for detoxification is the formation of thiocyanate from the combination of sulphur with the cyanide-cytochrome complex by the enzyme thiocyanate oxidase in the liver. The respiratory enzyme is released and thiocyanate undergoes renal excretion. The rate limiting step is the production of sulphur from the limited body store of thiosulphate by the rhodenase catalysed reaction which may also explain recurrent and prolonged toxic symptoms despite antidotal therapy.[1,10]

An alternative pathway is the conversion of hydroxocobalamin (Vitamin B_{12a}) by cyanide ions to cyanocobalamin (Vitamin B_{12}), which undergoes renal excretion, and to hydrogen cyanide which is excreted via the lungs.[1]

ANTIDOTES : The intrinsic toxicity of antidotes should be carefully considered in case the diagnosis of cyanide poisoning proves to be erroneous. It must also be borne in mind that as of 1977 in only 4 out of 61 cases reported in the last 100 years, was the magnitude of poisoning by cyanide documented quantitatively, and that inferences of a causal relationship between antidotal use and successful outcome were till 1977 based on such data.[2] The situation has improved somewhat subsequently.

SODIUM NITRITE : This oxidises nearly 30 - 35% of blood haemoglobin with a ferrous (2^+) ion to methaemoglobin (M-Hb) with a ferric (3^+) ion which has a greater attraction for free CN^- ions than does cytochrome oxidase. M-Hb thus binds the CN^- ion to form cyanomethaemoglobin thereby decreasing CN^- combination with cytochrome oxidase. The weak CN-MHb bond allows the slow release of cyanide within the liver, where increased sulphur requirements for detoxification are met by exogenous thiosulphate which has slower tissue penetration than cyanide. Normal M-Hb blood levels are 1%, and 300 mg of sodium nitrite will produce a level of 10% when cyanosis will appear. The optimum theraputic M-Hb level of 25% may be increased to 40% if symptoms of cyanide poisoning are severe. Greater levels may produce anoxia, coma and death.[1]

Although attended with low allergy risk, sodium nitrite has considerable intrinsic toxicity and its use in patients with cardiovascular collapse or vascular haemorrhage is hazardous. It involves a large sodium load and presents problems in monitoring therapy whilst maintaining near toxic levels of M-Hb. A child treated with nitrite died because of overwhelming methaemoglobinemia.[2]

Recent observation,[4,5] that the antidotal combination of sodium nitrite and thiosulphate with or without M-Hb formation were equally effective against cyanide poisoning has triggered investigations which seem to indicate that the antidotal action of sodium nitrite is due to vasogenic action rather than methaemoglobin formation.

SODIUM THIOSULPHATE : It combines with cyanide in the presence of the enzyme thiosulphate transulphurase (rhodanase) and O_2 to produce relatively nontoxic thiocyanate. It is relatively nontoxic although impurities in production may produce allergic reaction in 1 out of 1000 or 10000 persons. As a single agent its efficacy is about that of sodium nitrite but in acute poisoning accepted practice is to use it in combination with sodium nitrite, which increases its efficacy, in those patients for whom the diagnosis of overwhelming cyanide poisoning is clearly established.[1]

sodium thiosulphate + cyanomethaemoglobin

$$\xrightarrow[\text{thiocyanate oxidase}]{\text{rhodanase}}$$

methaemoglobin + thiocyanate

OXYGEN : Inhalation of 100% oxygen increases arterial PO_2 and increases tissue O_2 delivery. It may reverse the binding of cyanide with cytochrome oxidase and may also help increase the conversion of cyanide to thiocyanate by thiosulphate.[2] Oxygen can markedly enhance the efficacy of the nitrite - thiosulphate combination, so that oxygen should be made an integral part of antidotal combination in cyanide poisoning therapy.[3] Oxygen toxicity is unlikely with use over periods less than 48 hours.[1]

HYDROXOCOBALAMIN (VITAMIN B_{12a}) : It combines with cyanide forming cyanocobalamin (Vitamin B_{12}) but has limited protein binding and a short half-life of 5 min.[1] It has the overwhelming advantage that it is essentially nontoxic although in large doses it may produce facial acne. Thus even in the face of erroneous diagnosis or dosage, the patient is not at increased risk because of therapy. It has been called the most promising antidote.[2] For maximum effect it must be given in equimolar proportions that are approximately 50 times the ingested amount of cyanide.[7]

There seems to be disagreement over its use in combination with sodium thiosulphate. In reference 1 we find the statement that it is inactivated when mixed with soduum thiosulphate, whereas in reference 2 we find the assertion that in animal studies this agent is found to be especially useful when combined with thiosulphate.

COBALT EDETATE : It rapidly chelates free plasma and tissue bound cyanide producing cobalticyanide and monocobalt which are excreted within 24 hours renally. While not free from side effects, it can be employed in severe poisoning without close biochemical monitoring or reduction in oxygen carrying capacity.[1] High concentrations of cobalt salts have their own intrinsic toxicity, therefore, great caution must be exercised in their use.[2]

A simple chemical test on gastric aspirates to establish oral cyanide poisoning is described in reference 2. A detailed description of the mechanisms of cyanide toxicity and antagonisms is given in reference 5. Reference 8 deals with the treatment of cyanide poisoning by the administration of 4-dimethyl-aminophenol (DMAP) whose action is similar to that of sodium nitrite in that it helps in the oxidation of the ferrous form of blood haemoglobin to

to methaemoglobin. Use of pyruvate[3], mercatopyruvate[3-5] and chlorpromazine[3] as antidotes is also described in the literature.

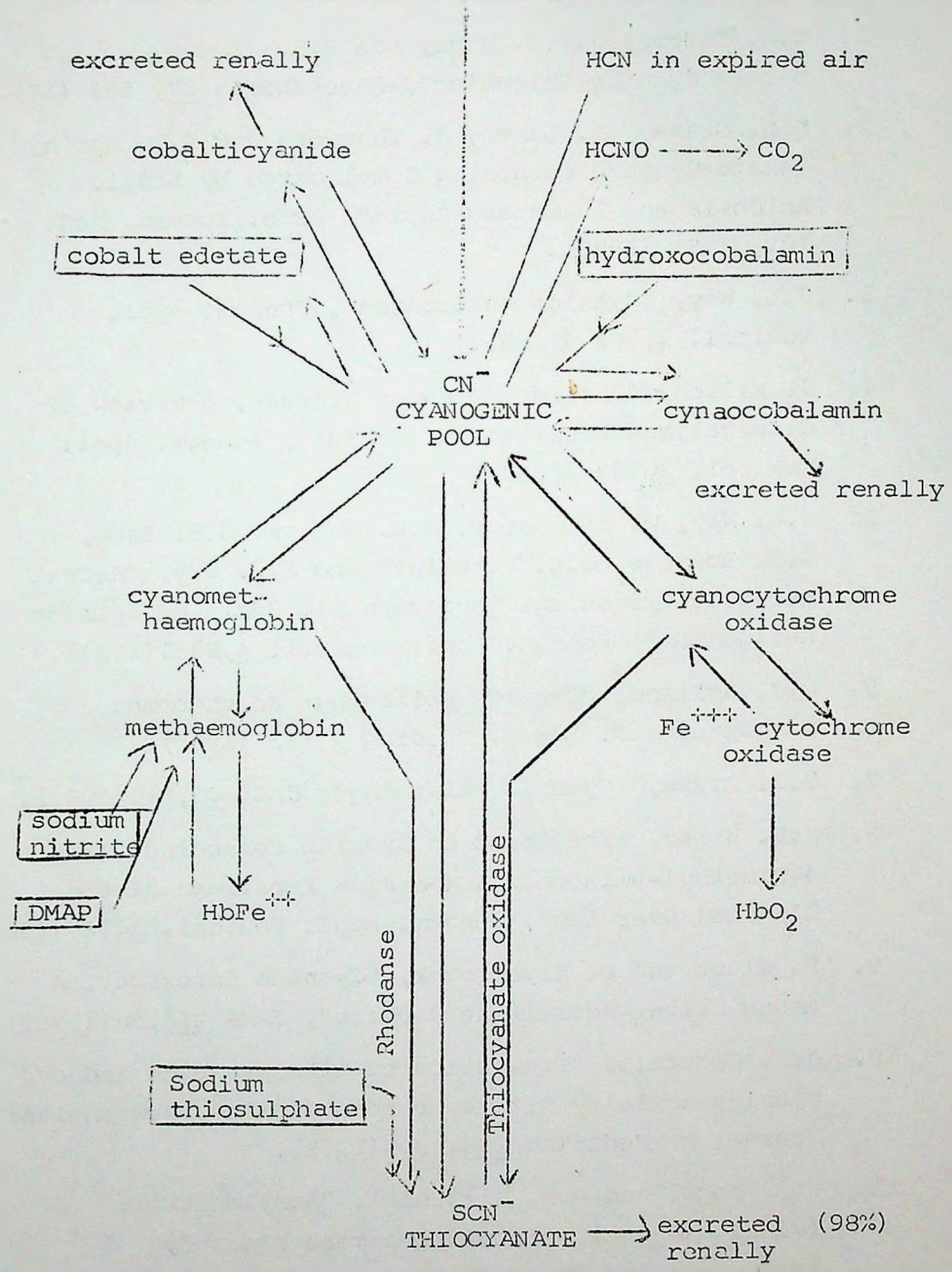
ADDITIONAL NOTES : The current OSHA exposure limit to hydrogen cyanide is 10 ppm (eight-hour time-weighted average) although a reduction to 5 ppm has been recommended. Short-term inhalation of air levels of 50 ppm HCN causes acute symptoms of gastric and respiratory tract disturbance; 130 ppm can be lethal. Lower doses, in the range of 10 to 20 ppm can cause complaints similar to those experienced at 50 ppm although longer exposure times may be required to elicit them.[9]

It has been suggested that vitamin B_{12} may be a protective factor in cyanide neurotoxic effects. Long-term cyanide intoxication leads to thyroid enlargement and interferes with iodine metabolism. It can also lead to weight loss, easy fatigue and sleep disturbance. It must be remembered that cyanide exposure inhibits a wide variety of enzyme systems in addition to the cytochrome oxidase system.[9]

Reference 11 contains a detailed account of the treatment of an episode of acute acrylonitrile poisoning. This is an important paper as it documents that a single incidence of acute cyanide poisoning can give rise to recurrent cyanide toxicity. As a result of this recurrence the patient required 15 treatments with sodium nitrite and sodium thiosulphate during a 72 hour period, along with additional therapy involving hydroxocobalamin and supplemental O_2, with constant monitoring of methaemoglobin levels. This case emphasizes that prolonged treatment of cyanide poisoning may be required and that many doses of sodium nitrite and sodium thiosulphate can be given safely over a prolonged period with adequate monitoring.

AGENT	MECHANISM		POTENTIAL TOXICITY
Sodium nitrite	$NaNO_2$+Hb	M-Hb	Tachycardia, vomiting, hypotension, severe methaemoglobinemia, hypoxia, vascular collapse
	M-Hb+CN^-	CyanoM-Hb	
Sodium thiosulphate	$Na_2S_2O_3$+CN^- (rhodanase)		none known
Oxygen	more O_2 in arterial blood more O_2 in tissues may reverse CN^- binding with cytochrome potentiates activity of sodium thiosulphate		Oxygen toxicity unlikely when used for less than 48 hours
Hydroxocobalamin	$OH-B_{12}$ + CN	$CN-B_{12}$	none known
Cobalt salts	chelates cyanide		significant loss of Ca^{++}, Mg^{++}, plus intense purgation, cardiac toxicity

UPTAKE OF CYANIDE (PER INHALATION, ORALLY, PERCUTANEOUS



FATE OF CYANIDE ION IN THE BODY

Adapted from
Williams R.T., Detoxification Mechanisms, 2nd Ed, Wiley, New York 1953, pp 393.

Documented

GOVERNMENT OF KARNATAKA

DIRECTORATE OF HEALTH AND FAMILY WELFARE SERVICES, BANGALORE

HEALTH AND FAMILY WELFARE COMPONENTS AVAILABLE FREE FOR HEALTH CARE DELIVERY THROUGH VOLUNTARY ORANISATIONS

Sl. No.	Programmes	Beneficiaries	Methodology	Objective	Role of the voluntary organisations	Remarks
1	2	3	4	5	6	7
	NUTRITION PROPHYLAXIS PROGRAMMES					
1.	Iron and Folic acid tablets for mothers (Iron-60mg; Folic acid 0.5 mg.)	Expectant and Nursing mothers, women Family Welfare acceptors.	1 tablet to each of these women daily for 100 days.	Prophylaxis against Nutritional Anaemia	Voluntary organisations can distribute these drugs to the beneficiaries.	1. Monthly quota to be distributed once in a month. List of beneficiaries to be maintained in prescribed, form. 2. To be obtained from D.H. & F.W.O./ P.H.C./Sub-centre.
2.	Iron and Folic acid tablets for children (Iron-20 mg Folic acid 0.1 mg)	Children below 12 years of age School going and pre-school.	1 tablet daily for 100 days	do	do	do
3.	Vitamin 'A' concentrated Sol.2 lakhs units strenght.	All children from 1 to 4 years.	Once in 6 months in the form of capsule or liquid.	For preventions of night blindness, Keratomalacia and other complications due to Vitamin 'A' deficiency.	do	1. This programme is taken up in the rural area at present. 2. To be obtained from P.H.C. or sub-centre.

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2	3	4	5	6	7
IMMUNISATION PROGRAMMES					
2. D.P.T.	All children from 3 months to 3 years.	Start at 3rd month and 3 doses at an interval of 4 to 8 weeks with a booster dose 18 to 24 months later.	Prevention of Diphtheria, Tetanus, pertussis (whooping cough)	Completion of 3 doses. Voluntary organisations can organise immunisation campaign in the rural area and slums in the urban areas and carry out the immunisations.	1. Vaccine to be stored in refrigerator at t of 4°c to 10°c. 2. To be obtained f D.H.& F.W.O./P.H.
3. D & T	All children between 3-8 years.	Two doses at an interval of 4 to 8 weeks (Primary Vaccination i.e. no DPT previously given) Booster dose in case of previous DPT after an interval of one year.	Prevention of Diphtheria and Tetanus.	Completion of 2 doses or one booster dose Voluntary Oranisations can organise immunisation campaigns in the rural areas and slums in urban areas and carry out the immunisations.	do
4. T.T.	Antenatal cases	In case of antenatals 3 doses-starting 1st dose at 16-20 weeks, 2nd dose at 20-24 weeks & 3rd dose at 36-38 weeks.	Prevention of Tetanus	Voluntary organisations can take up as a part of MCH Service and immunise anatenatals.	do
5. B.C.G. Vaccination	3 months to 19 years	Earliest at the age of 3 months	Prevention of Tuberculosis	Voluntary organisations can arrange mass immunisation programmes with the assistance of Dist. T.B. Centres.	1. Vaccine to be st in regrigerator. 2. Vaccine available Dist. T.B. Centre

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1	2	3	4	5	6	7
5.	Smallpox Vaccine	Primary only	At the age of 3-9 months	To prevent smallpox	Voluntary oranisations can take up as part of MCH services and conduct Primary Vaccinations.	1. Vaccine to be stored in refrigeration. 2. Vaccine available at the PHC
6.	Polio Oral Vaccine	All children 3 to 9 months	Start at 3rd month and 3 doses at an interval of 4 to 8 weeks with a booster dose at 18 to 24 months.	To prevent Polio myelitis	do	1. Vaccine to be stored at - 20°c. Likely to be available during next financial year.
FAMILY WELFARE PROGRAMMES						
1.	Sterilisation	Couples with two children and above	Vasectomy, Tubectomy	Permanent method for limiting the family.	1. Voluntary Organisations can organise sterilisation camps with the assistance of local Primary Health Centre/Urban Family Welfare Centre.	
2.	Loop	Couples with one or two children.	Loop insertion	For spacing the children Temporary method of Family Planning.	2. Motivate eligible couples for undergoing sterilisation, IUD insertion at the nearest Primary Health Centre or hospital. They can act as depot holderns for distribution of contraceptives. They can ensure follow up services by the staff by closely associating with Primary Health Centre/ Urban Centres and the Community.	
3.	Nirodh	Newly married couples, and couples with one child.	6pieces or more at a time depending on usage. Distribution once a month.	For spacing the children Temporary method of Family planning.	3. They can establish Urban Family Welfare Centres in areas left uncovered by Government institutions after approval by Government. 100% assistance will be provided by Govt.	

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2	3	4	5	6	7
Oral Pills	Couples with one or two children.	Oral pills-first 3 cycles to be distributed directly under the supervision of doctor and when there is no untoward effect, pills may be distributed by non-medical personelle. Beneficiaries to be examined by a doctor once in 6 months or earlier whenever indicated.	For spacing the children-Temporary method of Family Planning.	4. Volutary organisations having their own hospital, approved by Government for conducting tubectomy operation can maintain sterilisation beds for which bed maintainence charges will be paid by Government as per rules. 5. Private Practitioners recommended by Local Indian Medical Association and approved by Government can take up vasectomy operations and IUD insertions The beneficiaries eligible for compensation amount. The Private Practitioners are eligible for service charges at the prescribed rate fixed by Government provided the services are rendered free to the community. They can also take up distribution of contraceptives including oral pills. 6. Nursing homes run by private practitioners and voluntary organisations, satisfying all the conditions as per M.T.P. Act and recognised by Government can take up M.T.P. Services.
Medical Termination of Pregnancy.	Pregnant woman upto 20 weeks where pregnancy is unwanted.	Medical institutions (Private or Government) recognised under M.T.P. Act can taken up this programme.	To safeguard the health of the beneficiaries as a welfare measure.		

NOTE: (1) Iron Folic acid tablets, D.P.T. Vaccine, Diptheria and Tetanus, Vaccine, Tetanus Toxoid, B.C.G. Vaccine, Small-pox Vaccine, B.C.G. Vaccine Contraceptives are available free:

(i) depending on the availability of stock with Government.
(ii) depending on refrigerator facilities available with the organisation.
and (iii) provided the services are rendered free to community.

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(2) All the supplies made have to be accounted. Subsequent supplies will be made, after the previous supply is properly accounted.

(3) List of beneficiaries under nutritional prophylaxis, immunisation programme, family welfare programme have to be maintained in the prescribed registers and forms.

(4) Monthly statistical data in the prescribed forms have to be furnished to the concerned Primary Health Centres/Urban Family Welfare Centres within the due dates.

(5) Apart from the assistance already approved by State and Central Government, no other monetary assistance will be be given to the honorary staff/organisation.

(6) For further details the nearest Primary Health Centre/Urban Family Welfare Centre/the District Health and Family Welfare Officer/City Family Welfare Bureaux may kindly be contacted.

Dr. J.S. Saksena
Director

Directorate of Health & Family Welfare Services
Ananda Rao Circle
Bangalore - 560009.

27 Jan 85 Sunday	11.00 am	Session I (four groups) Small group discussion on: a. expectations of participants; b. focus/scope of discussions; c. issues in tuberculosis and its control
	2.00-- 2.30 pm	Final outline of programme
	2.30-- 4.00 pm 4.30-- 6.30 pm	Session II a. Critique of National Tuberculosis Control Programme i. conceptual; ii. organizational b. Identifying true/false limitations in studying the programme
	8.30 pm	Getting to know the Circle I (sharing of experiences/action)
28 Jan 85 Monday	8.30 am to 9.30 am	Plenary Session 'A' (putting together the critique)
	9.30 am to 11.30 am	Session III (small group discussions) a. Case finding/Case holding b. TB - rational therapy and rational drug policy c. TB awareness building (professional, para professional education and public education) d. TB and Socio-economic and political factors
	11.30 am to 1.00 pm & 2.00-- 3.00 pm	Plenary Session 'B' (reporting and discussion on group reports of Session III)
	3.00-- 5.30 pm	Session IV (Alternative Approaches) Two Groups a. Alternatives in TB Control - 1 (diagnostic, treatment regimes, patient compliance at field or project level) b. Alternatives in TB Control - 2 (at non project levels ie., awareness building, raising issues with government and in mass media etc.)
	5.30-- 6.30 pm	Plenary Session 'C' (future strategy/follow up/action plan of members/participants)
	8.30 pm	Getting to know the Circle II (sharing of experiences/action)

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29 Jan 85
Tuesday 9.00 am Annual General Body Meeting
MEMBERS ONLY

The Agenda has already been circulated

30/31 Jan 85
Wed/Thurs All India Drug Action Network Meeting
(same venue)

Appendix I

Some questions for discussion:

Session I : Scope/Focus of Meeting

a. What is the expectations of participants from the discussion on TB?
b. What is the minimum that we should achieve?

- a better academic understanding;
- a better grasp of grass root level realities;
- a more concerned view of people's sufferings;
- a better understanding of related socio-economic and political factors;
- all or a combination of the above.

c. Do we want to discuss? -

i. how we can lend our helping hand to improve the working of the existing strategy of TB control in India?
ii. how to link up the question of the strategy of tuberculosis control with the question of social revolution? Is the question of social revolution really involved? how? why?
iii. how to evolve an alternative people-oriented scientific strategy if we find the existing one fundamentally misconceived?

d. what can be the role of such a meeting?
--evolving a critique, evolving an alternative approach, both, any other?

Session II : Critique of N T P

a. Is the existing strategy of tuberculosis control working properly in India? If yes, what evidence? If not, why not?
b. Is the failure because of some flaws in the strategy itself? Conceptual/technical?
c. Is it because of lack of implementation? If yes, which factors within the medical/health care system and outside it act as impediments?
d. Even if the constraints put by the existing vested interests are removed, would there be any problems in the strategy of control of TB in India? What are these? Can these be isolated in practice? How?
e. Are there any regional differences in programme/performance/implementation? If so, how and why?

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Session III: Questions for group discussions will be circulated on the 27th. Depending on expecations of participants some other aspects may be added.

Session IV : Alternative Approaches

a. The aim of the session is to identify various alternative approaches to the problem of tuberculosis utilising newer technological as well as sociological insights. These could involve intensive small scale field level studies or field projects; eg

i. Could surveys be undertaken to better understand the TB epidemiology at field level? including much neglected implications of primary tuberculosis in pre-school children and extent/implications of drug resistance?

b. Could government programmes be monitored intensively including actual execution of treatment guidelines, patient compliance/follow up etc?

c. Could alternative approaches be tested out in

-- case finding;
-- newer ways to improve patient compliance;
-- newer treatment regimes;
-- newer diagnostic approaches including approaches to diagnosing drug resistance?

d. Can awareness of programme be increased among the general population? Can potential/actual TB patients increase the demands on the system in terms of not only utilisation but efficiency etc? Can any further measures be demanded of the government?

ii. How can different mfc members involved in different situations contribute to some or more the approaches (to help in analysing the existing strategy and forging an alternative in the context of fundamental social change? What could be the role of a medical student/ intern/a socially concious doctor/a government medical officer/health workers/a community health project team members/teacher in a medical college/ a journalist/a development or political activist?

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Appendix II

Backgroundpapers for meeting on 'TB AND SOCIETY'

1. National Tuberculosis Programme: Some problems and Issues--Binayak Sen, Dalli Rajhara : mfc bulletin 105 (September 1984)

2. Tuberculosis and Society-- Mira Sadgopal, Bankheri : Circulated at Wardha Meeting--July 1984 (available from author at Kishore Bharati, PO Bankeri, Dist. Hoshangabad, MP 461990)

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3. Discussing Tuberculosis Control--Why?--Anant Phadke, Pune : mfc bulletin 108 (December 1984)

4. The National Tuberculosis Programme--What our experts say? (on sociological basis, epidemiological dimensions, organisational plan, evaluation, anti-tb drugs, political economy and ultimate solution) : mfc bulletin 108 (December 1984

5. Understanding TB - a check list of questions (understanding the situation, assessing awareness, understanding technicalities, discovering bottle-necks, understanding the health system, discovering new approaches) mfc bulletin 107 (November 1984 Supplement)

6. Selected Reading List (NTI, VHAI, Indian Journals, WHO) : mfc bulletin 107 (November 1984 Supplement)

7. Case Finding and Case Holding in TB control programme--UN Jajoo, Wardha : Background Paper I

8. Case Holding and Patient Compliance and Motivation--Marie D'Souza, Nandurbar : Background Paper II

9. Public Health Perspectives in the formulation of NTP of India--D Banerji, JNU, New Delhi : Background Paper III (Source: NTI)

10. TB in Ayurvedic system of Medicine--Dhruv Mankad, Nipani : Background Paper IV

11. TB in Siddha--Prabir, Nemur : Background Paper V

12. Tuberculosis Control in India --current problems and possible solutions --GVJ Baily, NTI, Bangalore : Background Paper VI (Source:NTI)

13. A Perspective for Discussion of NTP in India--D Banerji, JNU, New Delhi : Background Paper VII

14. Comments on Perspective Paper No.3--Anne, VC Talwarkar, S Kashalikar

15. Options on TB Chemotherapy--Paul Shears, Oxford

16. Tuberculosis in Children (Susannah Graham Jones, Nepal)

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From back issues of mfc bulletin

17. Health Care Vs. the Struggle for Life--Mira Sadgopal : mfc bulletin 93 and 94 VHAI Special Issue

18. Is BCG vaccination useful? --Kamala Jaya Rao, Hyderabad : mfc bulletin 89

19. Is anti-tubercular treatment really very expensive? - N N Nagar, Dahod : mfc bulletin 96

Additional background papers and case studies which will be available at the meet are.

i. TB and Society - a historical review - Mira Sadgopal
ii. TB and Immunity (Anil Patel)
iii. TB and Homeopathy (Amravathi group)
iv. Rational TB Therapy and Rational Drug Policy Issues (Mira Shiva)

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F P PROGRAMME: WOMEN AS 'TARGETS'

This discussion note addresses the following:

1. Women have been the focus of the family planning programme not just in the last decade but ever since its inception. In the last decade this emphasis has been intensified. Whatever the changes in the policy over the years women have remained the 'target population' for the family planning programme.

2. This focus on women has had several consequences for women - on the one hand while it has made contraception available and legal, it has placed a heavy burden on them of having to deal with the coercive practices incorporated in the programme, and of the high load of morbidity associated with the unsafe methods and practices being promoted. And it is highly debatable whether the mere availability of contraception has given them any control over their reproduction.

2. What do we do about this situation? Should we oppose the programme for its large ideological fundamental ideological reasons and in so doing also accept that we would not then may not then have access to contraception at all? Or do we seek to make it less coercive and more relevant to our needs?

Women as focus of programme.

India was one of the first countries to promote family planning as a national programme, Even before the formal process of planning began, it had been recognised by the health committees that were set up that in order to ensure the health of the mother, it was necessary to bring down the number of pregnancies she underwent. Towards that end contraceptive advice was one of the components of the maternal and child health programmes. In the 50s family planning was made an integral part of the MCH programmes. In the early years when the family planning unit and its several clinics were set up the only method promoted was the rhythm method; but soon the FPU began to test contraceptives for effácacy, safety and acceptability and to undertake work to develop newer contraceptives. Between 1958 and 1962 the clinics of the FPU tested a variety of foam tablets, spermicidal jellies and diaphramgms. The emphasis right from the beginning was on getting women as acceptors. So much so that at the end of the first plan when an evaluation study was carried out it was found that the clinical approach which had been adopted had 'medical, feminine and middleclass bias'.

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By the third plan family planning was a more serious issue and became more firmly integrated into the national programmes with an allocation of forty times that of the previous plan. The approach also changed - on the advice of the Ford Foundation. It was during this time that sterilisation was adopted as part of the programme and Lippe's loop, which had already been discarded in the west, was introduced with manufacturing facilities set up with the help of the Population Council. The changes in approach also included the starting of the post partum family planning programme, funded by the Council and put into action around 1968. The programme was launched with the intention of using the hospital base to promote direct fp assistance to women either after child birth or after MTP. Inevitably this reinforced the female bias of the programme. At the same time it brought with it an element of coercion - services could be and were withheld if women did not accept sterilisation.

The accompanying table shows these various trends in this period. After an large increase in the number of IUD acceptors, the device fell into disrepute and even the incentive schemes could not revive it. From a record number of over 910,000 IUDs acceptors, in 1966-67 it fell to about 459,000 by 1968-69. The initial emphasis on sterilisations showed up as a sharp increase in the number of vasectomies which constituted 55 per cent of all methods. By 1969 a combination of factors served to push the only other female method (other than IUD) female sterilisations - which constituted 26 per cent of all sterilisations. In 1967-68 with the USAID supplying condoms for the Nirodh marketing programme the number of condom users went up comprising 40 per cent of all acceptors. At the same time, the introduction of the newer methods also meant a deemphasis of the diaphragm (the diaphragm-jelly combination had shown good results in the FPU tirals). From combination ~~had shown good~~ onwards the device almost disappeared from the scene although on paper at least, it is one of the methods offered in the 'cafeteria' approach of the programme. The last half of the 60s thus saw the introduction of two new contraceptive methods for women neither of which really took off at this stage; at the same time it also saw the demise of the then, but the stage was set for a tremendous expansion of the fp services.

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By the Fourth Plan population control became an integral and important component of development programmes. The government policy set definite goals - bringing down the birth rate to 25 per cel000 in 10-12 years. The fp programme from this point has made no pretensions of being anything other than a means of reducing numbers - since goals have to be achieved in specified periods 'targets' had to be set and the evaluations were in terms of 'births averted'. The objective of providing birth control measures is thus a far cry from the current fp objectives directed at controlling population growth.

The 70s was the decade of the camp approach introduced to get quick results. In the early 70s the technique of conducting tubectomies by the vaginal method which did not require more complicated surgical procedures was only just being introduced, and most tubectomies were conducted at hospitals on part of the past partum service. The sterilisation camps therefore were for vasectomies. While the first such camp was in Maharashtra in the early 60s, it was the 1971 vasectomy camp in Kerala which was spectacular - 15,000 vasectomies in a one-month period. The fact that it was during the lean period and that higher compensations and extra rations were given had not a little to do with these numbers. Several other states organised such camps until 1972 when in one such camp, 11 people died of tetanus, and the camps were promptly discontinued. In the two years between 1971-72 and 1972-73 the number of vasectomies jumped by 197 per cent. But as a backlash of the camp-associated deaths there was a drastic drop in vasectomies and the programme only 'recovered' during the emergency. Tubectomies constituted only 16 per cent of all sterilisations in 1971-72 although in the following two years they made up about half not because there was any major increase in their numbers but because of the reduced total of sterilisations.

The early 70s also saw the introduction of the MTP act which was aimed at reducing the number of illegal abortions. It resulted in servere problems including death. It allowed for abortions not only for therapeutic reasons but also for 'social' reasons - contraceptive failure. However, the committee which was constituted to formulate the Act categorically stated that this was not being mooted as a family planning measure. It is possible that because of the non availability of safe and effective contraceptive methods MTPs are being resorted to as an fp measure.

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The impact of the emergency on the fp effort is too well known to need elaboration. It must be mentioned that during the period 1975-77 there was, of course, a fantastic increase in vasectomies, but also an increase in tubectomies and condom users while the number of IUD users actually dropped in 1977 after a 40 per cent increase in 1975 and 76, probably because the pill which was introduced in 1974-75 was being pushed vigorously then. The post -emergency period brought a drop in all acceptors and the fp programme was on a low key for a while. In 1976 a National Population Policy was formulated. It advocated a set of incentives and disincentives and also stipulated that for grante allocation to the states the 1971 population figures would be taken into consideration and some proportion of the aid would be linked to fp performance. This led to all kinds of atrocities in achieving 'targets' and Maharashtra even tabled a Bill to make sterilisation after two children compulsory.

The fp programme in the Sixth Plan was directed at aspects other than merely the control of population. However it also set the target of achieving Net Reproductive Rate (NRR) of unity; in order to achieve this the birth rate had to be brought down to 21. Other components of the programme included other targets- death rate to 9, infant mortality to 60. FP targets were set as sterilisations 22 million, IUD 7.9 million acceptors.

The Sixth plan targets have been over achieved in the case of IUDs and very nearly fulfilled for sterilisations. The new policy for the seventh plan has set more fantastic targets especially for oral contraceptives and IUDs.

Since the 1980s the fp programme is being pursued with a new intensity and has finally 'recovered from the emergency excesses. There has been an 129 per cent increase in all acceptors since 1980; a 239 per cent increase of IUD users; 140 per cent increase in tubectomies; and a 365 per cent increase in equivalent pill users as against a mere 50 per cent increase in vasectomies and 106 per cent increase in condom users. There is every reason to believed that of late the emphasis has shifted from terminal methods to specing methods such as IUDs and oral contraceptives. The IUD has found new acceptors for the first time after its 70s debacle. This has become necessary partly because of the changing age structure whereby a larger number of younger women

are making up the eligible age group where terminal methods are not acceptable. Another reason is perhaps the realisation that despite the increasing numbers of sterilisations, this has not made much of an impact on numbers mainly due to the fact that acceptors have already had more than the 'right' number of children.

There can be no doubt that women have been the targets of the family planning programme - as acceptors and as gunguinea-pigs for a variety of testing programmes involving contraceptives ahormonal and devices. But strangely there has been very little interest in investigating simple barrier methods such as diaphragms - there seem to be no evaluation on whether the device is in fact, as inconvenient to all sections of women. Moreover, there has been little research on male methods.

However, not withstanding all this the total number of acceptors of female methods comprise only about 44 per cent in 1983-84 of all acceptors and in fact have never been more than that since 1965. In some years as in 1971-72 proportion has been as low as 15 per cent. But this however, is not so much because there was a deemphasis on female methods as because there was a tremendous increase in vasectomies during the 'camp' phase. Similarly it may be argued that tubectomies although they comprise 0 per cent of all sterilisations only make up 26 percent of all acceptors. Are we then justified in stating that women are the major focus of the family planning programme?

Here we must go beyond the numbers on apaper.

Firstly, it is generally known that of all fp statistics on acceptors those for sterilisations are the most reliable. The figures for condom users is based on number of piece distributed and not on any feedback on usage. It is also well known that the targets for condoms is the easiest to achieve because all the officers have to do is dispose of them. The statistics on IUD users too is something of a myth. In 1984 - for these numbers include a large number of women who have had the device removed. In 1984 an Indian Express report revealed that the number of acceptors of Copper T was much larger than the number of eligible couples in the state; and there are innumerable accounts of how the numbers have been fudged. Oral contraceptives users again are based on numbers distributed. Effectively therefore, it is the number of sterilisations which are indicative of what is really happening.

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Secondly we see from the table that there has been a steady and almost consistent increase in the number of tubectomies (ignoring the aberration of the emergency years 75-78). No such trend is seen in the number of vasectomies which has been exwith sudden and large increases when it was being vigorously promoted followed by sharp decreases in the aftermath. In other words it is not unreasonable infer that regardless of other features of the policy, female methods sterilisations have been consistently promoted. Interestingly also the introduction of the laporoscopic method and the camp approach in 1980 has not resulted in the kind of increases which occurred for casectomies in say, 1971-73. This, probably indicates that the steady increase in tubectomies is not really a result of the camp approach.

In evaluating the impact of fp on women, we must take into consideration the risk associated with each method. Apart from vasectomy the only other male method being offered is the condom which has no risk whatsoever. Vasectomies too cause fewer problems than do tubectomies. And it is significant that vasectomies camps were promptly given up when there were deaths in one such camp in 1972, whereas tubectomies camps are being actively promoted despite the increasing incidence of morbidity and mortality associated with these camps. Since early 80s the introduction the simpler and shorter procedure of laparoscopic sterilisation has parodoxically contributed to the increasing risk involved. According to surveys the infection rates in these camps is as much as per cent when the theoretical incidence rate is only about . Sathyamale's paper describes the incidence of risk associated with each of these methods. In short all the methods being offered in the mass programme add to the women's burden of ill health. Even if they comprise only 44 per cent of all acceptors the fact remains that women face is far greater risk than men in using the available means of contraception. And the irony is that it is some extent avoidable risk. For instance, with proper checks for contraindictaions and good supportive health care some of the IUDs may be very effective. Similarly, tubectomies particularly laparoscopies, can be safe and effective (although they do not do away with the other problems of sterilisation) provided enough attention is given to the women during and after the operation.

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Another factor which must be considered is the fact that the newer methods being introduced - such as injectables or implants - are not only harmful potentially but are also methods which a woman has little control over. What do we then do about this: There is no gainsaying the fact that women need contraception and it is our right to demand that the Government make safe and effective contraception available on demand. In that sense, that the government is making available a choice - at least theoretically - of methods for women is not objectionable. What is to be criticised and condemned is that women today are coerced, overtly and covertly, to accept certain method irrespective of their personal and specific needs both in respect to the size of their family and the choice of method. And then again can a mass programme in a country like ours can only be useful, effective and safe if supported by an efficient public health system? Should there must be a greater emphasis on encouraging men to accept and use birth control measures? Would this necessarily tilt the balance the other way so that there are fewer contraceptive choices for women. And most importantly, the introduction of long acting hormonal contraceptives, which are known to be a health burden on the women, must not be allowed. The note has drawn on data, ideas arguments from the following:

1. Socialist Health Review Issue on Politica of Population Control, March 1984.
2. Vimal Balasubrahmanyan: Contraception as if women mattered and Towards a woman's perspective on F.P.E.PW. Jan.11, 1986.
3. Alaka Basu- Family Planning Leacy of the Emergency E P W. March 9, 1985.

All these are available for sale or are on display at the Meet.

Padma Prakash.

/Chavan/
Npn.

Table: Family Planning Acceptors - By All Methods
(Since 1965)
(Numbers in Thousands)

Year	I U D Insertions	% Total Acceptors.	Sterilisations						Condoms	Diaphragm		ORAL PILLS		Total Acceptors (TA)	Total Female Acceptors (FA)	FA as percent of TA
			Vasectomies		Tubectomies		Total									
			No	%TA	No	%TA	No	%TA	No.	%TA	No	%TA	No			
March 1965 Jan. 1966	813	39	577	28	94	5	671	33	582	28				2066	907	44
1966-67	910	40	785	35	102	5	887	39	465	21				2262	1012	45
1967-68	669	22	1648	55	192	6	1840	62	475	16				2984	861	29
1968-69	479	15	1383	45	282	9	1665	54	822	27				3105	778	25
1969-70	459	14	1056	31	366	11	1422	42	1366	40	17			3390	837	25
1970-71	476	13	879	23	451	12	1330	35	1846	49	7			3769	934	25
1971-72	488	10	1620	32	567	11	2187	44	2262	45	5			5029	1060	21
1972-73	355	6	2603	44	509	9	3122	53	2321	40	5			5875	869	15
1973-74	372	9	403	9	539	13	942	22	2449	68	5			4324	916	21
1974-75	433	10	612	14	742	17	1354	31	2490	58	3	26	0.6	4308	1206	28
1975-76	607	9	1438	21	1230	18	2668	39	3479	51	2	32	0.5	6804	1872	28
1976-77	581	5	6199	50	2062	17	8261	66	3623	29	1	58	0.5	12534	2702	22
1977-78	326	7	188	4	1761	17	949	21	3164	70	1	78	0.7	4528	1166	26
1978-79	552	10	391	7	1093	20	1484	44	3371	61	1	82	1.5	5505	1728	31
1979-80	635	12	473	9	1305	24	1778	32	2976	54	0.5	82	1.5	5482	2023	37
1980-81	620	10	439	7	1614	25	2053	32	3707	57	0.5	91	1.4	6490	2334	36
1981-82	751	9	573	7	2219	27	2792	35	4428	55	0.5	120	1.5	8102	3091	38
1982-83	1097	10	585	5	3398	31	3983	36	5757	52	0.5	183	1.7	11028	4679	42
1983-84	2131	14	661	4	3871	26	4532	31	7652	51	0.5	555	3.7	14876	6557	44

Source: Compiled From:
Family Welfare Programme Year Book 1983-84
and Annual Reports of the Department.

Note: Figures for Condoms, Diaphragms and Oral Pills are in terms of Equivalent Users.
For Condoms and diaphragms Equivalent user, is derived by dividing off take by 72 and 2 resp.

A NOTE ON TEACHING OF COMMUNITY MEDICINE :
A CRITIQUE AND A FEW SUGGESTIONS

One of the criticisms MFC faces is that it is always criticising and there have not been enough constructive suggestions. Hopefully 10th annual meet of MFC at Calcutta will help correct this impression.

A Clarification on Use of Terms.

At the very beginning we would like to clarify that the terms 'Community Health' and 'community medicine' have been rather loosely used in the sense that they are both interch ngeble. They both may have different shades of meaning in different contexts, but for our argument, we would like to skirt the whole debate on precise definition of the terms 'community health' Vs 'community medicine' simply because they serve no purpose other than diverting the attention from much more crucial and difficult problems.

What is Community Health ? : A Problem and Its Scope.

A friend, final year medical student, fine fellow, sensitive, intelligent, concerned; and eager to know about the wrongs in existing health system once asked " but what is community health ? how does one 'practice' it ? I can understand and make clinical diagnosis but how can I make 'community diagnosis' or how can I 'do' community - treatment ? "

This note keeps these and similar questions and similar medicos in mind whose concern for social ills is beyond question, who are not self-seekers or purely carrier-oriented. They are not blind to problems of neglected, exploited unorganised poor people. These simple looking questions are, in fact, loaded questions. These questions have to do with teaching of community medicine in the medical colleges in our country today. Before we go further we must stress one point that it is not and can not be a thorough-going, fully-developed argument. The teaching of community health is too vast and complicated a problem to be dealt with full justice by a small group like us with a limited experience in community health.

Hold of Traditional Medical Education on Its Critics !

We start with the very choice in this meet of teaching of community medicine as one of the subjects in medical education. This is a mistake in our opinion and reflects the strong-hold, the orthodox and traditional mode of teaching health sciences still has on our minds despite our valiant efforts to throw away the hidden assumptions and theories of teaching health sciences in traditional ways.

Another aspect of the same phenomenon of hold of traditional mode of medical education on our minds is to be seen in the fairly widespread belief even amongst the critics of medical education that a number of progressive changes have been made in the series of recommendations made by various high level committees on medical education since independence. The critics feel that atleast part of the problem can be solved by implementing the progressive changes honestly and sincerely. We believe that far from being progressive, they are merely cosmetic changes. They provide for no progress in medical - education.

In the traditional teaching, science of health has been broken down into a series of rigid pigeon-holes (e.g. anatomy, physiology, pathology, medicine, surgery, OB and GY, community medicine...etc.) precluding almost any interaction among them. The organic unity of all disciplines in the context of their theoretical relationships as well as in the context of their application in practice is disrupted mindlessly for all practical purposes.

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A sort of divisions of disciplines is necessary on practical grounds only, but when community medicine is included as one among many subjects to be learnt, the situation begins to approach absurdity. A couple of years ago, a well-known community health worker in India made a very significant observation that creation of Departments of Preventive and Social Medicine and subsequent separation of a subject of PSM in the medical colleges (a progressive change) had dealt a severe blow to the development of the concept of teaching and practice of community medicine. Now since the Departments of PSM were there, it was their sole responsibility to teach community medicine; other departments could carry on as they liked ! The harmful harvests of such thoughtless and shortsighted decisions are being reaped now.

The notion of a community medicine as a separate subject has its roots in the way the problem of dealing with ill health has been posed. This particular way of posing problem generates other assumptions, theories and action programmes which ultimately mould ideas of both supporters and critics of existing medical education ! Of course, the interests of various power centres in the society do influence and mould particular form of medical education; but clearly this is not an adequate explanation, because it still leaves open the interesting problem of explaining criticism of a segment of critics whose alignment with power structure is unthinkable, voiced within the same framework which is problematic essentially because it poses problem in one way and not in another way. The critics must challenge the way the problem is posed.

Problem Posing (of Ill Health) - The Traditional Way.

Traditional medical education largely seeks to equip students to deal with an individual patient who comes to doctor for help. Virtually whole medical education starting from anatomy, physiology through pathology and pharmacology to individual clinical subjects is geared towards an individual who perceives illness and seeks help from a doctor at a predecided place called dispensary or hospital. (here again mostly hospital.)

Ofcourse, what can be called basic sciences like physiology, bacteriology, pathology, biochemistry, parasitology, immunology, pharmacology ... etc in their usual settings outside the world of medical - colleges do not operate on such a narrow base and in such a disjointed manner as they do in medical colleges. Their stupendous growth has been possible in the first place because they have successfully blended study on populations with study on individuals. One without another is, ofcourse, impossible. The pundits of medical education seem to have achieved impossible to wit, sever individual from his social, physical biological settings !! Alas ! The interpenetrating reality is no respector of such arbitrary human divisions ! In this framework ill-health is seen in a person in the hospital ward. His/and his blood, heart, liver, lungs, intestines, brain, stool and urine only is /body brought under incredibly deep scrutiny. This narrow focus-unfortunately the only focus-on an individual and his bodily functions keeps out this person as a member of his family, of much larger social groups to which he belongs through kinship, residence, occupation, religion, beliefs...etc. and his conditions of life, his work, his economic and social placement and culture, his physical and biological environment. The whole education is a gigantic exercise in bedside pathology and therapeutic methods. The disease in a person who presents himself to a doctor in hospital is more often than not a tail end of the whole of disease process in an individual. Natural history of the diseases in individuals has no place. Some of the most common diseases and less

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lethal diseases like scabies, malaria, mild anemias, moderate malnutrition and beginning of diseases are hardly ever taught since they are considered 'poor teaching material.' Health and sickness in the population with their possible correlations with significant social and occupational influences are outside its province.

Problem Posing (of Ill Health)-A Community Health Way.

Community health far from being a 'subject' is a point of view, a definite way of looking at the problem of dealing with ill health in individuals in their social, biological and physical setting. Community health has at its focus both individual and his environment. Community health is after all about the health of all individuals in the community and not in an artificial and unrealistic setting called hospital. This way of looking at a problem of illhealth in individuals in the society cuts across the largely confused and, therefore, sterile debate on dichotomy like curative Vs preventive medicine. As a logical corollary to this shift of focus a similar shift also occurs in remedial measures to be instituted.

The problem changes - consequences follow.

Having thus made a point that community medicine is not to be treated as a separate'subject'--a grave mistake made in the traditional medical education because of narrow (and unreal) way of looking at problem of ill health in individuals - to be taught but should form an overall framework within which the problem of illhealth in individuals is to be posed and examined, we should now like to derive a broad principle from it: the principles and methods appropriate to understanding the disease not only as an end point of pathological processes in an individual who seeks, on his own, medical help but also, indeed mainly, as a disease process which gains an entry in the community, spreads its tentacles, consolidates and entrenches itself in different individuals in different forms and intensities, in different social groups, in different environments (used in a wider sense as used above), in the community must permeate through all subjects - basic sciences and socalled clinical subjects. At this stage we would like to touch yet another controversy in the current debate on medical education : whether the basic sciences should be taught at all ? If yes, what; how much; and at what stage ? In our opinion it would be nothing less than monumental blunder to do away with the teaching of basic sciences. We also express our deep reservations about the tendencies to suggest deep and extensive cuts in the basic sciences on very superficial grounds of their supposedly limited utility in actual practice. The community health must remain rigourously scientific. The deep insight they have developed in the life processes are vital for the development and growth of community health. Although we are proposing that basic sciences must be taught within the framework of community health, we hasten to add that we do not know enough to suggest precise manner in which this can be achieved. Ours is an attempt to establish a proximate principle; the detail working-out will call for much larger efforts by people of various skills, experiences and background.

Another major consequence that follows from our main thesis that ill health of man in society and not ill health of man in the hospital ward should be in the focus of medical education, the next logical question we want to raise is : what are the health problems medical education should be focussing on ?

This point is of crucial importance if the foregoing argument is to retain its validity and sharpness. Indeed, without the unambigious answers to these questions, the thesis we have proposed can be

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twisted to serve more or less current model of medical education. Disingenuous interpretations may be attached to it to mean : whosoever comes in the hospital, his/her social setting will be taken into account, succeeding thereby in retaining more or less intact the present model of medical education. Paler versions of such 'society-oriented' teaching programmes (progressive ?) are to be seen in today's family visits or integrated clinics (a teaching session in the wards jointly conducted by a staff member each from clinical medicine and PSM). A Selection of a case in this exercise is a function in the first place of selection of patients for admission which has little relation to health problems prevalent in the society.

To avoid such deceptions, we should say a little more precisely, it is not 'man in society' in the hospital who moves under the focus of medical education rather the focus of medical education now moves out of the hospital to be trained on ' man in society. '

Selection for medical education of health problems in society should naturally depend on society's experience of most common and significant disorders which cause most mortalities, suffering and disabilities. Selection of such problems is not always easy--even if we ignore the pulls and pushes exerted by powerful interests in the society. Some give and take is always inevitable. Even so what goes on in today's medical education is so out of place, so otherwordly (we mean the worlds of rich and powerful in the cities of India, USA & UK), so unrelated to India's major health problems that it can not be criticised enough. The actual regulative principle which guides the design of curriculum is completely at varience with this regulative principle to which most of those who are somebody in medical education pay a lip service only.

Let us try to take a stock of health situation in India and see how medical education measures up to.

Mortality is heavily concentrated in young age groups. 45 to 50% of total mortality occurs in children below 5 years of age who constitute 15 to 18% of total population. Of these deaths more than 90% deaths are preventable, should be prevented eventually. In any developed country children below 5 years contribute less than 1% of the total deaths. Comparative high proportion of death rate is found to be concentrated in elderly population (more than 65 years). What is more, very little can be done to prevent these deaths, or to prolong life very substantially.

Deaths associated with pregnancy in our country is atleast 20 to 30 times more than in well-developed countries. Again as large as 95 % of these deaths can be prevented by intelligent human intervention.

Why these preventable deaths occur ?

The most important causes of infant deaths (deaths below 1 year) are : (1) complex interplay of Protein-Energy-Malnutrition (PEM) and most common infections like diarrhoea, respiratory infections, and skin infections, and (2) babies born with low birth weight (less than 2.5 kg.) which is substantially a function of maternal malnu--trition (P.E.M.)

Deaths in children (1 to 5 year) which is 50 to 60 times more common than in well-developed country is almost exclusively a function of common infections and PEM.

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High maternal mortality is again a function of iron deficiency anemia which is almost hundred percent; PEM; infections after delivery and inadequate monitoring and care during pregnancy and labour.

Hundreds of thousands of children lose their vision due to Vit.A deficiency. Communicable diseases like gastroenteritis, pneumonias, scabies, malaria, T.B., leprosy, measles, and many others continue to play havoc with community without meeting any significant resistence or fight. The list of the problems can be made much longer than this, but suffice it is to say that most mortalities and morbidities are due to either deficiency diseases or infectious diseases or both. Many fair-minded people might think that we are stretching our argument too far. They might argue that many progressive changes have been introduced - more rural orientation, more about common diseases etc. We would like to assure them again that it is not so.

Several years after smallpox was eradicated from India. O n e wonders how many medical students or for that matter members of teaching staff except perhaps members from PSM Dept. know the most outstanding elements of strategy and rationale of it which achieved such amazing results. A pretty dangerius disease was conquered (without any active involvement of medical colleges) and we have taken no note of it. The history of malaria eradication is even more instructive. The ambitious grand strategy was based on one of the finest epidemiological models man has developed of infectious diseases. Superb organisational efforts went into it. Fine statistical and epidemiological tools were developed to implement the strategy. It reached a dizzy height of success and then came tumbling down. Why it achieved what it did ? and why did it fail ? While this great drama was being played out in the five lacs and seventy five thousand villages, batches after batches of medical students were going through the motion of medical education without much ado about malaria epidemiology and the strategy. And this is not merely a question of teaching malaria. A full 10 years after the elegant model of malaria epidemiology was perfected and grand strategy to eradicate it, was pieced together; the expert committees one after another were recommending 'progressive changes' in medical education to make it more responsive to social needs, taking not so much a note of malaria epidemiology and eradication strategy. As we shall see presently the teaching of sound epidemiology is so fundamental to teaching of community health; malaria epidemiology and use of epidemiological and statistical tools in the eradication strategy could have provided a strong base and an impetus to the robust teaching of community health to medical students, but it seems nothing was further from the minds of these experts than this relationship. The result was loss of great opportunity on the one hand and adding trivial notions in medical education, on the other hand. Those who are still convinced about 'the progressive changes' should ask one question to themselves : what weight is given to these changes in the examinations both written and oral ?

Medical education in U.S. puts Ischemic Disease of Heart (IHD) on priority list, so does (almost) our medical education. IHD is 2nd most prevalent disease in U.S., first being hypertension. IHD is number one killer in the U.S. In the U.S. infant mortality is 7 times less than in India. There are not any reliable studies in India to give us reli--able prevalence rate of IHD; but it is almost certain that prevalence is bound to be much lower than two percents found in U.S. because of the simple reason that a proportion of adult population at risk in India is so much lower than in the U.S. Also most of the adult population which lives in the rural areas is too poor, and too hard working to carry the load of risk factors which the U.S. adult population carries. Contribution that IHD could be making to total mortality in India is bound to be infinitesimal. In any well-developed country, where infant mortality is approaching 10/1000, in a population of the size of Gujarat there would be less than 10 deaths in infants because of

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diarrhoea every year; where as in Gujarat where infant mortality is much more than 100/1000 the total number of deaths in infants every year because of diarrhoea is expected to be 60,000 !! (based on B. Nicholas and H. Soriano in The American Journal of Clinical Nutrition 30 : September 1977). Another false notion which has gone round in recent years and this time mainly from the critics of health system that most prevalent diseases in India are simple. If there was a case of more simplification than is possible or necessary this is the one. This injurious belief we suspect is even shared by medical establishment. The dangers of such beliefs are clear. They may well lead to a kind of smugness and complacency in which it is not considered necessary to understand thoroughly the dynamics of diseases most prevalent in the society. This undertaking can be as trying as - if not more - the one that has to be undertaken to understand the diseases which dominate western medical education as well as ours. This argument is not to be interpreted to mean that the study of degenerative and neoplastic diseases is to be completely removed from the medical curriculum; it is to argue only that sense of proportion is needed. In this connection let us stress again that basic sciences are as basic to understanding our diseases as they are in degenerative and neoplastic diseases. Protagonists of their drastic curtailment must pause and ponder. The ignorance of medical students and teaching staff of medical colleges about the dynamics of infectious diseases and deficiency diseases which cause most of the mortality and morbidity is to be seen to be believed.

It is impossible to defend the current focus of medical education in India rationally. One may, ofcourse, invoke the argument of bala--ce of power in the society but it is not a rationale as the word is normally understood.

Instead of meeting this massive challenge of infections and nutritional disorders which kill and maim children and women of poor famil--ies in rural and urban areas and sap the energy of working men and women all over the land and lead to their premature deaths, what we have done is to insert one subject called community medicine to be learnt by and large from one text book of preventive and social medicine (Textbook of Preventive and Social Medicine by J.E. Park) in the medical curriculum. This, to say the least, is mockery of the concept of community medicine.

The Methods and Tools of Community Health.

What we have said so far in this note is to state the objectives, the rationale thereof and overall framework in which the problem of ill health in society should be viewed. We have also briefly alluded to values that normally should go with this.

The real question now is: how to transfer these objectives and values into tangible reality ?

The methods and tools by which the objectives as described above are to be realised, assume the importance and receive attention they deserve; only when they are viewed in such conceptual framework of values and problems. In absence of such overall framework, as is the case now, the vitally important methods and tools are tucked away in neat and well-circumscribed chapters of textbook of preventive and social medicine. These methods and tools are then converted into one of the countless topics to be studied during the whole course of medical education. (endless debates go on amongst experts as to at which stage of medical education these ' topics ' are to be taught !

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Instead of forming the skeleton and sinews of methods and logic upon which is built the knowledge of commonest disorders of body and mind in a society, they are turned into trivial, peripheral, dull, mechanical, bothersome, puny little things to be borne with fortitude until the time of examination. Once this ritual is over they are permanently forgotten and discarded without any sense of loss.

How many times we have seen total incomprehension writ large on the faces of otherwise intelligent, well-established doctors at the mention of words like 'epidemiology', 'demography', 'statistics'...etc. After a prolong silence and rummaging their memories all they can recall are words, they have heard in distant past and unarticulable, unpleasant associations with them !

Yes ! they are the tools and methods of learning and doing community health plus the core theories and elements of social sciences. There are yet others but we will not discuss them here.

Epidemiology is neither a bundle of definitions nor a kit of tools nor is it merely a lifeless schema of triangle of agent, host and environment as it is naively made out to be. It is the method and logic of health sciences rather than a science itself. It is in the framework of epidemiology that one can understand, study and analyse happenings like various health disorders in man in society. It is with the help of epidemiological concepts and tools of analysis like, prevalence; incidence, incubation period, period of infectivity; carrier rates; risk ratios; cohort analysis; longitudinal and cross sectional studies; case-control studies and methods and tools borrowed heavily from demography, we can understand as to why a particular disease gets established in certain age, sex, social groups at a certain place, at a certain time; what keeps it going ? when it changes these characterstics, why it does so ? ; and how it relates to other diseases in the society ? The understanding of distribution and determinants (causes) of most important disease complex of a given society provides us clues, pointers and methods to intervene so that their hold on the society may lessen progressively until the time when they are eliminated completely or tamed considerably.

Similarly Statistics is not to be looked upon as highly abstruse mathematical formulas which are largely irrelevant for our purpose and loaded with jargon. It should be viewed as an invaluable aid to introduce necessary rigor in collection, arrangement, and analysis of observations in human or any living/non-living populations and deri--ving accurate inferences from them.

It is said about statistics in negative sense that it can be used to prove anything, therefore not to be relied upon. There is some truth in this charge but fault is not of statistics as a method or a mean but of faulty way it is used. The best and rational way to fight abuse of such a fine tool as statistics is to understand it ourselves, know its limits and worth. Ever-growing literature of health sciences is full of contending theories, ideas and interpretations. A doctor must be able to make reasonable assessment of these competing ideas herself. This is possible only when they have sound grasp of basic epidemiology and statistics. When this is not so, most of the doctors are reduced to either fall prey to any claim that appears in ' pestigious ' journals or to stick to his outdated textbooks or to adhere dogmatically to his own clinical experiences which is very often a ragbag of impressions only or to accept meekly what drug industries tell them through the flood of literature which many times is dubious, deceptive, and dishonest.

Demography as alluded above provides many tools and methods to epidemiology. In the present medical education they have degenerated into another bundle of informations to be learnt by rote without understanding or insight in these concepts. (e.g. life expectation at birth

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or at one year of age, crude death rates, birth rates, standardisation --direct and indirect, sex-ratio, fertility rates, infant mortality, childhood mortality, life tables...etc., etc.) These are not merely numbers to be memorised because a pedantic or eccentric professor chooses to ask such silly questions in the examination. These statisticks, in fact, represent in a distilled form information about changes in the size and structure of population and the forces which mould them. They help shed light on immensely complex and subtle processes of health and disease in the society. For instance, high rate of infant mortality in one society as against the low rate in another society says so much about the possible differences in two societies which otherwise would not come to our notice and we could not have guessed the role they play in shaping the events. Life expectation at birth is not merely two digit number, which changes mysteriously every decade. It is a composite figure arrived at by taking into account mortalities at different ages in a population. It should prompt us to ask further questions of pattern of mortality at different ages and the reasons thereof. The term 5 year survival rate we have come to be familiar with in cancer treatment and prognosis is based on the methods of demography. Needless to say its utility is not confined to cancer only.

Thorough analysis of the processes that determine the values of these statistics has attained high degree of refinement amongst health professionals in the West whereas we still do not have a reliable system of collecting information continually from the whole population on such vital events as births and deaths, let alone an adequate analysis of these events to tell us what is going on in the community. It is symptomatic of deep malaise that has set in our medical education with its totally upside down priority of problems and methods, that major and crucial debate on causes, extent and effects of such vital events as infant mortality, malnutrition in children, reversed sex-ratios is being conducted in non-health journals like Economic and Political Weekly. Need it be said that barring a few notable exceptions the participants in this marathon debate are non-health professionals ? Medical profession has by and large no competence and no will to discuss such issues which are at the heart of the health of the society.

With this we come to yet another tool of community health : the theories and methods of social sciences. They are indispensable to grasp social processes as they affect the health of the community.

In the foregoing discussion we have stressed the heavy interdependence of the methods and the tools of community health. This is true of social sciences also. If epidemiology is the study of distri--bution and determinants of health and disease in population, part of its province is the study of social factors. Indeed every epidemiological variable in some sense is a sociological variable. The factors affecting the distribution of disease in population may be biological and/or environmental and both have social implications.

Attributes such as sex, age...etc. have traditionally--in the etiology section of most of the textbooks of clinical subjects-- been treated as biological attributes only; but they obviously have social meaning. Concentration of diseases and deaths in certain sex and age groups may also mean that they suffer from certain disadvantages because of status in the family and society and norms associated with them. (e.g. greater female infant mortality, greater prevalence of severe forms of PEM in female children, reversal of sex-ratio, extremely high prevalence of iron deficiency anaemia in young women, and higher rate of PEM in women are not function of biology but a result of the status of women and children in family and society.).

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Disproportionate concentration of deaths, diseases, and disabilities in rural poor-landless labourers, marginal and small farmers, unorganised labourers in urban areas, tribals, harijans, their women and children can not be understood by such dull and monotonous intonations which occur regularly with little change in the different chapters of text book of preventive and social medicine like 'poverty, ignorance, superstition, lack of personal hygiene, overcrowding, poor housing, poor sanitation....etc. ! '

These amorphous concepts don't tell us what sort of economic and social processes are at work which produce huge differences in economic and social opportunities to different social groups, situated at different places which all have a close bearing on the health statuses of the groups concerned. Further more these factors are in urgent need of more refinement and differentiation in relation to each disease. They call for much harder work and analytical skills than today's medical schools are ready for.

The Result !!!

When a conceptual framework like the one discussed above is missing and perception of need to incorporate the tools and the methods of community medicine in a manner such as discussed above is very dim; what happens can be seen even if hazily by a few examples given below.

1. It was a health camp of medical students. They were asked to carry out nutritional survey (anthropometric) of under 5 children. They came back bitterly complaining, 'it was no use. No mother can remember the birth dates of her children. What sort of mothers they are ? If they can't remember the dates even, what can we teach them to care for their children better ?' This is not an isolated experience. It is a part of a pattern. City-bred medical students can not imagine let alone understand that poor mothers in the villages do not organise their lives by Gregorian calendar (loosely spoken as English calendar.) They are not in the habit of being asked such 'pointless' and isolated questions. If you have time, patience and understanding of their time framework then you get birthdates of their children which are accurate enough for the purpose of either monitoring growth or assessing their nutritional states. They recall vividly the days and weeks when their children were born in relation to various points of season's cycles, agricultural cycles of various crops, Hindu or Muslim calendars or festivals, provided we know about these cycles and calendars ourselves. Not many of us know this ofcourse. This is a very small example, but it illustrates rather well that medical education has no use of social knowledge and experiences.

2. A mother comes to hospital out patient with a moribund child in her hands. Child is severely dehydrated because of diarrhoea. Almost immediately a chorus of indignant voices arise from doctors, nurses and medical students. ' how ignorant is she...how callous of her to have brought child at such a late stage...when these people will learn to be more responsible and caring.....! She will not and cannot say that she has to go to fields every morning until evening to earn wages which are always much less than stipulated by minimum wages act which nobody wants to see implemented seriously. She leaves the small ones in care of elder ones. If she does not go to work they go without food. Behind this dumb mother and moribund child lies the hideous social reality which nobody wants to know or cares about.

ORT or I.V. drip ? This is not a purely technical question. It is certainly an instance of imbalance of salt and water, of acid and base in child's body fluids but we should remember that similar

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imbalances occur throughout the year in millions of human bodies who are scattered in hundreds of thousands of villages who have no access to health services. When thousands die because of such imbalances they (these imbalances) no more can remain confined to biochemistry, and medical education must impart this perspective to the students. (How many medical colleges today teach ORT with intensity and interest it deserves ?).

3. Sometimes ago we were invited to a meeting where the question of high infant mortality in Gujarat was to be discussed. (Gujarat has 3rd highest infant mortality in India.) Question was put to a panel of paediatricians. Pat came answer; without a moment's pause: 'because people are ignorant and superstitious. For instance in measles people believe that it is due to visitations of a goddess and child cannot be taken to a doctor for treatment, they therefore, don't seek early medical help.'

Again this is not an isolated instance. We have heard this same theme in many variations many times. Either those who make such statements are careless or they betray serious gaps in their knowledge of the type we have been discussing.

a) : It is true that a child suffering from measles is not taken to a doctor once rash begins to appear on the body; but then at this stage of disease doctor cannot do anything to alter the course of disease either, even if the child is brought to him.

b) : Most of the deaths occur because of bacterial - pneumonias which occur after rashes have begun to disappear; the time when parents are quite ready to take the child to health service provided it is readily available and reasonably cheap. The question is: when epidemic of measles sweeps through the remote villages are there adequate health service networks to cater to their needs ?

Larger and more loaded questions like why measles which is supposed to be a minor ailment without any consequence in well-nourished children extorts heavy price of mortality (15 to 20 %), extensive and serious morbidities such as loss of vision in thousands of children and precipitation of severe nutritional crisis in high percentage of poor parent's children ?

A camp was organised to understand ecology of PEM and infant mortality. Two bright medicos asked : is measles really a problem ? Isn't it supposed to be a mild disease after all ? We were not surprised to hear these questions. Look for the reason -- if you are surprised-in the textbook of preventive and social medicine (Referred above) on pages 356-58 (4th edition) where measles is discussed. How casually and cursorily it has been discussed ! One almost gets an impression reading his account of measles that he is writing for and about upper socio-economic stratum of the society. His chapters on history of community health, epidemiology, concepts of community health in which on page 48 occurs a paragraph of about 200 words on community diagnosis which is not so bad as far as contents go; but which is clearly meant to be memorised by medical students and not to be taken more seriously, sociology and health, nutrition and health, and so on not withstanding; a great violence is done to the cause, concept and theory of community health. This book is supposed to be main source of 'knowledge' of community medicine for the medical students in India !

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CONCLUSION

In this concluding part we would like to discuss two points :-

A) THE ROLE OF VOLUNTARY HEALTH GROUPS

It is true that voluntary health groups like MFC have done a good job to help focus on grave problems that beset health system in India. These groups have either implicitly or explicitly criticised the system for its excessive biases for : (1) curative medicine, (2) hospital-based health care, (3) cities, (4) the rich and powerful sections in the cities, (5) disease pattern predominent in the West, and in a tiny fraction of the population in India.

The logical compulsions arising from such damning critique are now pushing these groups to move foreward, extend their role into the uncharted territory of alternatives to present health system whose one subset is medical education. Let there be no misunderstanding here that those who discuss critically the present medical education and alternatives to it are under obligation to run a medical college based on different objectives, values, curriculum and methods. This is a false alternative; it can lead to inaction.

However, the groups themselves have to respond intelligently and sensibly to basic issues of ill health in society discussed in this note. It is through continuing analysis and actions of various groups on atleast some of these problems in similar perspective that relevant durable, and realistic pieces of knowledge are going to be built. Without such necessary ground work even a crude prototype of relevant alternative medical education is not feasible.

At this point we would like to direct a searchlight of criti--cism on ourselves.

We all know that medical colleges as institutions are far too rigid and too bogged-down in quagmire of unhealthy values, wrong pri--orities and practices to give a new lead. To expect them qua institutions to initiate relevant changes away from such tendencies is unrealistic at the moment. What has been the performance of voluntary health groups in this regard ?

Two broad responses can be discrened. One response has consistently been to lament the fact that forces generated by a particular form of social and economic organisation are responsible for this state of affair. As long as they remain in force, any well meaning attempt to look for an alternative or to try to evolve one-even if rudimentary- is bound to fail or to be crushed by the powerful system. This position has a degree of plausibility when a problem of ill health of community is seen at a very broad level and analysed in terms of categories like gradient of morbidity and mortality along the social classes, unjust characteristics of economic system manifesting itself in income disparities, poor sanitation, poor housing, poor nutrition...etc.,etc. Its truthfulness is not in question, as is the truthfulness of monotonous slogan 'poverty, ignorance, lack of sanitation, poor housing...' which we have felt compelled to criticise in the foregoing part of note.

Second response has been to take certain health activities in the fields. The common elements of such efforts are broadly as follows : (1) They work mainly amongst rural poor, (2) they have a team of village health workers, (3) they carry out activities like - a) immunisation of children and pregnant women, (b) run ante-natal & under 5 clinics and (c) do health education. Now there is nothing objectionable against these elements of activities perse. Doubtlessly they are the steps in the right direction.

The real problem does not lie in actual activities but lies in the theoretical understanding of complexity of disease processes in the community that inform these activities. Even more pertinent point

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of view is whether the understanding of diseases considered insufficient and therefore in need of continual improvement which can be done only by conscious development of abilities and competence in the methods of -- community health.

Voluntary groups are under obligation to learn new methods and tools to further extend and develop relevant, useful and durable knowledge of diseases in the community. Whatever are the restrictions of the system it does provide enough scope to develop such actions. The trouble seems to lie somewhere else; voluntary groups are by and large tied down by their own training (this we have discussed at length above) and have also accepted uncritically the notions such as 'most of the diseases are simple and can be treated easily.' The 'felt need' of voluntary health groups excludes these methods and tools. The result is only growth of mechanical, lifeless structures of activities and flourishingof stereotypes without any insight or understanding. The uncritical acceptance of notions such as 'diseases are simple....' which themselves are product of the ideology of 'ill health in man in hospital' have pushed them if unwittingly into extending outpatient to door-steps of individuals.

The criticism which applies to the structure, the content and the methods of teaching of community medicine in medical colleges applies to voluntary efforts also, if with diminished force.

The glaring gaps in knowledge, the blind spots in epidemiology of diseases, as they are found in our situation, the methods of translating this knowledge into useful health activities, knowing the society and social processes which affect the acceptance or rejection of such health activities await serious exploration and trials on a large scale.

Only in this context we say to ourselves : it is not enough to interprete and criticise the health system as it is today; the point is to change it.

Speaking of change brings us to second point of concluding part of the note.

B) THE ROLE OF MEDICAL EDUCATION IN CHANGE OF COMMUNITY HEALTH.

Improvement in the health of society is a function of understanding of diseases in community and social action informed by this understanding. We believe the role of medical education is to develop such understanding. It cannot be a substitute for social action.

Chadwick's sanitary revolution in mid 19th Century in England is a classical example of this combination.

By mounting systematic nationwide studies, Chadwick produced a massive indictment of working population's sanitary conditions in a book known as 'The Sanitary Conditions of the Labouring Population (1842)'. Advent of cholera epidemic in Europe from India created a lot of apprehension in Europe. Doctors began to connect ill health more specifically with pollution of environment (this was at a time when the discovery of germs still lay in future. The evidence was only epidemiological.) There was a growing consciousness and demand from public for public measures of control. Chadwick was able to marshall these forces which ultimately culminated in Chadwick's Public Health Act (1848), which ushered in sanitary revolution in England.

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A PERSPECTIVE FOR DISCUSSION OF INDIA'S NATIONAL TUBERCULOSIS PROGRAMME

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Introduction

I have been engaged in writing on health service development in India for quite some time. This has enabled me to bring together some of the main ideas which I have developed in the course of my work of over three decades. I am preparing this note because India's National Tuberculosis Programme (NTP) provides a very good example of an aspect of health service development in India. I am hoping that this perspective is given due consideration in any discussion of NTP.

Incidentally, study and analysis of the approach to NTP also raises very interesting and fundamental questions: Why was this approach adopted in the case of tuberculosis? Why was this approach not adopted in the case of Community Health Workers' Scheme, Multipurpose Workers' Scheme or health service research for rural health development? Why was this approach not adopted in the formulation of the National Family Planning Programme, the National Malaria Control/Eradication Programmes, the National Leprosy Control Programme, the National Programme for Control of Blindness, the National Filaria Control Programme, and so on?

Two fundamental considerations emerge from the instance of the NTP. First, it is the people who provide the primary motive force for social revolution or social transformation. There are three types of persons who are directly or indirectly related to this dynamic movement of the people. There are those who oppose the social revolution with

all their might. Ironically, there are other persons who are well-meaning and have radical credentials, but because of their inability to think clearly they create more confusion and in this way obstruct the march of the people. Finally, there are those who have the humility to understand the primacy of the people and who are prepared to make their modest contribution in facilitating that march.

My feeling is that while discussing issues that concern health of the people we have to understand the momentum of the movement among people themselves and try to find out how to minimise the hurdles that are put on their way and how to contribute to the march through our own inputs.

The second fundamental consideration arises from the first. It concerns the technological, epidemiological, social and political competence of those who venture to formulate people oriented health programmes under the conditions that exist in a country like India.

This note will first deal with some of the positive gains made by the people of India in terms of developing a public health approach to the problem of tuberculosis in the country. This will be followed with a brief account of the way a group of interdisciplinary scholars have got together to formulate a nationally applicable, socially acceptable and epidemiologically effective tuberculosis programme for India. Then there will be analysis

of the factors which have come in the way of implementation of the NTP and how pressure from the people is at work in overcoming those hurdles.

Some Positive Aspects of Tuberculosis Works in India:

Why is it that as early as in 1951 an effort was made to develop epidemiological approach to the problem of tuberculosis in India? Admittedly, the approach was very modest, but considering the situation prevailing at that time, it is remarkable that tuberculosis workers even dared to deal with tuberculosis as a public health problem by launching the Mass BCG Campaign.

Why is it, again in the early fifties, that India could launch the National Sample Survey of Tuberculosis in the country which, despite its many obvious shortcomings, can still be considered as a classic epidemiological study carried out anywhere in third world countries? Why should India have undertaken the classic study of comparison of home treatment and sanitorium treatment of tuberculosis cases by establishing the Tuberculosis Chemotherapy Centre at Madras in the mid-fifties? Why is it that some of the pioneer tuberculosis workers in India had already started providing domicillary care to tuberculosis patients well before the findings of the Madras study became available?

Finally, perhaps as a culmination of the dynamics of the movements referred to above, why is it that as early as in 1959 the Government of India

established National Tuberculosis Institute (NTI) giving it the specific mandate to make an inter-disciplinary approach to formulate a nationally applicable, socially acceptable and epidemiologically effective NTP for India? Then, why should NTP become a part of the Prime Minister's Twenty Point Programme?

The Work of Some socially Sensitive Community Physicians in the Field of Tuberculosis:

Perhaps one of the very significant features of tuberculosis work in India has been that throughout the past several decades there have been many dedicated and committed tuberculosis workers who had been ceaselessly trying to deal with tuberculosis as a public health problem. It is this momentum of work of the pioneers which led people in NTI to adopt the approach of "going to the people and learning from them" in formulating India's National Tuberculosis Programme. This in fact was a major landmark in health service development. It showed vividly how those who have a vested interest in perpetuating the old order had been making people the scapegoat to explain away their inability to develop a tuberculosis programme in the country. Adding insult to injury, they had been using their biased concepts about the people to create a market for the sale of mass-radiography units in the country.

Providing a sociological foundation to the formulation of the NTP not only added a very vital social dimension to understanding the epidemiology

of the disease in the country, but it also was instrumental in formulating a people oriented technology to deal with the problem of tuberculosis under the then existing conditions and also providing a direction for development of the programme as more and more resources are made available to it.

The last portion of the previous sentence is being underlined to emphasise that conceptually NTP is a dynamic entity and it does not accept any limitations as such; its advantage is that it ensures most effective use of whatever resources that could be made available at a given time. I would stress once again it does not in any way impose resource limitations as a permanent constraint.

Data about people also showed us where to provide tuberculosis services. People told us that they will like to have tuberculosis services as an integral part of the general health service system, and not as a vertical programme.

Apart from the very challenging task involved in working out the details of a people-oriented tuberculosis programme for the country as a whole, socially concerned tuberculosis workers had also to contend with very complex questions concerning definition of a case of a tuberculosis, place of radiology in the diagnosis of tuberculosis efficacy of different combination of chemotherapeutic agents, the problem of drug resistance and the problem of treatment default.

Each one of the above problems was used by the vested interests, who wanted to thwart the efforts of the people to have a tuberculosis programme for themselves. It goes to the credit of tuberculosis workers in India that they had had the epidemiological and social competence to withstand these efforts. Their success is reflected in the fact that NTP is not simply accepted as the national programme for India, but it has also been accepted virtually everywhere in the world. As a result of its acceptance in India, there has been an astonishing demystification of tuberculosis work. Tuberculosis as a medical speciality has got considerably devalued. Sanatorium construction, which was once such a massive component of the programme, has now tapered off.

The National Leprosy Control Programme (NLCP) contrasts sharply with NTP in terms of clinical, epidemiological, administrative as well as sociological inputs. Significantly, the call for strengthening NLCP came from the political leadership - from the then Prime Minister herself. But the response of the scientists was patently inadequate and unscientific - e.g. "essentiality of verticality", "multi-drug therapy" and "immunomodules" for developing a vaccine. What was the response of socially sensitive community physicians to such recommendations? Indeed, how did they respond to the ICSSR-ICMR Report on Health For All by 2000 AD?

Obstructions in the Implementation of NTP:

Obstructions were expected, because NTP was designed as an integral part of the general health services of the country and it was anticipated that because of the power structure and the class character of the medical and social science establishment, there would be considerable opposition to the implementation of the NTP. How many of the physicians in the country are familar with NTP? How many of the social scientists in India are familiar with the social science studies in relation to the NTP? For that matter, how many professors of sociology or of tuberculosis or of preventive and social medicine in India are familiar with NTP? What is the political economy of such a crass ignorance?

There is also the question of default. But who is the prime defaulter? Those who are still allowing millions and millions of cases, who are knocking at the doors of the various health institutions, to be dismissed with a bottle of cough mixture are the arch defaulters. Big defaulters are also those who deprive people of facilities for dignosis and treatment because of administrative neglect. Ironically, these defaulters are not taken note of by crusading social scientists and tuberculosis workers and voluntary social workers who rush forward to heap abuses on the people for not taking the treatment prescribed by ill-informed physicians.

The muddle headed thinking among obviously well-meaning social physicians also gets revealed when they fail to understand NTP in its wider perspective and get preoccupied with the minutaes.

People have taught us that their needs for dignosis and treatment are not met by the establishment. The causes for not meeting that need are quite apparent. It is this failure to meet people's need which should become the prime instrument for belabouring the system. It is conceded immediately that once the needs are met, one keeps on the pressure by insisting on better and better services for the people. However, if this basic weakness of not meeting the pre-existing needs of the people is ignored and a case is made for better and better treatment for those who happen to get their needs met, we would unwittingly be doing damage to the people at large by putting the cart before the horse. We will go on demanding cakes for the few while vast masses are being denied even bread. This is one of the major failings of those who are concerned about the people but who have not acquired the epidemiological competence to see the entire problem in its perspective.

Recent Developments:

The launching of the Multipurpose Workers' Scheme and the Community Health Workers' Scheme, strengthening of the staff at the sub-centre level and inclusion of NTP in the Twenty Point Programme present yet

another facet of the victory of the people in wresting their rights from their oppressors. Significantly, the oppressors have hit back once again by bringing the cart before the horse. Presumably encouraged by the drug industry, they are showing concern for the tuberculosis patients in the country not by widening the base, but by talking of multi-drug therapy, which includes rifampicin.

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POPULATION VERSUS RESOURCES-AN APPARENT PROBLEM

-Anant R.S.

Many people believe that the increasing population in the world, specially in the Third World can not be properly supported because we just do not have enough resources to do this. According to this belief, unless the population-increase in the countries like India is rapidly and drastically controlled, we would not be able to achieve a descent life for all our countrymen; on the contrary we may end up in a catestrophy. In this somewhat hurriedly written note, it is my intention to critically examine this apparent problem of Population versus Resources-population eating so much into availability of resources that descent human life for everybody remains a pipe-dream.

The historical experience in the West

It would be quite revealing to go into the historical experience of the problem of population versus resources. Malthus put his theory of population explosion in 1798./1/It was used as a political weapon against the French Revolution and against various liberal, radical theories which sought to explain the poverty in Europe in terms of the decaying feudal order. Malthus's theory, however, explained poverty in the " Natural law " of population growth. The feudal oligarchy therefore used this theory in its political struggle. Malthus was rewarded with a professorship at the East India Company's College. History proved Malthus wrong. With the growth of capitalism, there was an all-round increase in food-production and there were not those kinds of famines due to shortage in food-production which Malthusian theory had predicted.

In the twentieth century, in the West, there was so much increase in food-production compared to the purchasing power of the mass of the people that the era of notorious schemes of giving incentives to farmers to reduce food production (to prevent the steep slump in food-prices and the resulting bankruptacies) began and banished Malthusian theory finally and once for all from Western Societies.

The Experience of Colonial India

Though disproved, laughed at and banished from the West, the Malthusian theory was imported into the Colonial countries to explain away the increasing poverty and hunger in these countries. It is now well-known and well-established that the increase in

poverty and hunger in India was due to the " Plunder " through different mechanisms, of the Indian society by the British Colonialists. But the defenders of this colonial rule attributed this poverty and hunger to overpopulation in India. Rajani Palme Dutt in his " India Today " (the famous, classic on British Rule in India and the movement against it) gives a classic account of this story of " overpopulation " in British India. I can not do better than quote him briefly. Vera Anstey, one Malthusian economist wrote " Where is the Indian Malthus who will inveigh against the devastating torrent of Indian children ? " (Anstey-Economic Development of India " p.475). Another such economist L.C.A.Knowles declared " India seems to illustrate the theories of Malthus....." /1-a/

Dutt gives incisive statistics and expert opinion by a number of British and other academicians (including those who believed in Malthus) to show how foolish it was to take a position that Indian poverty was due to overpopulation. I would only quote a couple of key statistics : During 1872-1931, the population increase in India was 30% whereas in England and Wales an increase of 77% took place, during the same period. In the rest of the Europe also, (except France) the population-growth was faster than that in India during this period. As for population density-in 1941, the population density was 246 per square mile in India as compared to 703, 702, 639, 348 per square mile for England and Wales, Belgium, Holland, Germany respectively. As for food production-the production of foodgrains increased by 19% during 1891-1921 as compared to a population-increase of 9.3 % during the same period. /2/ Along with economic exploitation, there was physical deprivation of the Indian people by the colonial rulers. In spite of famine conditions food-exports from India to Britain went on increasing from £ 0.86 million in 1849 to £ 3.8 million in 1858, £ 7.9 million by 1877, £ 9.3 million by 1901, and £ 19.3 million in 1914, or an increase of twentytwo times over ! /3/

Population Vs Resources in Independent India

Though proved once again to be in the wrong, even in the context of the Third World, this theory was once again revived in a revised form and is being propogated vigorously in India since the early sixties to explain away the increasing unemployment, poverty and hunger. But again facts belie the propogandists' hue and cry against the " crushing weight of the teeming millions." Before we briefly enumerate these facts, let me make it clear that

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I am not assuming that relative rapid increase in population is not at all a problem. Even if development occurs not in a distorted and hence truncated form (as has been happening in India) but in a planned and healthy way, even then population-problem may perhaps be one of the obstacles in such a development. But to be sure, it is not at all a primary and one of the most important causes of increasing poverty even in today's social system. Even today, the " Population-explosion " is basically a symptom and not a cause of distorted and truncated development.

Let us now see whether the increasing unemployment, poverty...etc. in Independent India is due to
" Population - explosion. "

The population in India has increased from 46.1 crores in 1951 to 65.8 crores in 1981 - i.e. by 83% /4/ ; whereas the foodgrain production has increased from 48.1 million tonnes to 113.4 million tonnes during the same period, /5/ i.e. an increase of 135%. The per capita availability (which includes production plus imports, however, imports have been negligible during last 15 years) of foodgrains has increased from 395 Gms. per day to 454 Gms per day during the same period. /6/ But due to economic inequality, this food is not distributed evenly and hence there is extensive malnourishment due to extensive poverty.

The unemployment in India has increased many more times than the population-increase--The number of job-seekers registered with employment exchange increased from 3.29 lakhs in 1951 to 40.69 lakhs in 1970, to 165.84 lakhs in 1981; to 262.7 lakhs in 1985 ! /7/ Though there are many limitations to these data, (like any other Indian data) there is absolutely no doubt that the unemployment has increased at a fantastically faster rate than the population-increase. This unemployment problem is not due to population-increase but due to the very pattern of growth of the Indian economy.

Due to population-increase the population-density in India has increased from 117 per Sq.Km. in 1951 to 216 per Sq.Km. in 1981. /8/ It is still less than that of some of the rich countries--U.K. (224), West Germany (244) and of course Japan (327)./9/ Thus the propaganda that India is a terribly overpopulated country and hence is poor is false. Incidentally, there is no relation

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between population-density of a country and its economic status. For example, most of the African countries are very thinly populated (e.g. Ethopia 35 persons per Sq.Km.) and yet are extremely poor; so is the case with some of the Asian countries (e.g. Burma 54 persons per Sq.Km.) /10/ Many of the European countries are much more densly populated and still far better off.

The poverty, unemployment, that we see in India today is thus not because of " too much of population " as compared to the resources to support it. As seen above, per capita availability of food has increased; but yet there is extensive malnourishment because of the inequality in our existing system. The industrial production has, of course, increased many times compared to the production of foodgrains but the standard of living of the majority of the Indian people has hardly increased to any appreciable extent; for a large section, there has actually been a decline.

Comparison with China :-

Apart from inequality, the Indian economy suffers from the problem of distorted and hence truncated development. India has vast natural resources and trained human-power but these resources are not being utilized rationally because of a myriad of vested, exploitative interests. Since China and India are quite comparable for a number of reasons, a comparison with China would give an indication of what can be achieved by India. One finds that the people's Republic of China (PRC) has achieved a far rapid development of its resources as compared to India. It is difficult to measure the development of resources by a mere couple of indicators. But the following two tables would give some idea.

TABLE-I. /11/ : Sectoral Growth Rates 1965--1984.

(Annual percentage increase)

	Agriculture			Industry		
Country.	1965-1973	1973-1980	1980-1984	1965-1973	1973-1980	1980-1984
India	3.7	2.0	2.8	3.7	5.0	4.2
China	2.8	2.8	10.1	12.1	8.6	9.3

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TABLE-II. /12/

Production of Coal, Steel and Crude Oil in India and China.

(in Million tonnes.)

Country	COAL 1950	COAL 1985	STEEL 1950	STEEL 1985	CRUDE OIL 1950	CRUDE OIL 1985
India (1951-84)	34.90	144.80	1.10	5.70	0.26	30.20
China (1950-85)	70.00	813.00	2.00	47.00	1.00	125.00

In the Industrial sector as a whole, the industrial production in PRC has increased at an annual growth rate of 12.2% during 1950 to 1985, /13/ whereas in India, this rate was only 5.8 %. /14/ It is clear from these statistics that both in Agriculture and (much more) in Industry, the PRC has achieved a much more rapid increase in the development of its resources.

China has used this development of its productive capacities in a much more rational way. This is evidenced by the fact that though the average per capita income in PRC is not much higher compared to India, there is not the kind of poverty, hunger, squalor, unemployment as we see in India. This has been reported by all sorts of analysts and visitors to China.

I do'nt believe that the Chinese development is an ideal one; far from it, there are certain nagging problems with it. But if PRC has achieved this much, starting from a very backward economy encircled by a hostile capitalist world, India, (after its revolution) can now achieve far better, starting from a better base and with perhaps a better understanding also. The problem of " not enough resources " to support the increasing population is now potentially much more superfluous than hitherto.

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DRASTIC CHANGE IN CHINA'S POPULATION-POLICY

The Chinese government, during last few years, has drastically changed its attitude to population-growth and has started a vigorous population-control programme. We must answer the question : Does not the new population-policy in China vindicate the view point that population must be vigorously controlled in developing countries ? Let me try to answer this question.....

Earlier Policy & New Policy :

The Policy of the Government of the newly liberated People's Republic of China (P.R.C.) was to denounce the " neo-malthusian bogey " of population explosion but at the same time to spread the knowledge of the contraceptive technology and even to control the rate of population-increase. According to Chi Lung, one of the representatives of the PRC in the 1973 ECAFE meeting in Tokyo--" Population increase in a planned way is China's established policy. We follow such a policy not because the question of 'Over-population' exists in China. In China, social production is carried out in a planned way and this requires that the population increase is planned too. It is also necessary to have a planned population increase in order to promote thorough emancipation of women, care of children, mothers and women; and bring up and educate the younger-generation well, and improve the people's health and bring about national prosperity....." /15/

But from 1970's, this policy has changed; pressure was put on the people to have not more than two children per couple. Further drastic change occurred from 1980,--the policy changed over to ' Only One Child Per Couple.' Does this new policy stem from a real resource constraint or a false limitation imposed on themselves by the decision-makers ? If we go into the reasons given by the Chinese demographers who advocate this new policy, we would get some inkling into this puzzling drastic change.

" China's population problems and prospects " is an official publication from China which takes a review of the Chinese population policy from the new angle and advocates : ' One Child Per Couple ' policy. It says : " Considering the present area of cultivated land, pasture-land and surface-water in China and taking into account the speed and level of agricultural development attained abroad over the last hundred years,

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we estimate that a century from now, China's total food production could increase to be 150 per cent above that of today. Taking into account both the average physical characteristics of the Chinese people and the proportion of protein in the diet of industrially and agriculturally developed countries, we estimate that each person in China should consume about 85 gms. of protein per day. (At present the level is about 56 gms.) Protein comes from both animal and plant foods. The proportion of animal protein in the French diet is 70% and in the United States, it is 80 %. In China today, the protein-intake is comparatively low. It should gradually increase, as production improves, to reach the amount adequate for each person each day, with animal protein making upto 70-80 per cent of the total. On this basis, a century from now, the population should not be more than 680 million."/16/ (Note that this figure is much lower than the current population of China of about 1000 million.)

Unscientific basis :

This estimation is unscientific-nutritionwise, healthwise. The average per capita availability of food in PRC today is sufficient-quantitatively and qualitatively. Vaclav Smil's calculations show that in 1983, the daily per capita availability of food energy in China was 2710 Kilo Calories with 77 grams of proteins including 11 Gms.(14%) from animal sources./17/ Ramesh Awasthi /17.a/ in a recent compilation, quotes the foodgrain availability in China in 1983 as 669 gms. per capita compared to 450 gms. in India. Smil has calculated the daily per capita energy and protein requirements of the Chinese population on the basis of FAO/WHO recommendations. These are: 2210 K.Cal. of food-energy. 55 grams of dietary proteins-with the assumption of the current Chinese pattern of diet./18/ It is clear that on an average the Chinese diet today is more than sufficient nitritionally. Where is the great need of increasing the protein-consumption to 85 grams per day ?

To be sure, 1983 was one of the best years as far as food-availability in PRC is concerned, because food-production in PRC has started rising very rapidly from 1978 onwards. But even during the earlier period of relatively rapid population growth accompanies by not much more rapid growth in food-production, the daily per-capita a v a i l a b i l i t y of food was 2075 K.Cal. in 1957, 1900 in 1960-61 (after a period of " probably world's worst drought.") 2045 in 1964-66 and 2125 in 1969-71. /19/

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Because of much less inequality as compared to India, China didn't experience the kind of extensive malnourishment (except during 1958-61) as we see in India. There was a need to increase food production at a faster rate to abolish malnourishment altogether and to have safety margins for drought conditions. This has been achieved from 1978 with continuous rapid increase in food production through economic reforms in agriculture. There is thus no rationale for enforcing the one-child-norm except for this unwise, unhealthy projections by their policy-makers for protein requirements in the future.

The most important problem lies in the aim of of the China's new policy makers to get 70-80 % of the proteins from Animal source. This is clearly " aping af the West " since nutritionally so much of Animal protein is not at all required. On the contrary this much of animal food will produce ill-health. The American Medical Association has recommended a one-third reduction in the meat consumption of the American population ! Animal foods are ecologically extremely taxing as compared to vegetarian foods. It takes 20 & 8 Lbs. of grain to be fed to the animals to get 1 Lb. of beaf and pork respectively ! /20/ It is therefore necessary to keep the proportion of animal foods to the minimum necessary. If the Chinese decision-makers abandon the perspective of aping the dietary habits created by Agribusiness in the West, then they need not opt for the current dastardly policy of enforcing " One Child Per Couple."

As has happened elsewhere in the world with increasing modernization, education and general development, the Chinese population would increasingly adopt a small-family norm. That the birth-rate has already markedly come down from 41.3 per thousand in 1950 to 21.3 per thousand in 1982 has been confirmed by an independent American academic study./21/ A part of it has been due to incentives and disincentives from 1970s. But socio-economic development has certainly played a a direct or indirect role in the success of their population-control programme.

With these achievements on the food-front and in birth-control, there is no real need for PRC to adopt the drastic policy of 'one child per couple.' This new mistaken policy therefore does not prove that the theory of " population explosion " is valid.

THE PROBLEM AT THE GLOBAL-LEVEL

There are many statistical projections meant to frighten us to believe that if the population-increase in developing countries is not drastically curtailed, the world would face a catastrophe because " there are not just enough natural resources " to support the projected world-population of 48 billion by 2100 A.D. from the current level of 4.6 billion. Firstly it is wrong to make such purely arithmetical projections to draw strategic conclusions from them : Increasingly conducive socio-economic conditions and hence the desire to control births, as well as the means to do so is a part of modern social development. Why do we assume that the third-world people would continue to remain at the deprived end of the development process, as is happening today, and hence would continue to have high birth-rates ? Even if they do, even then the real threat to world's resources would not come from these marginalized toilers. Take for example, the case of energy. Schumachar in his famous book, 'Small Is Beautiful' has shown that in 1966, the " rich " countries accounted for 31% of the world's population but consumed 87% of the energy utilized in the world. He now argues--suppose the population of these developed and developing countries grows at a rate of 1.25% and 2.50% per year respectively and their fuel consumption per head increases at the annual rate of 2.25% and 4.5% respectively; with these rates, by 2000 A.D. the world would require thrice as much additional energy as in 1966 and out of this increase, more than two-thirds would be consumed by the rich countries !

I do not share Schumacher's overall perspective; but his calculations show how wrong it is to talk about the need for drastic reduction in the birth-rates in the third-world " to save the world from catastrophe." As far as India is concerned, even though we are the second most populous country in the world, our share in the World's commercial energy consumption is only 2.1 % (1985), whereas the share of the U.S.A., with a population amounting to not more than a third of India's, is 24.3 % ! /22/

The per capita availability of calories at the world-level was in 1985, 111% of the requirement./23/ But due to unequal distribution, millions and millions are underfed, lakhs of children die due to malnourishment on the one hand whereas the developed world consumes millions of tonnes of grain in a wasteful and unhealthy way. If the current state of affairs is changed into a sane and

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egalitarian society, there is no need to increase food production any more.-Per capita energy demand increases many many times with industrialisation but the per capita food requirement should not increase beyond a level if we are not to fetch ill-health with extra calories.

MILITARY WASTES

Most of the conventional discussions on resource-constraints do not mention, leave aside question, the mind boggling military expenditures." World Military and social Expenditures" 1985 by Ruth Sivard (just quoted above) gives a very good account of the military expenses the world over. Let me quote a few figures from this compilation :-

World military expenditure as expressed in the value of U.S. dollars in 1982 (thus eliminating the influence of inflation) increased from 339 billion dollars in 1960 to 709 billion dollars in 1983 i.e. it more than double. The share of the developing countries in the military expenses during the same period increased from 33 to 152 billion dollars (at constant-1982 prices) i.e. a more than four-fold increase. (p.34) Compare these figures with the requirement of only 20 billion dollars to provide safe water sanitation to all of those in the world who do not have it today ! (p.33) During this same period, arms-exports (most of which go to developing countries) by developed world increased from 2.5 to 33.5 billion dollars (p.34) whereas per capita aid (most of it is in the form of loans) from developed to developing countries did not rise in real terms (i.e. if we discount inflation) at all in these 24 years ! (p.23). In the developing countries, military expenditures per soldier in 1982 averaged 9810 US Dollars, compared to educational expenditures of only 91 US dollars per school-age child. (p.29)

India's military expenditure shot up from 312 crores in 1961-62 to 816 crores in 1963-64 /24/ due to the Indo-China war. It however continued to rise rapidly in the late sixties and 70's. During last few years, there is again a fantastic rise from 2472 crores in 1975-76 to 7136 crores in 1984-85. /25/ This is due to " Modernization of the Indian Defence Capabilities." In reality India is becoming a big military power in Asia to protect 'Indian interest' here&abroad. India's military-expenditure in 1982 was more than its expenditure on education and more than three times its expenditure on Health. /26/

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Even if there is partial disarmament.....

Some may argue that it is utopian to think that there will be complete disarmament. But even if partial disarmament occurs, plenty of resources would be released for abolishing poverty, unemployment, ill-health. At any rate, in any case, nuclear weapons must be abolished from this planet. The nuclear powers have today enough nuclear weapons to kill every person in the world 12 times ! /27/ The danger of nuclear war even by accident has been increasing day by day./28/ Nuclear disarmament is therefore an absolute must. There has been a great world-wide movement towards this goal and in the recent Riekjavik Summit, the USA and USSR almost came to an agreement to reduce nuclear weapons by 50% (!) to begin with. Billions of dollars would be set free even if only nuclear disarmament takes place and hundreds of millions of dollars more, if disarmament of conventional weapons also takes place.

There have been many estimates of the impact of partial disarmament. Let us see a couple of typical of such estimates : " The U.N. experts estimate that 8-10 per cent of world military expenditure would be enough to eliminate hunger, disease, illiteracy.....it would be possible to finance eight major projects similar to the WHO-programme for eliminating smallpox on earth solely with the funds allocated by the U.S. Air-force for developing and designing the F-16 fighter. The cost of one Trident Submarine equals that of teaching 16 million children in developing countries for one year./29/ A comprehensive study made by a study-group of the United Nations in 1980 has registered that " by the year 2000 even a modest degree of military restraint- the scenario modelled only assumed a progressive decline from current levels in the share of military expenditure in gross national product (GNP), not a decline in the level of world military expenditure in absolute terms-could result in 3.7 % increase in world GNP, a larger capital stock, and an increase in world agricultural output, to mention only a few of the mere obvious economic gains." /30/

In conclusion, one may say that the talk of " Population-Explosion " leading to the problem of ' resource-constraint ' is only a bogey to hide the bankruptcy of the existing social-order.

(References continued....)

REFERENCES ....

/1/ : Boserup Mogens- Fear of doomsday:past & present, Population and Development Review, Vol.4, No.1, pp.133-143. This is a good short account of the controversy during that period.

/1-a): As quoted by R.P.Dutt, India Today, People's Publishing House, 2nd edition, 1947, p.43.

/2/ : R.P.Dutt, op.cit. pp.45-47.

/3/ : R.P.Dutt, op.cit.p.106.

/4/ : Basic statistics Relating to the Indian Economy Vol.I Centre for Monitoring Indian Economy, Bombay, Aug'86, Table 1.1. (C.M.I.E.)

/5/ : Basic Statistics...op.cit. table 13.10.

/6/ : Basic Statistics...op.cit. table 8.1.

/7/ : Basic Statistics...op.cit. table 9.9.

/8/ : Basic Statistics...op.cit. table 1.1.

/9/ : " World economy & India's place in it," C.M.I.E., October'86; table 4.1.

/10/ : World economy...op.cit. table 4.1.

/11/ : World economy...op.cit. table 3.3B

/12/ : World economy...op.cit. table 3.10-1 and Basic Statistics...op.cit tables-4.9, 4.17 & 16.3.

/13/ : World economy...op.cit. table 3.10

/14/ : Indian Economy since 1950-51, CMIE, Feb'86, p.2.1(iii).

/15/ : Population Theory in China (Translations from " Renkou Lilun ") Ed. H.Yuan Tien; M.E.Sharpe Inc. White Plains New York; Croom Helm; London, 1980, p.9.

/16/ : China's Population Problems & Prospects by Liu Zheng, Song Jian and others; New World Press, Beijing,1981,p.29.

/17/ : Vaclav Smil, Food Production and Quality of Diet in China, Population and Development Review, Vol.12, No.1, March'86,T.4

/17-a/ Dr. Ramesh Awasthi, India and China-a comparison; "Frch News letter," Bombay, Vol.I, No.1.

/18/ : Vaclav Smil, op.cit. tables 8, 10 and p.40.

/19/ : Smil op.cit. table No.2

/20/ : " How the other half dies," Pelican, 1977, page 305.

/21/ : Rapid population change in China, 1952-1982, National Academy Press, Washington, 1984.

/22/ : World economy...op.cit. table 6.3

/23/ : World Military and Social Expenditures,1985; 10th Anniversary edition, Ruth Leger Sivard, World Priorities, Washington, 1985, p.39.

...

/24/ : Suhas Chattopadhyay : Inflation, stagnation & crisis.... Social Scientist, No.29, p.7.

/25/ : Basic statistics...op.cit. table No.7.16A.

/26/ : World Military and.....op.cit., p.36.

/27/ : World Military and.....op.cit., p. 5.

/28/ : Medico-Friend Circle Bulletin, No.122, November, 1986, New Delhi, p. 5.

/29/ : R. Faramazyan; Disarmament and the economy; Progress Publishers, Moscow; 1981, p.140-141.

/30/ : U.N. Disarmament Yearbook, 1981, p.355.

MEDICO FRIENDS CIRCLE

XIII ANNUAL MEET

Family Planning and Health Care: A Case Study from Rajasthan.

- Ritu Priya.

I. INTRODUCTION :

I approached this filed work with an idea of using it as an opportunity for filling a gap in my understanding of the health system by getting a first-hand knowledge of the functioning of the Primary Health Centres, studied from a perspective other than that of a medical studgnt (the only other exposure I have had to a PHC).

The Block in which the PHC is situated, falls in the tribal belt of Rajasthan, comprising approximately one third population of tribalsmainly Bhils. Most of them live in distant villages in the hilly, rocky part of the Block. Some have settled down in the plains but live in seggregated 'bhilwaras' The village in which the PHC is situated as well the village around it do not have any Bhils. The poor condition of the tribals were in sharp contrast to the others in the village: while most of the houses are pucca in the village, the bhilwaras were always of dilapidated, small huts of mud and tiles. No tribals were ever seen in the buses through they could be seen walking to the distict town with headloads of firwood or grass. They were never seen at the PHC either.

Though a drought-prone area, the last two years havd been especially dry and so part of the block has been declared famine-hit. Famine relief work was seen in progress (building and repair of roads). Perceptions about the famine showed a great polarisation in the society. While one heard of the tribals who had lived on boiled leaves of trees before famine relief work started, most of the people travelling in the buses seemed only midly affected and some were almost unaware of it. In the district town, people laughed at the suggestion of a famine at their doorsteps. The famine influenced the PHC work only by helping fulfil FP targets. People came in for the incentive money, the MO said, sometimes both the husband and the wiefe coming in for sterilisations.

Working in this setting, the PHC is bringing a number of 'private practitioners' into the area (the unofficial role) and in implementing the Govt. Health Programmes. Provision of medical care in a negligible function as the PHC itself catered to only 9922 OPD cases (an average of 33/ day) which is insignificant for a population of 1 lakh. The MPWs are given almost no drugs and are perpetually short of supply of even aspiring and paracetamol. But all of them keep a stock of their own meidcines

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and do private practice. of the 227 in-doors patients, 180 were cases of laparoscopy sterilizations and vasectomies. (vasectomies had been registered as in-patients to inflate the figures.) No deliveries had been conducted at the PHC. The two ANMs attached to the PHC attend to the deliveries at home itself. In the other villages, the ANMs are called only in case of emergencies by those who can pay at least Rs. 50/- per delivery. Implementation of the health programmes is the official function the PHC is engaged xx in. It basically means a primary focus on family welfare a euphemism for Population Control, and some attention to EIP, Malaria and guinea worm control. The NTP, leprosy and school health programmes are conspicuous by their absence.

Since the primary focus of work is aon the achievement of targets in Family Planning, it was clear that all the other activities of the PHC suffered in consequence. Firstly, the greater amount of time spent on FP activities meant there was a reduction in time for other activities. Secondly, the frequent 'drives' and FP camps were not conducive for carrying out systematic work. Thirdly since supervision by the higher level staff was limited to checking on the fulfillment of targets, the other activities were considered non-important by default.

In this paper, by comparing the performance of FP programme with EPI and NTP, an attempt has been made to show that the Primary Health Centres are functioning primarily as extension centres for population control.

II. THE FAMILY WELFARE PROGRAMME: Promotion of birth control is the major preoccupation of all workers at the PHC. Motivating cases, and keeping them ready for a sterilization camp, bringing them there and later following them up, takes up most of their time. While little pressure tactics have been employed so far, the workers can see which activity receives priority at higher levels -- the enquiries the officials make whenever they come on tour, the intensive drives organized at state and district levels, the incentive money given to the 'cases', motivators, and the PHC, -- all emphasize the importance of family planning above all other programmes. The official circulars of minutes of the meetings and of instructions to all the staff by the Collector are illust-ractive of this. Results can be seen from the targets achieved.

FP achievements : April 1985- Nov. 1985.

	Sterilizations	IUD	Condoms	Orall pill
Target	800	250	-	-
Achievement	690 (86%)	52(21%)	1480	2

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The district data show that in the previous year results were very different as the official instructions had a different emphasis.

District Targets and achievements: 1984-1985.

	Sterilizations		IUD	
	Target	% achieved	Target	% achieved.
Apr.'84-Mar '85	19,400	43.8	5,830	57.8
Apr.'85-Nov '85	19,400	62.9	5,830	54.0

Sterilization Operation:

The sterilizations conducted so far have been performed relatively 'honestly' in that the over age persons, and sterilizing both the husband and wife together, etc., have not been used to achieve targets. But as 'cases' become more difficult to come by, the more compliant having been motivated and sterilized, and as targets set by authorities increase, the MOs were heard telling the workers,

- get both husband and wife,
- over age will also do,
- Motivate those with copper T to get sterilized (thus the same person can be counted twice as an IUD and sterilization acceptor).

The scheduled tribes get Rs. 150/- over and above the usual Rs. 160/- which each tubectomy case and Rs. 130/- which each vasectomy case gets. From the drive starting in Jan. 1986, it has been declared that the scheduled castes will also get the extra Rs. 150/-

As other governmental agencies, workers of the agricultural department, school teachers, revenue staffetc. have all been allotted targets to motivate case tension have built up in a number of aareas between these and the health workers, one accusing the other of seducing their cases away. In a number of instances this has become the cause of personal enimity and physical assault and the police were called to diffuse the situation. The health workers also complain that these other workers offer incentives to get cases by promising them loans while they being health workers have nothing, not even medicines, to offer.

The FP Camps:

The sterilization camps are a curious mix of public relations drama and mechanical assembly line. On the day of the Camp, a vehicle is made available by the DR Dy CMHO(FW) office which brings each case from their homes. A medical college team consisting of 3 gynaecologists, an anaesthetist, and a theatre technician come with the linen and

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equipment. The PHCS MOs have the patient ready with a preliminary check up, a gynae exam., and a TT injection. Two operating tables are set up. While the equipment is set up the patients are assembled, given pre-,edication and lined up outside the 'theatre'. Once everything members get into their place in 'assembly line': one for giving injections, one for holding the uterus, one to use the laparoscope, and ligate the tubes, and the fourth to put sutures. The unconscious patient is then transferred to a stretcher and carried out by two male workers (class IV or MPWs) to be promptly replaced by the next patient. The sterilized patient is taken to the 'recovery' room (generally another room but may be the verandah or the open) where a dari is laid out on the floor. With the relatives standing around the patient is picked up by the two male workers by her ankle and wrist and put on the floor. Her 'lengha' flies up and is pulled back in place by the male worker at her feet and she is covered by her 'odhni'. Soon the next is brought in and placed down beside the first one avoiding as much of space as possible so that soon the room looked like a morgue. The relatives, some of them crying and trying to sooths the women's brow or massage her feet (and adding the only human touch to the proceedings) are shoodd out. During one such comp, The junior gynaecologist looked in before leaving which was as soon as the cases were all done. Money and certificates whe were given to the cases by the BEE. The PHC staff went home only after all the cases had been taken home. The Sarpanch of the area came in to take a look once during the first camp and the one held during the intensive FP drive was visited by the SDO, BDO and CDPO.

The staff present at the camp were the 3 MOs, 2 LHOs, the BEE, and MI, 3 Sector supervisors, 4 ANMs, 4 MPWs (male), sweeper, one peon, 2 drivers and the projectionist, 5 members of the medical college team, i.e. 27 in all. In the first camp there were only 4 tubectomies and 1 vasectomy and in the second (held on the first day of the intensive FP drive) there were 7 tubectomies and 2 vasectomies. In the first camp a patient had eaten before coming and also had a history of amenorrhoea and a bulky uterus on PV examination but was undertaken for MTP and sterilization because there were only four cases.

F O L L O W UP: The incentive money is given in two instalments, one at the camp and the second one when the follow up visit is paid by the PHC staff 7-10 days later when stitches are removed. During one such visit, there were 8 cases to be followed up from 4 different villages. We literally had to chase after them into the interior villages and even to their fields to make the payment and for the doctor to enquire if "everything was OK, No? One

woman who complained of burning abdomen was told that to take less chillies but to eat everything, roti, curds, butter-milk. Another woman for whom we had waited because she had gone to cut grass, was at the end of the interview, pattend on the back and told "go take rest". At another place we found that one of the women had died a month after the operation (why has more than a month elapsed before follow up?). The doctor immediately ruled out the operation as the cause of death without even trying to find the conditions under which she had died. No attempt was made to verify the cause and we drove off to another village. The BEE informed the MO in-charge that the relatives were entitled to Rs.5000/- if death occurred within six months of operation. The MO promptly told him not to put such ideas into people's heads because "it will mean another headeche for us and we don't want any such reports".

OTHER METHODS: IUD insertions are done by the ANMs themselves at the home of the willing persons and rarely brought to the PHC or the camp. There are very few regular users of condom (60) and because of the poor attention paid to this method, even these acceptors break away as the regular supply is not maintained.

The oral pill is not being propagated because of the fear of side effects and the fact that the initial medical check-up by the MO is necessary. No target was set up for it till Jan. 1986, during which the requirement was of making 57 regular users. But this attempt was made useless from the start because the workers were told to distribute 3 cycles each to women with a child more than 1 year old (i.e. non-lactating) whether they will use it or not. The MO suggested that this could be done easily through the school children by sending the pills home with them for their mothers.

The Achievement : The PHC has an excellent performance to its credit in terms of targets achieved this year. Many of the workers metioned of entire villages where all eligible couples had been sterilized "This village is complete". The MO felt that this year many more cases were coming and death rate because of famine conditions.

Birth and death rates are not known and so impact of the the programme is difficult to assess. The registration of births is mostly incomplete but no steps are being taken to improve the condition. The degree of coverage by terminal methods should have resulted in some impact but as the Dy. CMHO (FW) said, most operations are done after 4-5 children and so may be the impact is not as great as it would appear from the achievement of targets.

III. The EPI programme:

The EPI is linked to the MCH programme but the two are dealth with separately from the FW programme. Other than BCG all other immunizations are done by the MPWs (both male

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and female) during their day to day work and through special intensive drives.

The Cold Chain: A room at the CMHOs office has been converted into a cold storage for the vaccines and there is a refrigerator at the PHC. Each worker is provided with a thermocol box to keep the vaccines. The referigerator had a defective lock and so the door remained partially open all the time. Electricity supply was erratic, and the MO was unable to say how long the electric supply actually was abailable to the PHC.

The Intensive Drives: During a drive, the workers are divided into 3-4 teams of 3-4 workers each and the team goes to each village and collect all the children and given them the first dose of DPT and Polio. A similar exercise is undertaken three times at 1 month intervals. The first round had just been completed when this study was begun and the second round was due to start soon after it ended. Some experiences of the first round as narrated by the MPWs were:

- There was lack of facilities to sterilize syringes and needles: generally 2-3 syringes were available per team ard were sterilized before the team left but it was not possible to sterilize them in the villages.

- Abscess formation were reported but treatment (drainage) was possible only in the PHCs or the dispensaries: the workers had not antibiotics either.

- Paracetamol was in short supply and so not given to many or given only 2 doses. so that all or most had fever and no treatment. (All this would tell on the acceptance of the second dose).

- Some parents had refused the immunization. One worker submitted the list of children of an entire village which had refused. The official explanation was that the refusal was due to their "ignorance and illiteracy". But on probing it was found that during the previous drive one child had developed an absecess and another developed convulsions after DPT.

Through the problems related to the short supply of drugs and syringes were promptly attended to in view of it being an intensive drive, there was little or no follow up, althrough in case of sterilizations, the PHC team travelled miles to check on complications and to giveincentive money.

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Infact during one such follow up visit to a tubectomy patient, the MO side-treacked an MPW's request to see a child who had developed a swelling at the vaccination site and whose house was no our route.

The two children seen coming to the PHC with abscesses were prescribed drugs to be purchased from the market (even when substitutes were available from the PHC.) The parents seemed alittle bewildered because the injection was supposed to prevent diseases but infact had given rise to a another problem for which they now had to spend money on treatment.

Data on the EPI performance is collected and reported to the district office by the SI. It was not possible to contact him because he was 'absconding' for a large part of the time and was drunk at other times. The Dy. CMHO office had received data from the PHC only till June which is given below.

Immunization from April to June 1985.

		Target	Achievement
DPT	1st dose	2210	406
	2nd dose		131
	3rd dose		73
Polio	1st dose	2210	404
	2nd dose		48
TT (pregnant women)			
	1st dose	1535	65
	2nd dose		41

The data shows how even the few immunizations done become useless because the 2nd and 3rd doses are not administered. The side effects with the first dose were perhaps the reason for this.

It was not possible to assess the impact of this programme because no data with regard to the communicable diseases in childhood was available. But from the way the cold chain was maintained for polio, one could say that the polio vaccines were probably useless by the time they reached the village.

V. THE TB CONTROL PROGRAMME:

While a few of the workers were aware of the symptoms of TB none of them had brought a patient to the PHC for examination. Only 5 sputum examinaions had been done during the year 1985, on the MO's advice. The malaria technician does the staining and examination for AFB but asks the sweeper to collect the sputum and make the slide because he is afraid of catching the infection.

The previous records show that in 1984, 135 sputum slides were examined. But the technician freely admitted that it was falsified data put in by the previous compounder. No check could be made because the slides were not preserved. No patient is under treatment from the PHC for TB. BCG vaccine is not supplied to the PHC and is administered only by the BCG team of the District TB centre which is supposed to visit the villages once in three years.

The district TB Programme:

The district TB centre (DTC) is supposed to oversee the NTP work in the whole of the district. The District TB officer assisted by the second TB officer is in-charge of the DTC for clinical as well as supervision and corrdination work. The district has a sanatorium to which TB cases needing hospitalization is sent. 25 microscopic centres (the PHCs and dispensaries which have facilities for sputum examination) and 17 referral aid posts (which only disburse drugs to confirmed cases) are also attached to it.

It was a pleasant surprise to learn that the DTO has a post graduate degree in thoracic and chest diseases from Udaipur medical college. But his knowledge about the NTP and the subject was shocking. For instance, his statements that - 5% of the diagnoses are made by X-ray because cases are mostly asymptomatic symptoms appearing only on cavitation sanatorium treatment is given so as to isolate cases and to provide them with fresh air, hygienic conditions; TB is difficult to control because of poor hygiene, inability to isolate the patients, default due to illiteracy and ignorance etc seemed to underline his 'ignorance' and his 'illiteracy'. He was unaware of the 4- symptoms on which sputum examination is prescribed in the NTP and believes that resistence appears only in the late stages and so there is no need to do sensitivitytests.

The second MO has been here for 2 years having joined immediately after his house job. But he was not confident about telling me the details of the TB programme since he was not really 'interested'.

V. C O N C L U S I O N

The observations made show clearly that the PHC is performing only one function efficiently i.e. to 'protect' the eligible couples with the terminal methods of birth control. The functioning of the PHC is skewed in favour of population control because of several reasons.

- the insistence and emphasis placed on meeting FP targets.
- monetary incentives given to the health workers for 'motivating' the 'cases'.

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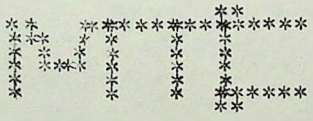
- Playing on the economic vulnerability of the poor people, in the present famine situation, by giving relatively large sums of money. (the tribals were paid even more to get sterilized).

The same attention is not being given to immunization programmes which is supposed to be an integral part of Family Welfare Services. The third component, the material health does not get even the little attention that is paid to immunization programme. The description of the NTP leaves one with a sense of disbelief. After studying the functioning of the PHC from 'a perspective other than that of a medical student' one is forced to end with the cynical remark that the survival of the rural population has been independent of and despite the functioning of the PHCs.

(This paper has been condensed from the report prepared as part of the field work requirements for PHD in Community Health and Social Medicine from Jawaharlal Nehru University, New Delhi.

A B B R E V A T I O N S U S E D I N T H E T E X T S

1. ANM - Auxiliary Nurse Midwife.
2. BEE.
3. DPT Diphtheria, Pertusis (whooping Cough) Tetanus vaccine
4. Dy. Cin & HO (FW) Deputy Chief Medical and Health Officer (Family Welfare)
5. EPI Exlended Primary Immunisation.
6. FP Family Planning.
7. LHO 8) M T
9. MO Medical Officer.
10. MPW Multipurpose Worker.
11. MPP Medical Termination of Pregnancy.
12. NTP National Tuberculosis Control Programme
13. PHC Primary Health Centre.
14. SI Sanitary Inspector.
15. TT Tetanus Toxoid.



Chavan./

FAMILY PLANNING IN TRIBAL AREAS: SIMPLE ACCEPTANCE OR CORSION?

The planners of the family planning policy felt that the different segments of the Indian polity had accepted the family planning programme in verying propotion and thereby contributed differently to the ultimate outcome of the same. This was considered to be particularly applicable to backward and lower income communities i.e. scheduled caste and scheduled tribes, who it was believedhad a very low rate of family planning acceptance. HOWEVER, Several tribal districts in various states of India for example Bharuch in Gujarat, Gadchiroli in Maharashtra and Dungarpur and Banswara in Rajasthan have mostly ranked highest or second highest in achieving the family planning targets during the last few years. This paper attempts to examine the possible reasons for this phenomenon and its probable long term implications on tribal demography.

Family Planning Acceptance Higher in Tribal Areas :- A Statistical computation was done by Prof. K.G. Jolly to identify that various social and economic variables that explain differential performance in family planning programmes in all the districts of the states of Gujarat, M.P., Maharashtra and Rajasthan. These together contain 52% of the total tribal population of the country. The study based on figures mainly available before 1981 census considers several social and economic variables viz. general literacy rate, female literacy rarw, percentage scheduled caste population, percentage Scheduled Tribe population and ownership of land, agricultural productivity, male and female participation rates, surfaced roads, cropped area etc.

According to this study based on stepwise regression procedure for a combined social and economic variables and analysis, the third most important various affecting the cumulative acceptance rate of family planning at the district level is the percentage of scheduled tribe population. Percent literacy rate was found to be the most important variable influencing the cumulative acceptance rate of family planning at the district level, followed by percent female participation. Other variables like percent s rfaced road, percent electrified villages, percent commercial crop and other economic variables had a lesser effect on the family planning performance at the district level.

This study indicates two significants trends:

- the acceptance of family planning is significantly high in districts with higher S.T. population.
- although comparable in economic status to the S.T.population, the existence of a higher Scheduled Caste population has

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not been a sifnificant variable on the performance of F.P. in such districts.

Prof. Jolly's study does not ventrue into the reasons for this higher performance of F.P. in the districts with a large population. Conventionally, some of the important factors for higher acceptance of F.P. in an area have been high female literancy, high economic status, effective health services and better infrastrictural facilities. Tribal areas lack all these factors to a major extent. Yet, tribal areas show a significantly higher family planning performance in comparision to other backward communities. What could be the reasons for this situation?

State Policy of Coercion - Various social marketing strategies have been used for the promotion of the F.P. programme. In tribal areas an important strategy is that of giving higher monetary incentives. The amount is almost doubled for tribals accepting terminal methods of F.P. Cash incentives exploit the economic need of the poor and thereby indirectly coerce them into accepting terminal methods without much choice and without any consideration to their specific F.P. needs. The economic deprivation combined with a higher one time monetary gain offered for sterlizations result in a double catch for tribal people from which they can hardly escape. In a study done by the Tribal Research Institute, Udaipur it was found that the tribals showed a greater willingness to accept family planning if higher incentives were given. In some states, the Government has blatantly linked the provision of employment in famine affected areas with adoption of sterlization. In a recently issued notification in Rajasthan which is a chronically drought prone state, the Government has declared additional employment generation programmes worth Rs. 10,000.00 to each village which has achieved its F.P. targets.

Tribal Economy- Tribal economy is generally a combination of settled agriculture, shifting agriculture, animal husbandary collection and marketing of forest produce. For tribals the forest continues to sustain them through loan periods. Fertility behaviour among poverty groups is largly determined by the necessity to have enough hands that can ensure the survival of the family as a unit especially in periods of searcity. For the Tribal communities inhabiting hilly and forested regions, the forest economy takes care of this aspect to a great extent. This probably affects the choice of family size. (However, with the changing forest policy of the Government and depleting forest resources, what turn the situation will take is a matter of speculation.)

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Social Organization : Historically, tribal communities have lived in isolated pockets and a culturally homogeneous evironment, The social structure inherently provides social and psychological security, irrespective of their relation with non-tribal communities. It is probable that they are thus saved from feeling the 'minority syndrome' which creates the desire to have more hands, and find security in numbers. Such a minority syndrome has are in minority to the dominant population.

Status of Women : Most tribal communities are known to have (aleast upto recent times) less discriminatory social structures for women. Living within hemegenous and a more or less self dependent economic system, the women work very hard and therefore are significant economic assets. The mean age at marriage for tribal women is higher (16.39 as compared to 15.39 for the general population). The sex ratic emong S.T. population is higher (983 as compared to 933 for total population). Further some tribal communities have matrilineal/materiarchal social structures. It is probable that such position of tribal women provides greater acceptance of F.P.

The above mentioned probable reasons for the higher F.P. acceptance can be classified into (1) these that are external - state imposed and (2) those which are internal to the tribals as an ethnic group.

Impact on tribal population :- If infact certain secial, cultural and ecnomic factors are somehow contributing to higher acceptance of F.P. among the tribal population, then the invasive, coercive state intervention in promoting mainly sterilizations of tribal men and women in the country can lead to serious implications for the existence of these ethnic groups in the long run. The Government of India hopes to achieve a target of 42% "effective couple protection rate" by the end of 7th five year plan. Being politically and economically weak, the tribals, having already higher acceptance of F.P. will mainly bear the brunt of this. If the present policy of monetary incentives and disincentives of the State continue in the present form, the tribal communities will be affected more than any one else. Even the present growth rate indicates that the tribal population is declining in proportion to the total population.

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In comparision to 1971 cansus, the 1981 census figures show this declining trend in some states. In Bihar the proportion of tribal population to the total population has declined from 8.75% to 8.31%; in M.P. from 23.56% to 22.97%; in U.P. from 0.22% to 0.21% In the predominately tribal distriects of Rajasthan too, this situation seems to hold true. In Chittorgarh district the percentage declined from 19.67% to 18.16% and in Banswara district from 72.93% to 72.63%.

However the proportion of the tribal population to the total population for the country as a whole seems to have gone up from 7.4% in 1971 to 7.76% in 1981, but these figures are misleading as they do not take into account the increased number of communities brought under thenetified list of S.T. during this interval. For example at the begining of sixth plan in 1980, thenumber of primitive tribes identified rose from 52 to 72 thus increasing the actual and proportionate tribal population in the country.

Although other factors such as high mortality could also be influencing this proportion, there is no doubt that the aggressive. F.P. operation will further accentuate this gap. This could result in a disequil ibrium in the population pattern to the disadvantage of the very community that is both anthropologically and econologically significant. At the moment tribals constitute only 7.4% of the total population. Therefore is it morally and ethically right to adopt such aggressive methods to reduce their numbers?

Conclusion: There is need to seriously reconsider the monetary incentive policy. If additional incentives are infact found to be an important factor for higher acceptance of F.P. in tribal communities, should they not be dispensed with? Also should the Government be allowed to use this inhuman practice of linking compulsive F.P. with provision of employment in scarcity situations like famine?

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5. District Census Handbook, Chittorgarh, Census of India 1981 (6) Provisional Population Tetals; Series 18 Rajasthan, Census of India 1981.

/Chavan./
Npn.

FAMILY PLANNING IN TRIBAL AREAS: SIMPLE ACCEPTANCE OR CORSION?

The planners of the family planning policy felt that the different segments of the Indian polity had accepted the family planning programme in verying propotion and thereby contributed differently to the ultimate outcome of the same. This was considered to be particularly applicable to backward and lower income communities i.e. scheduled caste and scheduled tribes, who it was believedhad a very low rate of family planning acceptance. HOWEVER, Several tribal districts in various states of India for example Bharuch in Gujarat, Gadchiroli in Maharashtra and Dungarpur and Banswara in Rajasthan have mostly ranked highest or second highest in achieving the family planning targets during the last few years. This paper attempts to examine the possible reasons for this phenomenon and its probable long term implications on tribal demography.

Family Planning Acceptance Higher in Tribal Areas :- A Statistical computation was done by Prof. K.G. Jolly to identify the various social and economic variables that explain differential performance in family planning programmes in all the districts of the states of Gujarat, M.P., Maharashtra and Rajasthan. These together contain 52% of the total tribal population of the country. The study based on figures mainly available before 1981 census considers several social and economic variables viz. general literacy rate, female literacy rarw, percentage scheduled caste population, percentage Scheduled Tribe population and ownership of land, agricultural productivity, male and female participation rates, surfaced roads, cropped area etc.

According to this study based on stepwise regression procedure for a combined social and economic variables and analysis, the third most important various affecting the cumulative acceptance rate of family planning at the district level is the percentage of scheduled tribe population. Percent literacy rate was found to be the most important variable influencing the cumulative acceptance rate of family planning at the district level, followed by percent female participation. Other variables like percent s rfaced road, percent electrified villages, percent commercial crop and other economic variables had a lesser effect on the family planning performance at the district level.

This study indicates two significants trends:

- the acceptance of family planning is significantly high in districts with higher S.T. population.
- although comparable in economic status to the S.T.population, the existence of a higher Scheduled Caste population has

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not been a sifnificant variable on the performance of F.P. in such districts.

Prof. Jolly's study does not ventrue into the reasons for this higher performance of F.P. in the districts with a large population. Conventionally, some of the important factors for higher acceptance of F.P. in an area have been high female literancy, high economic status, effective health services and better infrastrictural facilities. Tribal areas lack all these factors to a major extent. Yet, tribal areas show a significantly higher family planning performance in comparision to other backward communities. What could be the reasons for this situation?

State Policy of Coercion - Various social marketing strategies have been used for the promotion of the F.P. programme. In tribal areas an important strategy is that of giving higher monetary incentives. The amount is almost doubled for tribals accepting terminal methods of F.P. Cash incentives exploit the economic need of the poor and thereby indirectly coerce them into accepting terminal methods without much choice and without any consideration to their specific F.P. needs. The economic deprivation combined with a higher one time monetary gain offered for sterlizations result in a double catch for tribal people from which they can hardly escape. In a study done by the Tribal Research Institute, Udaipur it was found that the tribals showed a greater willingness to accept family planning if higher incentives were given. In some states, the Government has blatantly linked the provision of employment in famine affected areas with adoption of sterlization. In a recently issued notification in Rajasthan which is a chronically drought prone state, the Government has declared additional employment generation programmes worth Rs. 10,000.00 to each village which has achieved its F.P. targets.

Tribal Economy- Tribal economy is generally a combination of settled agriculture, shifting agriculture, animal husbandary collection and marketing of forest produce. For tribals the forest continues to sustain them through loan periods. Fertility behaviour among poverty groups is largly determined by the necessity to have enough hands that can ensure the survival of the family as a unit especially in periods of searcity. For the Tribal communities inhabiting hilly and forested regions, the forest economy takes care of this aspect to a great extent. This probably affects the choice of family size. (However, with the changing forest policy of the Government and depleting forest resources, what turn the situation will take is a matter of speculation.)

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Social Organization : Historically, tribal communities have lived in isolated pockets and a culturally homogeneous evironment, The social structure inherently provides social and psychological security, irrespective of their relation with non-tribal communities. It is probable that they are thus saved from feeling the 'minority syndrome' which creates the desire to have more hands, and find security in numbers. Such a minority syndrome has are in minority to the dominant population.

Status of Women : Most tribal communities are known to have (aleast upto recent times) less discriminatory social structures for women. Living within hemegenous and a more or less self dependent economic system, the women work very hard and therefore are significant economic assets. The mean age at marriage for tribal women is higher (16.39 as compared to 15.39 for the general population). The sex ratic emong S.T. population is higher (983 as compared to 933 for total population). Further some tribal communities have matrilineal/materiarchal social structures. It is probable that such position of tribal women provides greater acceptance of F.P.

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Conclusion: There is need to seriously reconsider the monetary incentive policy. If additional incentives are infact found to be an important factor for higher acceptance of F.P. in tribal communities, should they not be dispensed with? Also should the Government be allowed to use this inhuman practice of linking compulsive F.P. with provision of employment in scarcity situations like famine?

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POPULATION POLICY IN CHINA: THEORY AND PRACTICE

- Ilina Sen.

(Paper prepared for the M.F.C. Annual Meet January 1987)

As the world's most populous country (According to the 1982 Census China had 22.6% of the world's population - a total of 1,031,882,571 people (1)) China has been a focus of interest for statesmen, economists and demographers throughout the world. In particular, interest has centered around the way in which China after the revolution has coped with the combined legacies of a high population and an under developed economy ravaged by war and colonization. And for us in India, of very special interest has been the fact that China has faced these issues under a socialist state ideology, quite unlike our own post-colonial experience. However, it has not been easy to interpret population data from China. Throughout the late 1950s through the 1970s there was a lot of confusion and disagreement over the basic facts about China's population. The Chinese government did not publish statistics or policy documents, and the scraps of information picked up by (mainly Western) China watchers were often contradictory. It was only in the late '70s that documentation began to come out of China. This paper is based ~~is~~ mainly on this documentation although it draws in addition on analytical articles articles in population/Sinology journals.

Population policy in post-revolutionary China has a complex and tortuous history. Broadly speaking, population policies passed through the following major phases (2):-

a) FIRST PHASE 1949-52:- This was the immediate post-revolution-ary period. In general it may be said that the government was too busy restoring the wartorn economy and did not promulgate or even consider a clear-cut population policy. Nevertheless, there was a change in the pattern of population growth. In old China, population had been characterized by a high birth rate, a high death rate and a low rate of natural increase. In 1949, China had a birth rate of 36 per thousand, a death rate of 20 per thousand and a rate of natural increase of 16 per thousand. By 1952 however, the death rate had fallen to 17 per thousand, while the birth rate remained high at 37 per thousand. The rate of natural increase thus went up to 20 per thousand.

b) SECOND PHASE 1953-65:- In 1953, China embarked upon her first five-year plan. China's population had increased by nearly 61 millions over 1949 by 1954. As part of the theoretical debate then raging on national reconstruction Ma Yinchu put forward his "New Population Theory" in 1955. This document pointed out contradictions between excessive population growth and the improvement in living standards, and advocated " improving the quality of population and controlling its size." Very little evidence is available now about the actual implementation of this policy or of the kind of response it elicited in public life in China. We do however have records of the Chinese Women's Federation's letter to the Central Government in 1954(4) expressing their (i.e. women's) unwillingness to mother a great number of children. Liu Shaoqi is known to have covened a birth control foum in Dec. 1954 in which he declared that the Communist Party endorsed birth control and felt that it should be promoted and not opposed. In 1955 the government began to manufacture external use contraceptives and relaxed restrictions on induced abortions. In 1956 the health department launched a campaign to provide information on birth control and contraception. In the same year Zhou en lai in his report on the proposals for the 2nd 5-year plan at the 8th Congress of the C.P.C said that" to protect women and children and bring up..... our younger generation in a way conducive to the health and prosperity our nation, a certain measure of birth control is desirable." In 1957 Mao Zedong also appeared to favour birth control when he remarked (enlarged 3rd Plenary Session of the C.P.C.'s 8th Central Committee)" as far as procreation is concerned the human race has been in total anarchy and has failed to exercise control".

However, even during this second phase, a counter ideology in population theory existed, and towards the end of the period, denunciations of Ma Yinchu and others associated with a policy of birth control took place.

c) THIRD PHASE 1966-71:- This was the period when the so called leftist or socialist population theory gained predominance. The main arguements in this were as follows:

1. It was stated that people were not a liability but a strength. A socialist country did not fear population growth, on the contrary sought to prepare favourable conditions for it. More people would build socialism faster, by making it possible to create more accumulation through socialist labour and develop the socialist economy at greater speed.

2. All theories of population control were motivated by imperialist design and prompted by Malthusian ideas.

While between 1958 and 1965, it was possible to note the conflict of this ideology with one of birth control, after the cultural revolution began in 1966, the work of the state family planning agencies came to a total standstill. Their personnel were disbanded, and any mention of family planning became taboo. For example in 1962 the natural growth rate reached the 25 per thousand mark indicating that not much success was being had with FP. In the same year however, the state council was calling on various localities to promote FP, and as late as 1965, Chou en lai went on record to say that FP work was progressive.

d) FOURTH PHASE:- (From 1971 to the Present):

This period saw great political changes in China. The extreme 'left' line of the cultural revolution was completely given up, and social and economic policies that were much more moderate were introduced. Large scale implementation of a policy of birth control began once more to be encouraged, and far more rigorously than was ever done before. The resolution of the population problem was stated to be important for economic reconstruction, social development, and socialist modernization (5). In 1972, Hebei Province hosted a small national conference on Family Planning, in 1973, population targets were for the first time made part of national economic planning, and in 1974, Chairman Mao Zedong once more emphasized that population growth must be controlled. In 1978 the new constitution explicitly stipulated that 'the state advocates and encourages family planning.'

The new family planning policy lays down the specific requirements of 'Late, sparse and few', i.e. late marriage, few children and widely spaced out births. Marriage age was officially raised to 25 for men and 23 for women in the countryside and 26 for men and 24 for women in towns. At the third session of the fifth national Peoples' congress, in 1980, the State council put forth the call of only one child per couple and made the one child family compulsory for all State and party cadres. As a means of motivation of couples to adhere to the one child family norm, special incentives like extra work points in rural areas, additional benefits like preferential access to housing, extra rations have been in use.

To judge by results, China's new population policy has achieved what it set out to achieve, viz reduction in fertility levels. According to the result as of the 'One per thousand population fertility sampling survey' carried out in 1985,(6) the Total fertility rate (TFR) which was at the level of 5.4 in the 1940s fell to 2.6 in 1981. At the same time, 'ideological education' or propaganda has also gone on. For example, a people's Daily editorial in March 1982 reaffirms the nation's commitment to the one child family norm (7). This document is notable also for its strident tone, its advocacy of disincentives if positive incentives did not work, as well as for its strong emphasis on the eugenic goals of fertility control.

What methods have been most commonly used in China for birth control? From the table below, (8) it appears that the major stress has been on female mechanical contraceptives, notably IUDs, although male and female sterilizations have also been in use.

We can conclude this brief survey with a few general observations. From what has been said above, it is obvious that there has been in China since the success of the revolution, a conflict between two lines as far as population policy is concerned, and which line has predominated at a particular moment has depended on the larger ideological orientation of state policy. It is also apparent that Chinese

socialist theory has failed to work out clearly the relationship between population and resource base, having swung from one extreme to another. This is an area in which Marx's own writings are incomplete (9). Our last observation concerns the way in which the women's question has surfaced along with population policy in China. In the first period of pro FP policies in China, birth control was seen much more in the context of women's and children's health and also in the context of freeing women from a situation in which they were bonded to bearing children only. It must be remembered that this was also a period in which Chinese women made great strides in emerging in public life and throwing off feudal shackles. In the later, post 1971 period however, FP is seenmuch more as an issue of state planning. It is also a period of relative withdrawal from public life for Chinese women. The One child family norm has also reportedly led to an increase in female infanticides, patriarchal values and a desire for male children still being strong in the Chinese family and social structure.(10) To what extent Chinese population policy is more humane and equitable in spirit is an issue for debate and discussion, a discussion that it is hoped will be set in motion by this paper.

R E F E R E N C E S:

1. China: facts and figures. Foreign languages Press, Beijing, 1985. pp 237.
2. Liu Zheng, Soong Jian and others (eds) China's population: problems and prospects. New World Press Beijing, 1981.
3. Bianco, Lucien. La transition demographique en Chine populaire et en Taiwan. Revued 'etudes comparatives est-ouest. Juin 1985. pp 10.
4. Hou Wanruo. Population Policy. in Liu Zheng...op cit.
5. Liu Zheng. Population Planning and demographic theory. in Liu Zheng. .. op cit.
6. Vlass of, Carol. Recent fertility research in China. Econ. and Political Weekly. Sept 13, 1986. pp, 1659.
7. Chinese Population policy: a People's Daily editorial. Population and development Review. 8:3. Sept. 1982.
8. Zhang Lizhong. Birth control and late marriage. in Liu Zheng. op cit.
9. Mc clellan. D...

Table 15.

THE FOUR MAJOR METHODS OF BIRTH CONTROL 1971 - 1977.

Method of Contraception.	1971	1972	1973	1974	. 1975	1976	1977
I.U.D	6,172,889 (47.4%)	9,220,297 (51.7%)	13,949,569 (58.2%)	12,579,886 (59.1%)	16,743,693 (60.3%)	11,620,000 (51.9%)	12,974,000 (55.0%)
Vasectomy	1,223,480 (9.4%)	1,715,822 (9.6%)	1,933,210 (8.1%)	1,445,251 (6.8%)	2,652,653 (9.6%)	1,490,000 (6.7%)	2,616,000 (11.1%)
Tubal Ligation.	1,744.644 (13.4%)	2,087,160 (11.7%)	2,955,617 (12.4%)	2,275,741 (10.7%)	3,260,042 (11.8%)	2,700,000 (12.1%)	2,776,000 (11.8%)
Induced Abortion	3,910.110 (29.9%)	4,813.542 (27.0%)	5,110,405 (21.3%)	4,984,564 (23.4%)	5,084,260 (18.3%)	6,570,000 (29.3%)	5,229,000 (22.1%)
TOTAL*	13,051,123 (100%)	17,836,821 (100%)	23,948,801 (100%)	21,285,442 (100%)	27,740,648 (100%)	22,380,000 (100%)	23,595,000 (100%)

* If a person uses more than one method, it is reflected in the total.

Navan.

BIRTH CONTROL AND LATE MARRIAGE.

Medico friend circle - Annual Meet 1985

Back ground Paper II

CASE HOLDING AND PATIENT COMPLIANCE & MOTIVATION

MARIE D'SOUZA

In India today we see a situation of extreme poverty of the masses and one of the highest rates of Tuberculosis in the world. For every 1000 population there are 16 persons with active tuberculosis lesions, 4 of whom are infectious.(sputum positive)

Yet is is said that success in treatment of Tuberculosis depends on quality and duration of chemotherapy.

It is also established that hospitalisation, rest and special dietsare not needed in the majority of cases.

I will not consider here the fact that in developed countries the number of cases showed a decline when the standard of living improved. Nor will I dwell on the fact that the basic needs of food, water and health care are lacking for 80% of our population living in rural areas.

If success depends on quality and duration of chemotherapy then case-holding forms a very important part of TB contorl. 100% case-holding is however very difficult to attain.

The early sixties saw the evolution of the concept within the NTP of offering TB services as a part of comprehensive health care by the general services. This was done so that treatment centres could be nearer the houses of patients, who could take treatment without disrupting excessively their normal life. The belief that Tuberculosis is a problem of thickly populated cities and slums is a thing of the past. Pulmonary Tuberculosis is as prevalent in rural areas as in cities. And on the basis of distribution of population one can except 2 to 3 cases in each village, with a higher rate in tribal areas.

CASE FINDING

Tuberculosis is classified as one of the biggest health problems among our vast ill-served rural population. So case-finding in the rural areas needs to be established and it is here too that CASE-HOLDING has to be given importance so that the best benefit can be drawn from the available resources of men, money and materials.

To-day every PHI is supposed to have a "microscoping centre" . . . though there is a query as to how efficient they are where established. Baily says that each PHI should diagnose nearly 2000 bacillary cases in a year. This can be achieved by examining the sputum of all new patients attending with symptoms of chronic cough.

If the real aim of case-finding is treatment, then that of case-holding is completion of treatment, while the aim of treatment is both relief of suffering as well as closure of sources of infection. The NTP stresses on the latter. It is the depth of suffering which makes people report to health centres (felt need) as well as influences the regularity with which treatment is subsequently taken (though this statement has been questioned).

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Treatment efficiently administered and taken will relieve suffering and also have an epidemiological impact.

Efficient treatment requires free availabiligy of drugs, suitable drug regimens, freedom from toxic reactions, regularity of drug intake and adequate duration of treatment. This implies health services easily accessible, daily, with health personnel who are capable and able to deal with patients with sympathy and consideration.

Unfortunately threefourth of patients who have a felt-need are being denied opportunities of getting their suffering alleviated due to faulty diagnosis. In many instances the sputum of patients with chronic cough is not examined. And of the patients who are diagnosed as having Tuberculosis 70% are lost during the entire course of treatment.

A moderately infectious Tuberculosis patient is capable of infecting 10 to 12 individuals within a periods of one year. This patient untreated has a survival time of 2 years (it is capable of infecting 24 individuals) Again, this patient treated irregularly has his life span prolonged and the number of people he infects keeps multiplying.

In terms of human suffering, the loss caused by TB is incalculable for the individual patient himself - physical, psychological, social, material and for his family too. Economically TB accounts for an estimated loss to the nation of Rs.1000 crores in man hours.

All this should make us realise the urgency of "Case - Holding"

NATIONAL TUBERCULOSIS PROGRAMME

A step in this direction was taken when the NTP brought treatment centres closer to patients homes. Further in order to ensure regular and adequate drug intake by patients for a period of atleast 12 months, a treatment organisation with limited supervision and machinery for defaulter retrieval has been provided. The main objective is detection of a maximum number of tuberculosis patients, specially sputum positive, and efficient treatment.

Here follows a synopsis of the programme

1. Every person reporting to the PHI with cough of more than 2 weeks duration is requested to give his sputum for examination. If sputum positive, treatment is started on the same day.

   Every MPW is required to collect the sputum of eligible symptomatics (i.e. cough, fever or chest pain of more than 2 weeks or haemoptysis) prepare the smear and referal slip and hand it over to the PHI. The sputum positive cases are refered back to the MPW who is required to bring the patients to the PHI for check-up. The M.O. also communicated directly by post with sputum positive patients.

2. The sputum negative patients who are suspects are sent to the nearest Government Health Institute with facilities for X-ray/ MMR/ Screening.

3. NTP has 5 drug regimens R_1 to R_5 for sputum positive patients. Those who are sputum negative are treated with R_1. Drugs are supplied free of cost.

4. At initiation of treatment the patient is motivated by the M.O. and health visitor in the clinic with emphasis on completion of treatment. Repeat motivation is done at each collection every month.

5. If the patient does not collect the drug within 2 days of the appointed date, a postal reminder is sent and if there is no response for 7 days, then home visits and fresh motivation about importance of regular treatment is given.

6. There is an effective "transfer " system which enables any patient to receive treatment from any peripheral centre convenient to him.

7. A new patient put on treatment becomes eligible for first follow-up exam and sputum exam at 6 months. X-Ray exam is optional. Second follow-up exam is due after 12 months when both X-Ray and sputum exam can be ordered.

Default:

The above is what the NTP requires. Whether these requirements are achieved is the big question. And achievements vary from state to state. From reports it appears that the NTP functions very poorly in the north of the country, a little better in the south.

It is not surprising that as a result there is a very high defaulter rate - 70% of patients diagonosed as having Tuberculosis.

Banerji defines 'defaulter' as one whose actions even after being provided "optimal" services go against his own welfare or against the welfare of the community or both.

In this sense there are very few patinet defaulters because the major impediments to acceptance of NTP appear to be organisational, managerial and technical rather than behavioural factors or short comings in motivation of patients. Therefore there are more organisation defualters.

This is proved by the many instances where recommendations laid down by NTP are not carried out.

Very often patients are not told the result of the sputum exam on the same day. A study has shown that 11% positive causes do not return to learn the result of their exam. Why should they? Since no indication or motivation is given and the drugs

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given for their cough have not been effective. After all patients are not worried about TB bacilli in sputum. They are worried about fever, cough, chest pain, anorexia, loss of weight, children starving, loss of sexual potency, etc. They expect to be cured quickly and so decide to go elsewhere for "better" treatment.

In fact it has been shown that 52% of infectious Tuberculosis patients seek medical help of their own accord and of these 90% are sent away with cough syrups and tonics.

It tells badly for the health professionals who are not properly trained/motivated. Add to this the fact that many of them resort to private practice or corruption. Why should any patient have confidence in them? The same can be said of para-medical personnel, inadequately motivated, trained and utilised, mal-functioning or lacking (eg. lab technician) Lack of proper supportive supervision, as opposed to inspection, adds to the problem.

Lack of communication on the part of organisational personnel leads to misunderstandings,. This is further heightened by rudeness and results in default., specially so among the poor who are the larger number and yet are pushed aside while preference is given to the middle class;:

Often a patients arrive at the PHI to find it closed - either the doctor is away for a meeting so the rest of the staff also take a holiday, public holidays are suddenly declared on the radio, a camp is organised and all the staff are involved / no one attending to the general health services, much less to Tuberculosis patients.

Drug regimens are prescribed but no health education or motivation is given in many instances. Patients are asked to return after a week or two because the drugs are exhausted. When they do return they find that the colour and form and even the number of the tablets has changed (eg. INH 100 mg 3 tabs. changed to INH 300 mg 1 tab) No explanation is given and literate as well as illiterate patients are not sure whether their drugs have been given correctly. They dare not question the health personnel and often consume the wrong dosage.

Not all the fault lies with the PHI. They are ~~informed~~ influenced by decisions from above. Highest priority is given to Family Welfare Programs, with ample funds and monetary inducements to promoters etc. Though on the 20- Point Programme, low priority is given to TB.

Drug manufacturers have their part to play too in default. There is not much margin of profit in the production of first line drugs and only one third of the required quota is manufactured. While second line drugs, not included in the NTP, are available easily on the market. Add to this the wrong prescribing habits within the country by private practitioners systematically adding tonics and other fanciful tablets, as also free sale of TB drugs by chemists without prescription. How is a patient to judge whether 2 or 3 kinds of tablets given at the PHI are enough to cure him of his disease when his neighbour takes 5 or 6 kinds, wrapped in silver foil, prescribed by a private practitioner.

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All the above adds up to organizational default. Is it surprising then that there is lack of patient complinance and motivation?

This leaves just a few instances of patient "default". Though, can he be said to "Default" when he is not provided with 'optimal' services?

Studies show that drop-outs are maximum within the first 3 months of treatment irrespective of the type of regimen the patient is on. However a large proportion of these drop-outs resort to subsequent treatment either immediately or after some time either at the same PHI or at other health institutions public or private. Studies also show that relief of symptoms, as commonly believed, was not a cause of default.

Distance of patients home from the treatment centre exerts a continuous process of selection. Patients living more than 5 Kms. from treatment centres take treatment irregularly. Add to this the monsoons when travel is difficult as bus services are stopped and even walking on mud roads requires an effort. Emigration in search of work is another cause of default.

Poverty has a large part to play. How is patient to pay for bus fare, corrupt practice, X-Rays etc. when he draws no income because of his inability to work.

CASE-HOLDING

Improvement in case-holding demands that technical and organisational methodology of case-holding will have to be improved, and methods of preventing default, specially organisational, must be intensified. For with proper organisation case-holding could increase by 40%.

Studies have shown that there is a positive interaction between good organisation, low default rate and effective treatment, each supporting the other. In 1983 the Government of India launched the new National Health Policy in co-ordination with the new 20-Point Programme of which Point 14 says "substantially augment universal primary health care facilities and control of Leprosy, TB and blindness".

Government funds need also to be provided (as in the NFPP) to "motivate" professional and para-medical health personnel. For example, CHVs and MPWs bringing sputum positive patients to PHIs could be "rewarded". While patients themselves who complete treatment could be given a gift.

Government has the money to spend on research and treatment of Ischaemic Heart Disease Cancer, Diabetes, Chronic Renal Failure, as also CHOGM, Asian Games etc. so why not on treatment of TB?

Health personnel, in general, definitely need better orientation, and up-dating as regards TB treatment. The para-medical workers also need

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clear job descriptions, training, proper action-oriented supervision (not fear oriented inspection)., technical and administrative supports with authority to remove impediments so that the program functions smoothly and effectively.

In this respect medical students and interns too need intensive input as regards TB treatment and human relations.

Clean, accessible PHI with a welcoming kind staff who are punctual, conscientious and knowledgeable will ensure the whole-hearted co-operation of patients till successful termination of treatment. Patients convenience and not that of the staff is what matters most.

There should be no question of shortage of drugs, if Government take suitable action the number of patients to be treated should be calculated realistically at PHI and DTC so that purchases are made for one full year. Standardisation of regimens helps ensure permanent availability., as also proper provision of drugs. Preferably the colour and form ... should remain unchanged, and if changed a clear explanation should be given to the patient. One institution has a drug tray for display and instruction. An effective regimen is one that is acceptable to the patient and does not interfere with his family and social life. Therefore technical instruction need to be laid down and means taken in order to monitor efficacy of treatment. This includes also interruption or change of treatment, detection and correction of undesirable effects.

It cannot be stressed enough that the right type of chemotherapy and right type of organisation for delivery near patients homes have emerged as key factors in case-holding.

At the very first visit proper history taking, physical check-up (including weight) health education and motivation is needed. The message provided to the patients must be understood in order to be remembered and acted upon. It should also be make clear to the patient that he needs to take treatment for atleast one year to be cured of TB. Not the least is nothing down his full address or giving him an address card to be filled in by the post man or literate person in his village. This will help in tracing the patient if he defaults.

Action taken at first default is crucial for case-holding. It generally occurs at the second collection. A patient contacted within 7 days of first default will generally be regular thereafter. Relatives, friends and acquaintances at work should also be contacted, health education given and motivated to encourage the patient to be regular. MPWs on their monthly visits to the village should contact patient, spouse, elder brother, sister and community to impart health education. This should be systematic, repeated and integrated with other health activities. The family members can definitely influence the patients decision to continue treatment, so they too should be informed about the number of tabs. to be taken, frequency of visits to the PHI, progress of disease, etc.

Patients support each other in taking treatment. So meetings could be held of patients in each village, where common problems could be discussed, misunderstandings cleared and difficulties solved where possible. They also help to remind each other of visits due to the PHI besides supporting each other in cases of corrupt practice by health personnel or getting their rightful demands met. This has been my experience in one village.

Studies need to be conducted to improve community participation in TB control.

One factor which promotes patient compliance and motivation is sputum examination done periodically. In one study where sputum exam was done on 3rd 6th and 9th month after initiation of treatment, drug collection went up in the period immediately following it. A physical check-up with weight taking at every drug collection each month would also probably help. At present, in many instances the patient is just sent to the dispensing window-where he is merely told "Come again next month". Is this enough motivation?

In case of patients sent for X-Ray exam., proper instruction to reach the Health Institution, person to contact, fee to be paid, etc. should be clearly given. The Referral Centre should also make clear to the patient that he is being referred back to the referring centre, presumably more convenient, for treatment. In case of transfer to another PHI, more convenient for the patient, he should be similarly clearly informed of the person to contact at the transferred address.

OUR ROLE

What role can we of MFC and the Voluntary Health Sector play in Case-Holding? There are some that feel that the Government HI cannot handle the TB control program alone, NGOs and other have to pool in.

As long as NGOs are treating middle class and rich patients their pooling in will certainly help. They should follow the guide-lines laid down by the NTP as . . . . which are good as sputum positive patients are concerned. In the case of sputum negative patients it would be well to remember that X-Ray alone is not enough to confirm diagnosis of TB. Studies have shown that defaulters among these "cases" based on radiological findings is very high and that they need strong and more effective motivation. Also as many as 98% of sputum negative so called X-Ray positive cases continued to be sputum negative after 3 years.

The question arises when treating poor patients. Should they be refused treatment by NGOs? . . . . specially when they profess to be meant for the poor? Financially they would go under, I think, if they give free treatment to the poor. On the other hand the poor cannot afford the whole course of treatment and would soon become defaulters . . . . . with eventual increase in suffering. One solution could be a closer relationship with the NTP, which through the DTC Centre, is willing to supply free drugs on fulfillment of certain conditions.

Another solution is to make sure that poor patients really make use of the PHI services. They have a right to free treatment and we could help them get it. One way to do so that we, at Janseva, have found helpful is a slide show on TB which, besides emphasising completion of treatment also informs the community on the different steps TB suspects will have to go through for diagnosis eg. sputum exam., possible X-Ray, the form, filled in by the doctor, they will have totake to the referral centre, and bring back filled in, signed and stamped, and eventually, free treatment.

When some patients were asked a fee at collection of drugs - they refused to pay saying 'we are from Janseva' they were never pestered again.

The same slide show helped motivation . . . and yet we had patients defaulting in spite of home visits by us.

We should realise that even the most refined advertisemental techniques using deep motivation, subliminal perception, etc. have never claimed 100% success. Personally, I feel that we of MFC and others in the Voluntary Sector should being pressure on the Government., so that sufficient funds are provided to carry out effectively the National tuberculosis Programme. This would mean an increase in work load 3 times the present, and hence increase in personnel, with proper training, etc.

Above all, pressure has to be brought on the Government to in turn pressurise the Drug Manufacturers into producing the necessary quota of first live drugs based on a realistic calculation of the number of patients to be treated.

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REFERENCES:

Anderson S. & Banerji.D. (1963) Bull.Wld Hlth Org. 29, 685 - 700

Nagpaul.D.R. Ind. J. Tub., Vol. XIV, No.4

Banerji D. (Apr 1969) Proceedings of XXth International Tub. Conference

Nagpaul D.R., Vishwanath M.K. & Dwarakanath G.(1970) Bull. Wld. Hlth Org. 43, 17-34

Baily G.V.J., Samuel G.E.R. & Nagpaul D.R. Ind. J. Tub., Vol. XXI, No.3

Nagpaul D.R. (Jul.1978) Jour. I.M.A. Vol. 71, No.2 pp44-48

Aneja K.S. & Srikantan K. (1980) NTI newsletter 17, 78

Banerji D. (1981) NTI Newsletter 18, 50

Aneja K.S. (1982) NTI Newsletter 19, 58

Baily G.V.J. (APr.1983) Ind. J. Tub., vol.XXX.No.2

Chaulet P. WHO/TB/83.141

Banerji D. (Apr. 1984) Background Document for VHAI meet

Sen Binayak: National Tuberculosis Program: some problems and issues

Shiva Mira: Towards Rational TB Care - a continuing Committment

CMC Ludhiana: An approach to TB care

Seetha M.A. of NTI : VHAI D-10. 344/MS-cb/10.383

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Background Paper-II

XIII ANNUAL MEET OF MEDICO FRIEND CIRCLE

FINANCING FAMILY PLANNING

- Ravi Duggal.

Population control under the guise of Family Planning began in India with planned development. India prides itself as being the first free nation in adopting an official population (Control) policy.

The importance accorded to population control in India's planning process is seen in the fact that each subsequent 5 year plan has witnessed an increased and a more organised effort in averting births, culminating in violent coercian during the 'emergency' and subtler forms of coercion presently.

Further, though family planning is part of the health sector (a state subject) it is under the 'jurisdiction' of the central government and consequently funded almost entirely by the centre. Also, family planning is largely supported through 'plan-expenditures' - this means development funds that are mostly generated through debts.

Each 5 year Plan in its turn has never failed to comment that India's development or growth has been the best possible with the given resources but uncontrolled population growth has always been the stumbling block. Thus, each 5 years Plan raises allocations to Family Planning in the hope that the fruits of development are not eaten away by unchecked population growth! However, it must be noted, that the pressure to raise FP allocation is not only internal economic constraints but to a large extent pressures from international private, multilateral and bilateral agencies.

Contd...2...

T A B L E -1

PLAN ALLOCATION AND EXPENDITURE

(Rupees Million)

	Plan Allocation.	Plan Expenditure.	%FP Expenditure of FP Allocation	Proportion FP Expenditure of total Plan allocations (Percents)
FIRST PLAN 1951-56	6.5	1.45	22	•.005
SECOND PLAN 1956-61	50	22	44	0.05
THIRD PLAN 1961-66	270	249	92	0.29
3 ANNUAL PLANS 1966-69	829	705	85	1.•6
FOURTH PLAN 1969-74	2858	2844	99	1.80
FIFTH PLAN 1974-79	3974	5166	130	1.31
ANNUAL PLAN 1979-80	1162	1185	102	0.97
SIXTH PLAN 1980.85	10100	13952	138	1.43
SEVENTH PLAN 1985-90	32563	--	--	1.81

Source: Complied from GOI, 1985.

Plan Expenditures

It is clear from the above table that allocation and expenditure for family planning has increased at a phenomenal rate from the 1st to the 7th Five Year Plan periods. The increase between these 7 Plans has been 5010 fold for FP whereas the total Plan allocations increased only 92-fold -it may be noted that Plan allocation to the health sector has increased only 52-fold.

Further, the table reveals that until the Fifth five Year Plan, expenditure on FP was less then what was allocated but during the 5th Plan (the Emergency Period) for the first time Plan expenditure outstripped allocation (by 30%) In the 6th Plan expenditure was 38% excess of what was allocated for F.P.

Contd...3....

The first 5 Year Plan had an insignificant allocation of 65 lakhs and only 22% of it was utilised - this too to set up a family planning cell in the Planning and Development section of the Directorate General of Health Services. The Second Plan witnessed a 15-fold increase. The two significant developments during this period were substantial foreign funding, mostly private, being made available for FP, and experimental trials of oral pills and methods of sterilisation. In the first two Plan periods birth control promotion was mostly done by voluntary organisations under the aegis of FPAI which received funds mainly from IPPF, Population Council and the FPA of Britain. It was only during the third plan that government agencies began to actively participate in pushing population control. It was at the end of the third plan that Family Planning became an independant department. The camp approach was tried out for the first time under the advice of the Ford Foundation. In this period Rs 25 crores was spent accomplishing 1.4 million sterilisations (78% vasectomies) and the camp approach got established. The end of the third plan saw a massive economic and political crisis emerge, especially the contradictions of the green revolution and the naxalite movements. Planning was dropped but FP expenditure witnessed a major leap to over Rs.70 crores in the three years of the 'Plan Holiday'. Also the number of sterilisations sky-rocketed to 4.4 millions (or 1.46 million a year in comparison to 1.4 million in 5 years of the 3rd Plan).

The Fourth, fifth and sixth plans were pumped with a volume of funding for FP that no other development programme of the government has matched. Totally Rs. 2315 crores was spent (Plan expenditure) in these three plans on FP and the achievement too was phenomenal - 43 million sterilisations and 12 million IUDs. By the end of the Sixth Plan, with over 68 million births averted since inception of the F.P. programme, demographers have estimated that the population growth rate for the first time was shown a downward trend. Encouraged by this the plan outlay (revised) for the Seventh Five Year Plan (1985-90) was bolstered to a phenomenal Rs 3500 crores, for the first time F.P. getting a plan allocation more than the health sector.

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Foreign assistance too has been a substantial proportion of F.P. plan expenditure. Table 2 indicates only bilateral and multilateral assistance for F.P.

T A B L E- 2

Bilateral and multilateral Foreign Assistance for F.P.

(Rs Crores)

Year	Rs in crores
1972 - 73	7.35
1973- 74	5.63
1974 - 75	7.78
1975 - 76	11.77
1976 - 77	13.27
1977 - 78	20.01
1978 - 79	24.48
1979 - 80	29.08
1980 - 81	12.79
1981 - 82	25.04
1982- 83	53.65
1983 - 84	44.21
1985 - 85	62.89

Source: Same as Table 1 and GOI, 1981.

For the Fifth and Sixth Plan periods foreign assistance accounted for 19.45% and 19.66% of the Plan outlays, respectively.

Details of private foreign assistance in not available but it is clear that upto the 3rd Five Year Plan foreign assistance for F.P. in India came mostly form international private Foundations such as Ford, Rockefeller, IPPF, Population Council, FPA's, Pathfinder Fund, Hugh Moore Fund etc. However by mid-sixties bilateral and multilateral agencies had made their entry, becoming significant funders for F.P. in India from the IV -Five Year Plan onwards.

More than the proportion of foreign funds in India's F.P. programs it is the policy influences that are more significant. India's population control strategy changed its content in keeping with influences exerted on it's policy makers by the foreign funding agencies. (See Appendix I which details the Area Projects that foreign agencies are directly implementing).

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Disaggregated F.P. Expenditure

The major thrust to the F.P. programme towards a target oriented camp approach began in 1966. It was in this year that 'Family Planning' was elevated to the status of a 'department' under the Ministry of Health and Family Planning. Table 3 gives year wise expenditure on Family Planning alongwith number of sterilisations and IUDs 'accomplished' in that year.

T A B L E - 3

FP Expenditure and 'Achievement'

YEAR	FP EXPENDITURE (Rs. crores)	EXPENDITURE PLAN-PERIOD (Rs. crores)	STERILISATION (Lakhs)	IUDS (Lakhs)
1966-67	13.4	Plan Holiday: 70.4	8.9	9.1
1967- 68	26.5		18.4	6.7
1968.69	30.5		16.6	4.8
1969-70	36.2	4th Plan: 284.5	14.2	4.6
1970-71	48.9		13.3	4.8
1971-72	61.8		21.9	4.9
1972-73	79.75		31.2	3.6
1973-74	57.85		9.4	3.7
1974-75	68.60	5th Plan: 538-2	13.5	4.3
1975-76	89.40		26.7	6.1
1976-77	172.80		82.6	5.8
1977-78	97.00		9.5	3.3
1978-79	110.40		14.8	5.5
1979-80	121.89	Annual Plan. 121.8	17.8	6.3
1980-81	146-40	6th Plan: 1626.2	20.5	6.3
1981-82	192.00		27.9	7.5
1982-83	294-60		39.8	11.0
1983-84	438-80		45.3	21.3
1984-85	554-20		40.8	25.6
1985-86*	546.20		NA	NA
1986-87*	579.30		NA	NA

*Allocations only.

Source: Some as Table-2 and Performance Budget 1986-87 of MHFW, GOI, New Delhi 1986.

The difference between the Plan -period expenditures in Table-1 and 3 are due to additional expenditures incurred by the states apart from the centrally sponsored programme. This is mainly due to the states enhancing the amounts of compensation to be paid from its own resources.

Contd.....6...

It may be noted that the expenditures indicated in Table 3 exclude FP expenditure by other ministries and departments, public sector undertakings, municipal corporations and panchayati raj institutions, private organisations and voluntary agencies. The expenditure incurred by these organisations are substantial but the amounts of expenditure are not easily available.

For instance, in 1984-85, the defense ministry allocated Rs 13.5 million on FP, the railways Rs 16.6 million and the Ministry of Labour Rs.4 million. (GOI,1985): Source of Table -1.)

Further it also needs to be emphasised that the health sector resources are largely at the disposal, especially at the PHC level, of the F.P. dept. Ask any PHC doctor, paramedic or other health worker and they will tell you that between 80% and 90% of their time is spent on F.P. work! Also school reachers, petty bureaucrats and other officials spend a substantial proportion of their time on meeting the targets of the F.P. program, this largely due to pressures from the top. These are also resources spent on Family Planning and are never accounted in F.P. expenditure!

What is the expenditure for Family Planning spent on? Table 4 gives the break-up for the V and VI 5 year Plans.

T A B L E -4

Disaggregated F.P. Expenditures

Item of Expenditure	5th Plan(1974-75 to 1978-79)		6th Plan(1980-81 to 1984-85	
	Allocation	Expenditure	Allocation	Expenditure
1. FP Services & supplies(Includes Compensation)	419.42	437.09	687.70	1023.13
2. Training	13.07	16.92	32.80	9.99
3. Mass Education	13.13	13.42	32.00	34.98
4. Research & Evaluation	9.03	7.06	11.50	11.77
5. MCH Services	8.57	7.34	250.30	182.87
6. Organisation	9.41	11.11	19.50	25.54
7. IPP	24.74	23.60	0.20	0.73
8. VHGs	--	--	--	106.11
TOTAL	497.36	516.54	1010.00	1395.12

Source: Some as Table-2.

Contd...7...

The above table clearly shows where the focus of the so called Family Welfare programme lies. In both the V and VI Plan periods 'FP services and supplies' was the single largest expenditure accounting for 84.6% and 73.3% of the expenditure, respectively. In the V plan period expenditure on FP services exceeded allocation by 4% but in the sixth plan the excess expenditure was a phenomenal 48%, out stripping the entire FP plan allocation. In both the plan periods expenditure on MCH services under which F.P. was to be integrated, was not only a measly amount but was also underspent. In the 5th plan expenditure on MCH services constituted only 1.4% of the Family Welfare expenditure, and was underspent by 15%. In the VI plan the expenditure was aised to 13% (that too because of the incorporation of EPI program) but it was again grossly underspent by 27%!

Greater details of expenditure are only available at the state level, The following Tables (5 and 5a) give details of expenditure on Family Welfare programs for Maharashtra State. It is clear from the Tables that MCH is a very small proportion of expenditure under 'family welfare'. The two years, 1977-78 and 1984-85 both record only 5% expenditure for MCH services. This inspite of the fact that after 1978 EPI was added on to the MCH program.

Table - 5 Maharashtra State
Major Heads of F.P. Expenditure (actuals)

(Rupees Lakhs)

Program	1977-78	1984-85
1. Direction & Administrator	49.99	1117.96
2. Rural FW Centres	261.89	737.25
3. Urban FW Centres.	12.21	105.28
4. MCH Services.	31.94	241.30
5. Transport	14.83	38.57
6. Compensation.	159.04	1600.31
7. Other Services & supplies	50.63	335.19
8. Mass education	4.21	--
9. Training, Research & Statistics	34.34	148.39
10. Other Expenditure	16.78	104.12
Total	635.86	4428.37

(Source: Govt. Maharashtra, 1981, 1985, 1986.)

Contd..8...

Table 5a Maharashtra State

Administrative break-up of F.P. Expenditure (1983-84 actuals)

Expenditure Category	(Rupees Lakhs)	
1. Direction and Administration		
a) Salaries	327.96	
b) Travel & Vehicle	39.21	
c) Office Expenses.	50.50	
d) Materials & supplies	348.17	
e) Other.	178.46	944.3
2. Program Components*		
a) Salaries	808.69	
b) Travel & Vehicle	104.20	
c) Office expenses.	65.04	
d) Materials & supplies	515.61	
e) Other	171.68	
f) Compensation paid	1740.43	3405.35
3. Grant in Aid.	354.49	354.49
4. Other.		
a) Salary	93.05	
b) Other	463.97	557.02
		5261.16

(*includes USAID & CHG component of Rs.866.35 Lakhs)

Source: Same as Table-5.

Further, table 5 also shows reverse for other program heads. Direction and administration that accounted for only 8% of the expenditure in 1977-78 skyrocketed to 25%. This increase was largely due to a much lower proportion of expenditure on rural family welfare centres which got reduced from 41% to 17% of family planning expenditure. It may be noted that this does not mean a decline in F.P. services in rural areas because under the 6th Plan the rural health sector was greatly expanded and a substantial proportion of this infrastructure is used for family planning, therefore the decline in proportion of rural FW expenditure.

Compensations paid to acceptors, motivators and doctors increased to 36% of FW expenditure in 1984-85 from 25% in 1977-78. This is indicative of greater pressure being exerted by providing larger monetary incentives. Two-thirds of the compensation in 1984-85 was paid to acceptors of sterilisation and IUDs.

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Table 5a gives the administrative break up of FP expenditure for 1983-84 revealing that compensation constitutes the single largest category of expenditure grossing 33% followed by salaries (23%) and material and supplies (16%). The program component, excluding compensations, accounts for 36% of the expenditure, and direction and administration 18%.

As indicated earlier states in recent years have started spending on FP beyond what the centre allocates them. This is more so true of Maharashtra which has been in the forefront of target achievement. The table below shows this difference.

T A B L E -6

(Rs lakhs)

	Central Assistance received	Expenditure incurred	% Excess of Central expenditure
Fifth Plan (1974-79)	3725.32	4232.86	14
Annual Plan (1979.80)	722.90	1250.13	73
Sixth Plan(1980-85)	10897-39	14588.82	34

Source: Government of Maharashtra, 1986.

The excess expenditure incurred by the state comes from its own resources. The increase in excess expenditure from 14% of the central allocation in the V plan to 34% in the VI Plan is indicative of mobilising extra resources to push with greater vigor the targets of FP.

The MCH component in the family Welfare expenditure, as indicated earlier, accounted for only 5% of the total FW expenditure - the rest was on family planning. MCH component includes largely immunisation of children and mothers. It has three sub-components (a) Immunisation of infant and pre-school children with DPT and immunisation of expectant mothers against tetanus (b) Prophylaxis against nutritional anaemia for mothers and children and (c) nutritional program for control of blindness. Expenditure for Maharashtra State incurred in 1977-78 and 1984-85 on the MCH is given below.

Political Economy of MCH and Child Survival

The primary health care structure that India has built very gradually for its rural masses has the subcentre as the basic health extention unit. Realising that women and children are the most vulnerable groups to disease and disability, the subcentre was organised as a unit to tackle this basic issue. As a consequence ANMs were placed at these subcentres

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T A B L E -7

MCH Expenditure under FW (Rs. Lakhs)

	1977-78	1984-85
1) Immunisation against DPT of expectant mothers against tetanus.	21.15	194.47
2) Prophylaxis against nutritional anaemia	8.89	46.83
3) Nutritional program for control of blindness.	1.90	--
	31.94	241.30

Source: Same as Table-5.

and were given the responsibility for the health care of women and children. By the III 5 year Plan the ANM- subcentre health scheme was in the 'take-off stage' but got grounded because population growth appeared to be a larger threat, and therefore, henceforth, ANMs were to be utilised for pedalling targets of the family planning program. This was done under the guise of integrating FP with MCH. But the end result was that MCH became a mere tail of the F.P, program.

Why did this happen? At the end of the III five year plan (1966) IUD (the loop) was out of its experimental stage and ready for a massive launch. Women workers, as a consequence, were required to push this new device and ANMs were the obvious choice.

There were two reasons for pushing the IUDs. Firstly, it was relised that sterilisation, being a terminal method, was largely being resorted to by people who already had a completed family size (no.of children) of four or more, therefore there was an urgent need to push a spacing method that would not only reduce fertility but also in the long run assure a samaller family size. Also until then sterilisation had been largely a 'male-method' and there was need to involve women in the family planning programs so as to make it broadbased.

Secondly, in 1966 a United Nations Advisory Mission very strongly recommended that population growth must be curbed immediately and for this the resources of the health sector were to be used. 'The Directorate (of Family Planning)

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should be relieved from other responsibilities such as material and child health and nutrition. It is undoubtedly important for family planning to be integrated (it had been integrated with MCH in 1963) with maternal and child health in the field, particularly in view of the 'loop' program, but until the family planning campaign has picked up momentum and made real progress in the states, the Director - General concerned should be responsible for family planning only! This recommendation is reinforced by the fear that the program may be otherwise used in some states to expand the much needed and neglected material and child welfare services' (U.N.'Advisory Mission, (1966.)' Report on the Family Planning

Taking the cue the Indian government for the first time evolved a target oriented approach for sterilisation and IUD programs. Resources were considerably enhanced (Plan Holiday period) and in the first yearof it's implementation the 'loop' program netted a phenomenal 8.13 lakh acceptors (much more than sterlisations which had started 10 years before it). At the same time tubectomy acceptors also increased gradually and women increasingly became victims of this target practise..

As indicated earlier the target approach became increasingly vigorous, and inspite of the experience of the emergency, it has stayed - only the target has shifted from men to women. Also coercion of health workers to fulfil targets has become the via media of coercing the people.

In the 1974 Bucharest Population conference the third world countries banded together and emphasised that the limited available resources should be chanellised to economic development programmes, especially rural development - and that this in itself would be the best contraceptive. Though India took the lead in propagating this line of thinking it was the first country to use brutalised coercion in getting acceptors for the FP programme within a year of the Bucharest conference.

However, international F.P. funding agencies (post-Bucharest) began to review the F.P. programmes in the third world and realised that inspite of substantial allocation of resources directly for F.P. activities the results were very

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poor as population growth had not taken the expected plunge.

The World Bank in its review of population growth, in the mid seventies, rejected the earlier hypothesis that better health necessarily results in accelerated population growth. Instead an alternative hypothesis, as a result of the Bucharest conference, received empirical support - that high rates of infant and child mortality motivate high birth rates (world Bank, 1980).

Thus, a new direction to population policy was evolved and 'child survival' became the new focus of attention for the population control proponents. Therefore, international agencies began directing their resources increasingly to MCH and child survival programs. The Area Projects in India (See Appendix I) are the best example of this new approach which is in currency today. Break up of resource allocation for these projects is not available but in all the projects it is very clear that antenatal care and child immunisation has top priority. The current national campaign of universal child immunisation in collaboration with UNICEF is a good indicator that MCH and child survival are going to become prime areas of investments for Family Planning.

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REFERENCES

1. Govt. of India: Year Book 1977-80 Ministry of Health and Family Welfare,(MHFW) New Delhi, 1981.
2. Govt. of India: Year Book 1984-85, MHFW, New Delhi-1985.
3. Govt. of India: Performance Budget 1986-87 of MHFW, New Delhi- 1986.
4. Govt.of Maharashtra: Performance Budget of 1979-80 of MHFW, Aurangabad, 1981.
5. Govt. of Maharashtra: Performance Budget 1985-86 of MHFW, Aurangabad, 1985.
6. Govt. of Maharashtra: Performance Budget 1986-87 of MHFW, Aurangabad, 1986.
7. U.N.Advisory Mission: Report on the Family Planning Programme in India, New York, 1966.
8. World Bank: Health Problems and Policies in the developing Countries - world Bank Staff working Paper No.412 by frederick Golladay, world Bank Washington 1980).

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APPENDIX-I :(Extracts -~~13~~- from Govt.of ~~x~~India 1985)

AREA PROJECTS :

To give a fill-up to the National Family Welfare Programme particularly in the backward areas of the country districts in 15 States (as detailed at next page) have been taken up for intensive development of health and family welfare infrastructure and expansion and upgradation of services in five Area Projects with partial assistance from DANIDA, ODA (U.K.) UNFPA, USAID and World Bank. These projects are designed to increase and strengthen in about five years, facilities and manpower for delivery of Health and Family Welfare Services in an integrated manner to reach a level that over a longer period will ultimately be reached in the entire country. The objectives of these projectsare reduction of fertility and reduction of material and child mortality.

This will be achieved by:-

i) Expanding the Health Care delivery system both ~~xwxxx~~ quantitatively and qualitatively by providing one Health Guide and one trained Dai in every village (1000 population). One sub-centre will be provided for every 5,000 population and will be manned by one male and one female MPW. For every four male and female workers, there will be one male supervisor and one female supervisor under this project. Additional manpower will be given basic

DISTRICTS COVERED UNDER AREA PROJECTS

Name of the Area Project.	States/Districts covered			
1. World Bank Assisted Area Project.	1. Andhra Pradesh		3. Kerala	5. West Benga
	1. Anantapur		1. Wynad	1.Bardhaman
	2. Chittor		2. Idukki	2.Birbhum
	3. Cuddapah		3. Malappur--am	3.Bankura 4. Prulia
			4. Palghat.	
	2. Karnataka		4. Uttar Pradesh	
	1. Belgaum.		1. Deoria	
	2. Bijapur		2. Ghazipur	
	3. Gulbarg.		3. Mirazipur	
	4. Bidar		4. Varanasi	
	5. Raichur		5. Basti	
	6. Dharwar		6. Azamgarh	
2. U.K.Assisted Area Project	Orissa			
	1. Cuttack			
	2. Ganjam			
	3. Kalahandi			
	4. Phulbani			
	5. Puri.			

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3. UNFPA Assisted Area Project.

Bihar	Rajasthan
1. Monghyr	1. Bharatpur
2. Santhal Parganas	2. Swai-Madhopur
3. Saharsa	3. Kota
4. Purnea	4. Dholpur
5. Bhagalpur	
6. Katihar	
7. Khagaria	
8. Madhepura	
9. Sahibganj	
10. Godda	
11. Deogarh.	

4. DANIDA Assisted Area Project.

Madhya Pradesh	Tamil Nadu
1. Sagar	1. South Arcot
2. Tikamgarh	2. Salem
3. Gwalior	
4. Morena	
5. Shivpuri	
6. Guna	
7. Bhind	
8. Datia	

5. USAID Area Project

Gujarat	Haryana	Punjab
1. Panch Mahals	1. Bhiwani	1. Bhatinda
2. Bharuch.	2. Sirsa	2. Faridkot
	3. Mohindergarh	3. Sangrur.

Himachal Pradesh	Maharashtra
1. Kangra	1. Osmanabad
2. Hamirpur	2. Parbhani
3. Sirmur	3. Latur

Training and the existing staff will be provided with inservice training for upgrading their skills.

ii) Construction of sizeable number of subcentres with quarters for MPW(F) and H.As(F) within the villages to ensure regular service as well as security to the female workers, construction of certain number of R.F.W.Cs. upgraded PHCs with operation theatre and 10 bed ward, quarters for medical and para medical staff of some PHCs as well as hostel for MPW (F) training schools, provision of operation theatres in some of the PHCs, etc., form a major input of these projects.

iii) Improving the managerial skill of Doctors of PHCs, supervisory ditrict staff as well as para medical personnel through proper training at appropriate institutions so that the available resources can be utilised properly.

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iv) Improviding the Information Education and Communication System by propr training of extension staff like district media officers, district extension educators and the block extension educators in appropriate institutions followed by refresher courses.

v) Evolving an appropriate Management Information and Evaluation System (MIES) for concurrent evaluation of the programme of the peripheral units through regular feedbacks to these units so that the deficiencies can be rectified by taking adequate measures.

vi) For the purpose of evaluation, the projects envisage a Baseline Survey to be undertaken at the beginning of the projects and an end line survey at the end of the projects so that the effect of the project inputs can be evaluated.

vii) Funds are also provided for undertaking properly designed Unnovative Research Studies the results of which, if favourable will enable the State to extend it to other districts.

The project period is of 5 years' duration following which the States will have to bear the cost of the expanded services.

World Bank assisted area project:

Six districts of Uttar Pradesh and three districts of Andhra Pradesh have been taken up with partial assistance of the World Bank (IPP-II) at a cost of Rs. 82 crores approximately including contingencies. Out of this, Rs. 46 crores approximately will be the World Bank assistance. The Project in both the States have been started from April, 1980 and shall end in December 1985 when the development credit closes. The proposal to extend the Project till 31st March, 1986 is under consideration. A project in six districts of Karnataka and four districts of Kerala has been introduced with effect from 1st April, 1984 with the assistance of the World Bank (IPP-III) at a cost of Rs. 120.43 crores approximately including contingencies out of which Rs. 70 crores approximately will be the World Bank assistance.

Another Project has been taken up with World Bank Assistance (IPP-IV) in four districts of West Bengal. The total cost of the Project will be Rs. 107.47 crores out of which World Bank contribution will be Rs. 61.20 crores approximately. The Project in the State has started from 1st September, 1985 and is of 5 years duration.

DANIDA Assisted area Project:

Eight districts of Madhya Pradesh and two districts of Tamil Nadu Have been taken up with partial assistance of DANIDA at a total cost of 42.10 crores out of which 36.06 crores will be the contribution of DANIDA. The Project works in Madhya Pradesh and Tamil Nadu were started on 1st Nov. 1981 & shall endon 31-10-1986.

Contd...16....

U.K. ODA Assisted area Project:

Five districts of Orissa have been taken up under the Area Project assisted by Overseas Development Agency (ODA) with effect from August, 1980 at a cost of Rs. 39.42 crores including contingencies, out of which Rs. 18.27 crores approximately will be the U.K. contribution. The project is due for termination on 31-3-1986.

UNFPA Assisted Area Project:

Four districts of Rajasthan and Eleven districts of Bihar have been taken up with thepartial assistance of UNFPA at a total cost of Rs. 69.66 crores out of which Rs. 60.79 crores will be the UNFPA contribution. The project in Rajasthan commenced from July, 1980 and in Bihar from January, 1981. The Project in Rajasthan is to end on 31-3-1986. The Bihar Project is being rescheduled and is likely to end in March, 1988.

USAID Assisted area Project:

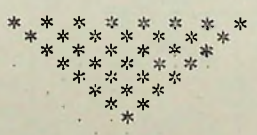
Three districts each of Punjab Haryana, Himachal Pradesh, and Maharashtra and two districts of Gujarat have been taken up under the USAID Assisted Area Project at a cost of Rs. 51.79 ∓ crores approximately including contingencies out of which Rs. 40 crores apprcximately will be the contribution of USAID.

Due to extension of the project period upto 30-9-86 and also due to increase in cost of construction and initial equipment the Project cost is setup to be revised to Rs.69.57 ∓ crores. The Project commenced from August, 1980. The project in the State, shall terminate on 30-9-86.

Baseline Survey under Area Projects:

Baseline surveys have been completed in the fourteen states covered under Area Project. In West Bengal (IPP-IV) Baseline Survey work is in progress. Draft/final reports have been received in respect of Andhra Pradesh, Uttar Pradesh, Bihar, Rajasthan, Orissa, Maharashtra, Himachal Pradesh, Haryana and Punjab.

The basic objective of these surveys is to provide information on the current levels of fertility and mortality, identify socio-economic and infrastructural variables effecting fertility and mortality, attitude and practice of various birth control measures, utilisation of institutional facilities such as MCH, extent and pattern of existing communication channels, and to assess the extend of the exposure of the population to the Mass Media.



/Chavan./

PUBLIC HEALTH PERSPECTIVES IN THE FORMULATION OF THE NATIONAL TUBERCULOSIS PROGRAMME OF INDIA*

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Public Health Perspectives in the Formulation of the National Tuberculosis Programme of India

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INTRODUCTION

Three major steps were taken in tackling the problem of tuberculosis in the country. These laid the foundation for India's National Tuberculosis Programme (NTP). Findings from a nation-wide tuberculosis-prevalence survey (1) brought about basic re-orientation of many of the then prevailing notions concerning epidemiology of the disease. A very carefully designed clinical trial by the Tuberculosis Chemotherapy Centre, Madras (2) revealed that, in clinical, epidemiological and social terms, tuberculosis patients could be treated with antituberculosis drugs as efficaciously at home as in a well-equipped sanatorium. An interdisciplinary team of scholars was brought together at the National Tuberculosis Institute, Bangalore (NTI) to use the findings of the national survey and the clinical trial, and collect additional data required to formulate a nationally applicable, socially acceptable and epidemiologically effective tuberculosis programme. The NTI has also been successful in performing the task assigned to it. (3) It adopted an approach of operational research (4) to formulate the national programme. It also conducted research studies to obtain crucial data from such diverse disciplines as epidemiology, social sciences, clinical phthisiology, microbiology, radiological diagnosis and radiological engineering, public health nursing and health administration.

The National Tuberculosis Programme, which emerged out of these efforts, turned out to be a very potent instrument for alleviation of the suffering caused by this disease. There has been considerable discussion among tuberculosis workers about different facts of the NTP and of various factors which have hampered its effective implementation. However, many aspects of the NTP, which are of much wider significance to the entire discipline of community health, have not received adequate attention from those concerned. Some of the perspectives which appear of considerable relevance to the practice of community health are being presented here.

An Epidemiological Approach to a Community Health Problem

The problem of tuberculosis has been dealt with in its entirety as a whole in terms of its size, distribution and the dynamics of the quilibrium formed by various host, parasite and environmental considerations. The natural history of the disease (5), worked out on the basis of a study of the epidemiological behavior of the disease, has provided a framework for evolving a strategy of intervention in the various phases (promotive, preventive, curative and rehabilitative) for obtaining greater impact on the problem through the resources made available for the programme. (6)

The problem of tuberculosis has also been projected in a time dimension to synchronize the strategy for intervention with other social, economical and ecological forces which are likely to influence the epidemiology of the disease over time (6), (7), (8)

The use of the BCG vaccine as a tool for prevention of tuberculosis in the population is an illuminating instance of changes of strategy in using this tool in the package of intervention under changing circumstances. In the early fifties, when the epidemiological dimensions of problems became known and findings from Madras and Bangalore studies were not available, BCG vaccination was considered the only tool to make any worthwhile impact on the epidemiology of the disease. (9) This consideration formed the basis of launching the unipurpose Mass BCG Campaign of India. However, with the formulation of the NTP in the early sixties, the BCG vaccination programme became an integral part of the package in the form of the "District Tuberculosis Programme". BCG vaccination also became part of the nationwide programme of providing a package of immunization services to the new born (10) Operational studies also led to major breakthroughts in the logistics of providing the services. The costly process of prior tuberculin testing only to those who were below twenty years of age.(11) Finally, on the basis of an extensive BCG preventive trial, which can be considered as a landmark in the field of experimental epidemiology, data were adduced to question the epidemiological validity of carrying out BCG inoculation amongst adults, atleast in India. (12)

*testing was dispensed with and epidemiological data were also marshalled to justify a programme of inoculation of BCG without tuberculin

Social Science Dimensions of a Community Health Problem "Going to the People and Learning from them"

This has been the most outstanding among important community health perspectives which emerged in the course of formulation of the NTP. Going to the people in a community and learning from them what they felt about the problems of tuberculosis has provided insights which brought about most radical changes in dealing with tuberculosis as a community health problem. (13) By identifying the area where the "felt-needs" of tuberculosis patients for the services overlaps with epidemiologically defined needs, it has been possible to develop an entirely new strategy which gives primacy to the meeting of the felt needs among** tuberculosis was defined as a problem of suffering. As, by implication, the suffering caused by this disease is a component of the suffering caused by all health problems within a community as a whole, a programme for alleviation of the suffering caused by tuberculosis has to be an integral component of the bigger package dealing with all other community health problems. Indeed, the tuberculosis patients themselves showed the way to integration of services as they sought help more often from institutions for general health services than from specialised tuberculosis institutions.

The very process of meeting felt needs of tuberculosis cases in a community generates greater felt needs among them, thus further extending the area of overlap. If, however, generation of new felt needs falls short of the capacity of the programme to offer services, one can be justified in taking active steps to generate more felt need by launching carefully designed health education drives. It has also been possible to conclude from an analysis of the data on the social science dimensions of epidemiology of tuberculosis that a felt need-oriented NTP has a potential of encompassing over 95 percent of all the cases within a community. (14) It thus has a potentially greater epidemiological impact on the problem than the conventional and more expensive method of mass case finding and treatment with the help of mass radiography.

**tuberculosis patients in a community. By adopting this approach, the problem of

At the operational level, data on behaviour of tuberculosis patients in a community were used to devise a method of diagnozing tuberculosis patients in rural areas which was both very simple and sciantifically very sound. Those data were also of help in working out the details oforganizing treatment of the diagnozed patients. Subsequent social studies of what is termed as "treatment default" (15), (16) had opened up newer facets of this problem which hitherto had not received adequate attention from programme administrators and health educators.

Integration of NTP with General Health Services

As pointed out above, consideration of tuberculosis as aproblem of suffering and patients recourse to general health services provided the underlying logic for integration of NTP with general health services. There is, in addition, sound administrative justification for dealing with all the health problems of a community as an integrated whole, demanding an integrated approach. (17), (18). The NTP was made to sink or sail with general health services. As a result, if the latter are inadequate, NTP also suffers from the same inadequacies. The solution thus does not lie in attempting to remove inadequacies in NTP alone but rather in the entire health services system. Specialised mass campaigns or vertical programmes against specific diseases tend to weaken general health services by diverting disproporationately large quantities of scarce health resources to these programme. Most often these specialised programmes are not (even relatively) cost effectiv and also suffer from the same maladies which are the causes of inadequacies in general health services.

NTP has thus been a pace setter in integration of programmes for specific diseases within general health services. Indeed, after not so successful experiences with specialised "vertical" programmes against specific conditions, such as malaria, smallpox, rapid population growth, cholera and blindness the union ministry of health had endorsed the philosophy of integrating specialised programmes with general health services by launching the "Multipurpose Workers' Scheme (19). Because of its very design, this scheme reinforced the basic postulate of the NTP, namely strengthing the general health services, Because of the same considerations, NTP found itself in harmony with the decision of the union government to entrust "Peoples Health in Peoples' Hands" by launching the "Community Health Workers' Scheme". (20) This approach received further impetus from the Alma-Ata Declaration (21) and from the launching of a programme for providing "Health For All-2000 A.D." (22) NTP can thus claim to be a forerunner of the philosophy of primary health care.

Development of a Referral System Through Regionalisation of Services

The most outstanding feature of the NTP is that in this programme a specific effort has been made to subordinate technology to the people, rather than the other way found. By analysing the then available technology or by generating specific technology, the programme formulators took special care to ensure that technology used in the programme emerged from a consideration of: (a) limitations

of the resources; (b) knowledge about cultural meaning and cultural perception of the problem; and (c) the health behaviour that is generated by the cultural factors and access of people to technology. Because of this people-oriented approach to technology, they were able to withstand pressures for inclusion of the then emerging advances in this field, such as tomography, mass radiography, advanced thoracic surgical techniques and expensive second line drugs.

Based on data on the cultural, social, economic and epidemiological situation in the country, diagnosis of tuberculosis patients through examination of sputum smears from the symptomatics and their treatment at home with not very expensive combination of anti-tuberculosis drugs, formed the sheet anchor of the NTP. This led to considerable decrease in dependence of people on professionals and on sophisticated, imported equipment, apart from drastically reducing the cost. (23) However, the more elaborate services that are available at higher levels were also mobilized as referral agencies to support work at the periphery. Though the bulk of the patients could be treated efficiently at the periphery, those needing more sophisticated diagnostic techniques or special treatment regiments were referred to the District Tuberculosis Centre (DTC). The DTC, in turn can count on support of even more sophisticated services available at the State Tuberculosis Centre or super-specialities available at teaching hospitals, to deal with the very small fraction of cases which did require such interventions. As all these specialized agencies formed an integral component of the NTP, they too have reverse referral linkages with the periphery. Thus, while avoiding unnecessary professionalization and mystification, the NTP also includes sophisticated technology in a measured way.

A Health Information System

There are two notable features of the health information system of the NTP: the postulates of the NTP provided a framework of identifying the pieces of information to be collected; and the details of information system were worked out on the basis of the capacity of the programme organization to generate, transmit and process the information. The information system was used for monitoring, evaluating and taking the indicated corrective actions.

There are three major components of the information system. One relates mainly to data on administrative and operational aspects of the NTP in a given population. The second to the actual process of implementation of the NTP, for example, preparing index cards, monitoring of treatment and keeping track of the cases that are transferred from one institution to another. The third component relates to epidemiological analyses of the impact of the NTP on the problem of tuberculosis within a population.

Team Training for Implementing a Community Health Programme

A team approach to training of personnel of a DTC is another distinguishing feature of the NTP. A team for a DTC is lead by a District Tuberculosis Officer and it consists of a treatment organizer, a radiologist, a laboratory technician, a BCG Team Leader and a statistician. NTI has formulated a very effective programme

for training of a DTC team (24) . Broadly, it consists of exposing the entire team to the general philosophy underlying the NTI in such a way that it could be understand by every member of the team. This enables individual members of the team to identify what his/her role is and how his/her workcontributes to the programme as a whole. This is followed by training of individual members in their own specific fields where emphasis is laid on aspects particularly relevant to the NTP. Finally, each DTC team is reassembled and the team is trained to work as a DTC team under actual field conditions, they are likely to face on their return to their posts.

Use of Operational Research Methodology for Solving a Community Health Problem

The most significant aspect of this approach was that it was evolved in NTI in the course of attempts to solve the problem assigned to it. The starting point was not operational research as enunciated by experts in this field; (25) the starting point was the problem and it turned out that the approach of operational research provided a very valuable framework for finding a suitable solution to the problem. (4), (26) It was realized quite early that solution of the problem required consideration of a large number of variables which pertain to a number of disciplines and which are in complex interraction with one another. For this purpose:

1. The problems of tuberculosis in India are elaborately defined, both in conventional epidemiological terms as well as in social terms (as a problem of suffering or as a felt need).

2. The factors that are relevant for finding a solution to the problem were identified and special studies were conducted to obtain data concerning those factors for which data were not already available.

3. An attempt was then made to put these factors together in the form of a model (not necessarily "mathematical") to depict the major interactions amongst them and work out alternative ways of solving the problem through alternative ways of influencing different components of the model within the constraints of the available resources.

4. The model was then used to make forecasts concerning outcome of the alternative ways of problem solution in order to choose the one which offers most effective use of the available resources.

5. The chosen alternative (solution) was then put to practical test (test run) under real life conditions (as opposed to condition of a pilot

study) to test the validity of the assumptions that had been made in choosing the solution.

6. The findings of the test run were fed into the chosen solution and the letter was then put into normal operation. A feedback system, which was built into the programme, ensured continued monitoring of the implementation.

It thus so happened that this approach was the one that is followed in operational research. This experience of programme formulation can also be used for formulating other health programmes - eg. programmes to deal with specific health problems, such as malaria, leprosy, maternal and child health or family planning or programmes for improving working of health organizations such as hospitals, rural health centres and the Community Health Volunteers' Scheme.

Providing Institutional Framework for Solving a Community Health Problem

The three institutions, namely the Indian Council of Medical Research, conducting a nationwide prevelance survey of tuberculosis, the specially established Tuberculosis Chemetherapy Centre carrying out to be a historic clinical trial in the field of community health and the National Tuberculosis Institute performing the pivotal role of formulating the NTP (and following it up to provide training, research and consultation support to the NTP), have made crucial contributions in dealing with tuberculosis as a community health problem in India. This underlines the need for developing similar institutional frameworks for dealing with other pressing community health problems (such as malaria, nutrition, maternal and child health, leprosy, filariasis, blindness and family planning).

Conclusion

Formulation of a nationally applicable, socially acceptable and epidemiologically effective national Tuberculosis Programme for India involved use of a wide range of principles of the discipline of community health. These principles can also be very profitably applied in the formulation of nationwide programmes to deal with other major community problems. Government commitment to strengthening rural health services in India by using multipurpose health workers and by employing community health volunteers has further strengthened the case for adopting the approach developed for formulating the NTP on a much wider scale. This approach also gets further endorsement from the concept of Primary Health Care contained in the Alma-Ata Declaration. Indeed, the approach to formulation of NTP, developed in the early sixties, had anticipated the approach that is now being advocated world over for attaining the goal of Health For All by 2000 A.D.

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REFERENCES

1. Indian Council of Medical Research (1959): Tuberculosis in India: A Sample Survey, 1955-1958, New Delhi, Indian Council of Medical Research.

2. Tuberculosis Chemotherapy Centre, Madras (1964): A Concurrent Comparison of intermittent isoniazid plus streptomycin and daily isoniazid plus PAS in the domiciliary treatment of pulmonary tuberculosis, Bulletin of World Health Organisation, Vol. 31, pp 247-271.

3. Chakraborty, A.K. (1979): Twentieth anniversary of NTI-What has the NTI achieved? NTI Newsletter, vol. 16, No. 4, Dec. pp 104-110.

4. Banerji, D (1972): Operational research in the field of Community Health, Opsearch, vol. 9, Nos. 3-4, Sept-Dec., pp 135-142.

5. Leavell, H.R. (1965): Levels of application of preventive medicine, pp 14-38 in Leavell, H.R and Clark, E.G. (ed): Preventive Medicine for the Doctor in this Community - An Epidemiological Approach, 3rd ed, New York, McGraw-Hill Book Co.

6. Banerji, D (1965): Tuberculosis: A problem of social planning in developing countries, Medical Care, vol. 3, No. 3, July - Sept., pp 151-159.

7. Grigg, E.R.N. (1958): Ame. Rev. Tuber and Pul. Dis., Vol. 78, pp 151-172, 426-453, 583-603.

8. Dubos, R and Dubos, J (1952): The white plague, Boston, Little Brown.

9. Rao, K.N. (1980) : History of tuberculosis in Rao, K.N. (ed): Text book on Tuberculosis, Rev. ed., New Delhi, Vikas, Chap. 1.

10. Nagpaul, D.R. (1967) : District tuberculosis programme in concept and outline, Indian Journal of Tuberculosis, vol. 14, No.4, pp 186-198.

11. Baily, GVJ etal (1973): Integration of BCG vaccination in the general health services in rural areas, Indian Journal of Tuberculosis, Vol. XX, No. 4, pp 155-160.

12. Tuberculosis Prevention Trial, Madras (1980): Trial of BCG vaccines in South India for tuberculosis prevention, Indian Journal of Medical Research, vol. 72, Suppl, July, pp 1-74.

13. Banerji, D (1980): Social aspects of TB Problems in India in Rao, K.N. (ed) : Text Book on Tuberculosis, Rev. ed., New Delhi, Vikas, Chap. 9.

14. Banerji, D and Anderson, S (1963): A sociological study of the awareness of symptoms suggestive of pulmonary tuberculosis, Bulletin of World Health Organization, vol. 29, No.5, pp 665 - 683.

...8

15. Banerji, D (1970) : Effect of treatment default on result of treatment in a routine practice in India, Proceedings of the XXth International Tuberculosis Conference, Paris, International Union Against Tuberculosis.

16. Singh, M.M. and Banerji, D (1968): A follow up study of patients of pulmonary tuberculosis treated in an urban clinic, Indian Journal of Tuberculosis vol. 15, pp 157-164.

17. Government of India, Health Survey and Development Committee (1946): Report, vol. II, pp 6-16, Delhi, Manager of Publications.

18. National Institute of Health Administration and Education (1971): An Exploratory Study of Integrated Health Services in India: A Report, New Delhi, National Institute of Health administration and Education.

19. Government of India, Committee on Multipurpose Workers under Health and Family Planning Programme (1973): Report (Kartar Singh Committee) New Delhi, Min. of Health and Family Planning.

20. Government of India (1978): Annual Report, 1977-78, New Delhi, Ministry of Health and Family Welfare.

21. World Health Organization (1978): Primary Health Care: Report of the International Conference on Primary Health Care, Alma-Ata, USSR, Sept. 6-12, 1978, Geneva, World Health Organization.

22. Government of India, Working Group of Health For All by 2000 A.D. (1981): Report, New Delhi, Ministry of Health and Family Welfare.

23. Banerji, D (1967): Health Economics and developing countries, Journal of the Indian Medical Association, vol. 49, No. 9. Nov. 1, pp 417-421.

24. Narayan, R (1972): Team training in a job-oriented course, NTI News Letter, vol. 9, No. 1, pp 1-3.

25. Churchman, C.W etal (1957): Introduction of Operations Research, New York, John Wiley.

26. Luck, G.M. etal (1971): Patients, Hospitals and Operational Research, London, Tavistock Publications.

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MEDICO FRIEND CIRCLE - ANNUAL MEET 1985

BACKGROUND PAPER

EVOLUTION OF THE NATIONAL TUBERCULOSIS PROGRAMME

As in most other countries of the world, the first anti-tuberculosis measures taken in India were of an unplanned adhoc nature, confined mainly to the establishment of hospitals and sanatoria. Partly due to lack of resources and partly to preoccupation with epidemics such as plague, smallpox, cholera, etc. scant attention was paid to the development of a tuberculosis policy. In most places, even rudimentary diagnostic facilities were absent.

The concept of control of tuberculosis in the country was first mooted in 1920 and efforts for control were through the organization of the King George V Thanks Giving Fund. The Funds so collected were utilised through the Indian Red Cross Society primarily for preventive and educational activities, establishment of clinics, training of health visitors and preparation of health education material. In 1939, the Tuberculosis Association of India was established with the object of providing expert advice, evolving standard methods to deal with the disease, setting up of model institutions for training of tuberculosis workers, education of public regarding preventive measures and organising meetings and conferences for scientific discussions. The activities of the Association at its inception were to chalk out programmes, encourage establishment of clinics, dispensaries and sanatoria, undertake research in communitywide management of tuberculosis and to serve as an advisory bureau.

Recognising the enormity and complexity of the disease and to meet the needs of large number of tuberculosis patients, the Tuberculosis Association conceived the idea of domiciliary treatment as early as in 1940. It established the New Delhi TB Clinic (now known as New Delhi TB Centre) to try out the efficiency of domiciliary treatment by offering collapse therapy from out-patient department and to guide patients and their contacts regarding preventive measures. The method was found acceptable and applicable and the experiment satisfying.

The Association established Lady Linlithgow Sanatorium in Kasauli, Simla Hills, to demonstrate model sanatorium services. These institutions were also entrusted with the responsibility of training medical and para medical workers.

PLANNING OF CONTROL OF THE DISEASE

At the instance of the Central Government, the Health Survey and Development Committee headed by Sir Joseph Bhore (1), for the first time, outlined a conventional phased scheme for management of tuberculosis in 1946.

For reasons of scarcity of resources and impracticability, the scheme could not be implemented. The administrator, however, could not ignore the suffering of patients and the public demand for definite action, even though the facilities for diagnosis and treatment were lacking. After independence, in 1948, the Tuberculosis Sub-Committee of the Health Panel of the National Planning Commission, drew up a programme for dealing with tuberculosis and suggested application of BCG vaccination, which was considered to be the only measure for prevention and control of the disease and was expected to yield good results within the resources available in the foreseeable future. Following the

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Source - N.T.I. Newsletter (1981)18.22

acceptance of the proposal by the Planning Commission, a nation-wide BCG programme was started in 1951. On the assumption that the disease was primarily a problem of thickly populated urban areas, and slums, the programme was first introduced in cities and towns. Thereafter, the BCG teams were shifted to rural areas. As per conventional procedure, the population was tuberculin tested prior to vaccination to identify tuberculin non-reactor eligibles for BCG vaccination. The country-wide tuberculin testing revealed high prevalence of tuberculous infection both in rural (2) and urban areas which was contrary to the earlier impressions that tuberculosis was mainly a problem of crowded urban areas. A country-wide tuberculosis sample survey (3) to get information on prevalence of disease in various strata of the country was therefore considered necessary.

ESTIMATION OF THE EXTENT OF THE TUBERCULOSIS PROBLEM

A large scale sample survey was conducted in six zones of the country covering urban and rural populations under the auspices of the Indian Council of Medical Research (3) in 1955-58 to get as precise an information as possible about the magnitude of the tuberculosis problem in the country. The survey covered a total population of about 3,00,000 persons residing in urban, semi-urban and rural areas of the country. The survey confirmed the impression of high prevalence of tuberculosis morbidity in rural areas, that had earlier been revealed by large scale tuberculin testing. It was estimated that of the eight million people suffering from tuberculosis about 80% were in the rural areas.

TOOLS AND TECHNIQUES

The discovery of specific, potent, cheap and readily available antitubercular drugs and the efficiency of domiciliary treatment proved by the New Delhi TB Centre (4) and Tuberculosis Chemotherapy Centre, Madras (5) completely changed the outlook for TB patients. The probability of formulating a comprehensive tuberculosis programme to combat the disease on a community-wide basis seemed possible.

The control measures for tuberculosis could not be different from those commonly known for control of any other infectious disease, i.e., preventive vaccination, case-finding and treatment. The available tools for the control of tuberculosis consisted of BCG vaccination for prevention, chest radiography and sputum microscopy for casefinding and ambulatory domiciliary chemotherapy for treatment. The problem was how to apply these tools. There was a wide gap between knowledge and its application. An objective and systematic approach for formulation of sound policies for tackling the problem of tuberculosis was urgently needed. What should be the organisation and resources in terms of trained personnel, equipment, drugs etc. The manner the tools were to be applied and techniques to be employed were some of the questions that remained to be answered. The National Tuberculosis Institute (NTI) was established in 1959 in Bangalore by the Government of India to evolve a programme which would answer these questions and be feasible and suitable for both rural and urban areas of the country. The Institute was given the responsibility of training tuberculosis workers and continuing research for modification and evolution of the programme in the light of newer knowledge.

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THE PROGRAMME EVOLUTION

The evolution of the National Tuberculosis Programme (NTP) was based on a number of factors related to epidemiological, sociological, operational, technical and administrative aspects. Information on these aspects was obtained from studies conducted in different parts of the country which were reviewed prior to formulation of the programme. In addition, the NTI conducted epidemiological, sociological and operational studies to enunciate suitable methods for large scale application of BCG vaccination, case-finding and case-holding. Salient findings of some of the studies that were made use of for planning the NTP are presented below.

EPIDEMIOLOGICAL BASIS

The epidemiological data that were considered were obtained from tuberculosis surveys conducted by ICMR (1955-58) (3). Studies were also undertaken in Delhi (6), Madanapalle (7) and Bangalore (8). These studies revealed that infection and disease were widespread. Out of the total population of the country, about 50% was infected with M.tuberculosis and about 0.5% aged 5 years and above suffered from bacillary disease. The disease was evenly distributed in rural and urban areas and was more frequent in males, especially in the higher age groups. The annual incidence of disease was found to be 1-3 per thousand (9) i.e., 1/3rd of the prevalence at any point of time. There was a time lag between infection and development of the disease suggesting that new cases of tuberculosis would continue to develop from the already infected population for many years to come.

These epidemiological findings demanded that tuberculosis services be so organized as to cover the entire country, on a permanent basis since cases would continue to arise all the time, all over the country. Priority had to be given to finding sputum positive patience to prevent the spread of infection.

SOCIOLOGICAL CONSIDERATIONS

Socio-economic conditions in any country have wide implications for programme planners. The importance of the tuberculosis problem from the social angle has to be considered in relation to other health and social needs of the country. Resources are the main constraints for formulation of the programme.

A sociological study (10) conducted at the NTI had shown that 95% of sputum positive patients were aware of their symptoms and that nearly half of them had reported at various health institutionsin search of relief for their chest symptoms. On the basis of this information it was estimated that about half of the total 5000 infectious cases in an average district with a population of about 1.5 million attended the general health institutions. Out of these about 2000 could be easily discovered through sputum microscopy, at the first point of contact in a network of general health services.

Ideally, all the 5000 cases should be found in the shortest possible time but operationally this was not considered likely. Finding of 2000 cases however, per district per year, it was thought, would be a good achievement. Their satisfactory treatment and sputum conversion could be expected to result

in reduction of the tuberculosis problem within a few years. However, the service, to be effective, has to be offered near to the patients' residence.

OPERATIONAL CONSIDERATIONS

Case-finding, to produce any impact on the problem of tuberculosis had to be aimed at discovering a substantial number of cases per unit time and was required to be carried out both in rural and urban areas on a long term basis rather than as a one-time effort. Operational studies (11) for case-finding through mobile teams, with or without tuberculin test, the use of mass miniature radiography and examination of sputum alone or in various combinations were carried out in villages, primary health centres and at the district head-quarters hospitals. The application of mobile X-ray units for tuberculosis case-finding through specialised peripetetic tuberculosis teams in villages was found operationally impractible and infructuous. The number of cases found was no better than that found at the primary health centres and other rural dispensaries and hospitals, from amongst those who report by themselves for relief of their ailment (12). Operationally, for reasons of poor approach roads to villages, inadequacy or absence of facilities for maintenance and repairs, shortage of X-ray films, and staff to operate the X-ray units and exorbitant running cost, the use of mobile mass miniature X-ray units for case-finding was not found feasible. In the NTP the methodology recommended for case-finding was examination of sputum of patients reporting with chest symptoms at the institutions of general health services. This procedure, though simple, economical and applicable all over the country was found practicable and technically sound.

TREATMENT (CASE-HOLDING)

The main aim of case-finding is to treat patients, alleviate their suffering and to put down the transmission of infection. The priority in the NTP had to be given to finding and treating sputum positive patients, since they constituted the immediate public health problem. The sputum negative patients, however, seeking relief under pressure of symptoms have not been denied the benefit of diagnosis and curetive services.

The pre-requisites of an efficient domiciliary treatment service were found to be regular supply of drugs as near to patients homes as possible and proper guidance there with regard to prolonged and regular treatment. Efficacious regimens free from side effects and free availability of drugs were some other crucial factors for enduring regular treatment and its completion. Due care was taken for meeting these requirements.

An operational study (13) on case-finding was conducted by the NTI. The patients residing in villages were divided into four groups, each group consisting of residents of adjacent villages. The drugs for one group of patients were stored at the area health centres. To start with, the patients were taken to the health centre where they were introduced to the Medical Officer, given detailed instructions to continue regular treatment for one year, given a fortnight's drug supply and were advised to collect drugs regularly every 15 days for one full year. In another area the drugs were stocked with the village Panchayat members. After motivation, the patients were advised to collect drugs from the Panchayat members fortnightly. For the third group, arrangements were made for distribution of drugs

through the village level workers, during the course of their regular fortnightly visits to the villages. To the fourth group, the drugs were distributed, through a specially appointed health visitor, in the patients homes fortnightly. The regularity of drug intake through all the four channels was similar: hardly 30% to 40% of patients took the drugs. This was so even in the case where the pills were distributed at the doors of the patients by the special staff. The efficiency of the primary health centre with regard to treatment regularity being similar to the services provided by specialised tuberculosis agencies, it was concluded that the primary health centres are as well acceptable as centres for tuberculosis services. In the NTP, therefore, the general institutions were activated, drugs were stored and the treatment was decentralisedto be given on ambulatory domiciliary basis. Drugs, mostly for self-administration, were supplied free of charge near the patients home.

INTEGRATION

Specialised services were found impracticable as these would consume substantial proportion of resources, depriving development of essential health programmes and social services of their share. Further, taking into account the secular trend of tuberculosis in the country, the NTP has to continue for years to come, the diagnostic services (sputum microscopy) simplified and curative service standardised for their easy applicability all over the country. These besides being simple, were within the technical competence of general practitioners. The programme, in order to meet the above requirement was conceived as an integral part of overall development of general services instead of functioning in isolation as a specialised vertical programme for control of tuberculosis alone.

BCG VACCINATION (PREVENTION)

Prior to formulation of NTP BCG vaccination in India was started in 1951 as a mass campaign with the help of special BCG teams. These teams were mobilised from area to area to set up temporary centres at a central place in every locality. Those who attended the centre were offered tuberculin test at first attendence. BCG vaccination were given to tuberculin non-reactors at second visits, after 72 hours. Only those who attended the centres for reading of the test at second visit could be given BCG. BCG vaccination coverage by thisprocedure was inadequate. Subsequently, the BCG vaccination programme was integrated with the curative services of the district tuberculosis programme as a part of the comprehensive tuberculosis control programme. House to house vaccination (14) was recommended at first. Later, in 1964, direct BCG vaccination without tuberculin testing (15) restricted to the age group of 0-19 years only was advised. These modifications improved coverages as well as output and brought down the cost of BCG vaccination programme, due to abandoning of pre-vaccination tuberculin test. Further modifications in BCG vaccination programme recommended were simultaneous smallpox and BCG vaccination (16) of the new-borns in the cities and that of the school age children in schools. All these aimed at maintaining high BCG vaccination coverage. Since 1977, BCG vaccination has been made an integral part of the expanded programme of immunization, to be delivered by the staff of

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general health services through multipurpose health workers all over the country, aiming at vaccination of all new-borns in the first year of their life.

THE DISTRICT TUBERCULOSIS PROGRAMME (DTP)

A permanent NTP having these features and a country-wide coverage of which the DTP (17) and (18) was the unit, was conceived and evolved in 1962 by the NTI. The objective of the programme was systematic reduction of tuberculosis through finding maximum number of sputum positive patients (probably more than the yearly incidence), converting them through effective treatment, as well as prevention of large proportion of the susceptibles through BCG vaccination.

Briefly, the principles (19) underlying the DTP were (a) sociological meeting "felt-need" of "action taken" patients: provision of permanent service as near to patients' residence as possible through integration with institutions of general health services (b) epidemiological: halting transmission of infection by finding and treating direct smear sputum positive patients to be followed by culture and abacillory tuberculosis patients, (c) administrative: the resource inputs to be in consonants with operational output and programme efficiency, (d) operational, to stay within the outlines laid for the programme allowing modifications for local sociological, administrative and operational variations.

ORGANISATION OF THE DTP

The two main components of the DTP which is a unit of the NTP are (i) the district tuberculosis centre and (ii) the peripheral centres.

(i) DISTRICT TUBERCULOSIS CENTRE (DTC)

The erstwhile tuberculosis clinics at district head-quarters were recommended to be upgraded to DTC. Such upgraded centres besides continuing their earlier activities of providing diagnostic and curative services, have been entrusted with the additional responsibility of planning, implementation and supervision of tuberculosis programme throughout the district. The senior medical officer (TB Specialise), the X-ray technician, a laboratory technician, a health visitor, a statistical assistant and the BCG team leader of each TB clinic are given in-service job-oriented training at the NTI so that they may organise and supervise the DTP in their respective districts. In the wider context of responsibilities the upgraded TB clinics have been provided additional facilities like transport, additional drugs, record forms and other necessary items of equipment and supply. The trained teams are responsible for visiting the peripheral health institutions to guide the staff of general health services in the diagnostic, curative and preventive work relating to tuberculosis. They have to supervise the institutions for the general health services regularly to ensure satisfactory techniques of case-finding, diagnosis, treatment, recording and reporting. The district centre provides necessary items of supply like drugs, stains, record forms etc.

(ii) PERIPHERAL HEALTH CENTRES

All the institutions run by the general health services of a district participate in the DTP and are designated as 'Peripheral health Centres'. Those offering X-ray centres',

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the ones *done* only sputum smear microscopy is possible have been entrusted with responsibility of sputum examination and are designated as 'Microscopy centres'. Others were neither X-ray nor microscopes are available, are entrusted with the responsibility of collecting sputa from symptomatic patients of preparing smears and sending them to the nearby institutions having microscopes for smear examination: such institutions have been designated as 'Referral centres'. These centres are advised to send patients to the nearest X-ray centre if their sputa are negative or they are unable to produce sputum. All the above 3 categories of peripheral centres treat the patients on ambulatory domiciliary basis. The drugs for their treatment are supplied by the District Tuberculosis Centre.

The District Tuberculosis Officer and his team have been made responsible for training, co-ordination of work, arranging supply, supervision and compilation of the reports in respect of the working of the tuberculosis programme in the entire district.

Posting of specialised staff at the peripheral centre for antituberculosis work has so far not been recommended as the estimated additional expenditure on special staff did not appear to be commensurate with the quantum of work load.

REVIEW OF NATIONAL TUBERCULOSIS PROGRAMME

The regular reports on the performance of NTP, compiled quarterly by the Director General of Health Services, at the national level reveal that the achievement regarding case-finding and case-holding aspects are about 30% of the expectations.

A review of the NTP was undertaken by the ICMR Expert Committee in 1976. The Committee highlighted some inadequacies regarding operational aspects, the almost complete absence of supervision by the staff of DTC, the District and State health administration, the inadequacy of posting of staff and supplies. Lack of interest in the programme at all levels was also reported. Some corrective actions were also suggested, the results of which still remain to be seen.

INVOLVEMENT OF COMMUNITY HEALTH GUIDES AND THE MULTI-PURPOSE WORKERS

In order to bridge the gap between expectations and achievement attempts are now been made to avail of the services of the newly set up infra-structure of multi-purpose health workers and community health guides under the "Primary Health Care" programme of the country.

Tuberculosis case-finding which was of a somewhat passive nature earlier can now be carried out more actively with the involvement of multi-purpose health workers. During their routine beat in villages for health activities they can question the population for presence of chest symptoms and identify those who have cough of two weeks or more duration. They can collect sputum specimens from such persons, make smears and send these to the Primary Health Centre for microscopy. This strategy will augment tuberculosis case detection considerably. A recently conducted study (20) from NTI has shown that multi-purpose health workers can perform this function along with their other duties during their routine visits to the households. Although in the

first three months or so the work load would be substantial, after the completion of the initial one or two rounds of intensive case-finding, the workload during subsequent visits will become manageable involving, on an average, 2-3 smears per week per multi-purpose health worker. By this method the case detection will be augmented considerably.

The multipurpose workers can also be trained for case-holding. During the routine visits to their areas they can supervise and guide thepatients about treatment regularity, retrieve the defaulters and motivate them to continue treatment regularly. It is expected that their involvement in the programme will definitely improve the regularity and completion of treatment.

Multi-purpose workers under the expanded programme of immunization are entrusted with the responsibility for BCGvaccination along with other vaccinations. All infants between 3 to 9 months of age will be vaccinated by them in the villages once in a year.

The programme performance and potential studies (21) have shown that the OPD of the general health institutions is capable discovering in one year 46% of the entire pool of infections cases in the district, about one and a half times the annual incidence i.e. 65% of the sputum smear positive cases. As regards the case-holding potential of infections patients, 63% become sputum negative, 20% continue to remain positive at the end of one year of treatment and 10% DIE. The actual performance fell considerably short of the potential, specially in respect of case-finding.

The objectives, principles potential and performances of the NTP make it an optimum programme. Although primarily a Government programme it needs active co-operation and assistance of the voluntary organisations, private health institutions and private medical practitioners. Only then can it hope to achieve its objectives speedily and effectively.

p r e s s
r e l e a s e

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30.3.1985

The medico friend circle (mfc), an All India group of socially conscious doctors and health workers has just completed a systematic study of the continued effects of toxic gas in two bastis in Bhopal.

The observations of the study conducted between March 18-25 in the highly affected Jayaprakash Nagar and the less affected Anna Nagar are yet to be fully analysed. However, the initial findings definitely indicate that : (i) the affected population is already showing signs of reduced breathing and working capacity which is likely to be permanent unless remedial measures are urgently introduced; (ii) pregnant women who had been exposed to the gas in the first three months of pregnancy or have become pregnant since the disaster have still not been informed about the possible dangers to the foetus. Moreover, detoxification measures recommended by the ICMR over a month ago--the administration of sodium thiosulphate has not been implemented. The mfc is deeply concerned and agitated about the situation.

Reduced breathing and working capacity among the affected population

The mfc's study team has observed that men are not able to go back to work because of breathlessness on accustomed exertion (exertional dyspnoea). Those who have returned to work report definitely reduced working capacities. Most women find it difficult to carry on their usual household chores. The team has noted with particular concern that very few of the children can even play or participate in normal physicial activity in the affected bastis.

It is well known that a large proportion of the MIC affected population is likely to develop fibrosis of the lungs (development of scars) following inflammation of the lungs due to irritation. This condition permamently affects breathing and hence working capacity. Such a condition is already in evidence in the population covered by the mfc study.

Simple breathing exercises are known to help to reduce this disability. Information about these exercises must be widely known and their importance stressed.

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Mass detoxification by sodium thiosulphate

More than a month ago the ICMR had recommended the administration of sodium thiosulphate for detoxification of all patients suffering from symptoms of MIC poisoning. This recommendation was based on conclusions drawn from a double-blind clinical study. But as yet, there appears to be no strategy in action with regard to administration of sodium thiosulphate to the vast majority of affected people. Only a tiny fraction, consisting of the seriously ill are receiving the injection.

mfc emphatically feels that as suggested by the ICMR, all patients suffering from symptoms of mic poisoning should be urgently administered sodium thiosulphate so that their suffering is reduced and they may go back to work. This service and other medical facilities should be urgently provided in a decentralised way, close to the bastic in affected areas.

The insight that sodium thiosulphate may well be effective was known even in the first week after the disaster. It is extremely disturbing and deplorable that decisions on vital issues like this which affect the lives of thousands of people should have been so long delayed. Even more shocking is the fact that even now, a month after the recommendation was publicised, mass detoxification of MIC victims has not begun.

Possible risks to the foetus

Another disturbing feature is that pregnant women who have been exposed to MIC have not been given any advice regarding the possible risks to the foetus. Given the fact that the first three months of pregnancy is the most sensitive period, it is likely that these women as well those who became pregnant immediately after the disaster are likely to give birth to deformed babies, since MIC or its breakdown products are very reactive chemicals. Moreover many of these women have received several types of drugs when as a rule in the first three months no drug should be given for fear of drug induced deformations. Some of these drugs, especially steroids are known to cause deformities.

There is an urgent need to inform people, especially women about these dangers and to advise them to undergo medical termination of pregnancy. Adequate and free facilities should be made available to those women who opt for it without

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coercing them to undergo sterilisation. Further, those couples who have lost children and want reversal of sterilisation must be offered these facilities free of charge.

Doctors belonging to mfc had pointed out these dangers in anearlier note - sent to the concerned authorities a month ago. But to date nothing seems to have been done.

Many of these women have by now crossed the five month limit of pregnancy beyond which MTP is unsafe. But there are some who can still terminate their pregnancy although the risks are greater than in the first weeks. Facilities for ultra-sonographic examination should be made available to these women immediately to detect gross abnormalities in their foetuses.

That this is not being done is a reflection of the indifference of health authorities towards the health problems of poor women. Moreover mfc feels that the ICMR study designed to follow up these women on a long term to assess the percentage of deformities without informing women about the possible risks or the advisability of MTP is unethical. The dangers to pregnancy are well known and poor women should not be used as guinea pigs in medical research.

Contraceptive advice to affected couples

Most of the MIC affected population is still suffering from symptoms of cyanide like poisoning indicating, therefore, the persistence of the biochemical changes which have occured due to MIC poisoning. It is safer to avoid pregnancies till complete detoxification has taken place. Since a large proportion of the women are suffering from menstrual disorders and other gynaecological problems, male contraceptives (Nirodh) should be recommended rather than Copper T or oral contraceptive pills by the women.

We demand that the health authorities should give serious and urgent consideration to the issues raised here.

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released by the convenor of mfc

REPORT - 1

ANTI DIARRHOEAL FORMULATIONS
: A RATIONALITY STUDY

Shishir J Modak,
M.D., D.C.H.

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Rational Drug Policy Cell
Medico Friend Circle
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October 1984

RATIONALITY STUDY OF ANTIDIARRHOEAL FORMULATIONS

Shishir J.Modak

PRESS RELEASE

Dr. Shishir Modak of the Medico Friend Circle, in his recent, rigorous scientific scrutiny of 47 proprietary drug preparations sold as antidiarrhoeals, has found that only 7 of these 47 commercial preparations were justitied from scientific view point. The preparations given in the issue of Current Index of Medical Specialities (CIMS) - May, 1984 (used by thousands of doctors for ready reference to commercial preparations) under the heading : "antidiarrhoeals" were taken for this study.

Recent research has questioned the usefulness of many antibiotics and other drugs in the treatment of diarrhoea. Basing himself on this latest authentic expert medical opinion in this field, Dr. Shishir Modak found that most of the " antidiarrhoeal " preparations available in the market were scientifically unjustified on one of the following grounds:

i) insufficient dose or wrong proportion of dose	: for example - of Neomycin in many preparations: wrong proportion between Furazolidone and Metronidazole.
ii) irrational inclusion in some drugs	: for example - Chloropheniramine maleate: or inorganic salts of Sodium, Pottasium ... etc. or Chloroquin.
iii) inclusion of drugs not indicated in diarrihoea	: for example - Streptomycin in the famous " Chlorostrep " and some other prepa= rations of the same formula.
iv) inclusion of a drug which is too toxic for its use in fixed-dose combinations of anti-diarrhoeal	: for example - inclusion of antiperistaltic drugs and of 4-aminoquinolines (diodoquin, quinidochlor ... etc) in many antid a-rrhoeal preparations.

NOTE: This is a very brief announcement prepared for M.F.C. Bulletin. For the lay press, it will have to be demedical ized.

Diarrhoea is frequent passage of loose stools. Diarrhoeas are extremely common and endemic in our country. Almost every child upto the age of 5 years gets 1-2 episodes of acute diarrhoea in a year. It is a number-one killer in infants and small children. Therefore, every doctor is actively involved and should be thoroughly trained regarding proper management of acute diarrhoeas.

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A large number of formulations are sold in the market as antidiarrhoeal agents. They are usually broad spectrum and claimed to be effective in diarrhoeas due to different aetiological factors ranging from bacterial, protozoal, nonspecific..etc. However, doubts are always raised about rationality of all these preparations. The purpose of this study is to assess the rationality and effectivity of multiple antidiarrhoeal preparations available in the market.

Material & Methods

The 47 different formulations listed under the heading : ' Antidiarrhoeals ' in current Index of Medical Specialities (C I M S) - May 1984 issue were studied. Each ingredient of every formulation was evaluated separately on its own merit. The comments are based on the available scientific literature on this topic, published in recent standard text books and periodicals. Finally, each product was graded according to the resultant rationality of its ingredients.

Antimicrobials as single ingredients (e.g. Ampicillin, Tetracycline...etc.) are not included in this assessment.

R E S U L T S

Please see the accompanying Table and the resultant gradation of each formulation in the table. The overall resultant gradation of each formulation has been done as follows:-

A: Use of the product is justified.

B: Electrolytes of other irrational ingredients should be deleted.

C: The proportion of the ingredients should be altered.

D: The drug should be avodided and it should be available strictly against prescription.

E: The formulation should be officially banned.

The resultant tally of these formulations was as follows:-

Grade:	A	B	C	D	E
No. of products:	7	6	9	8	20.

The (Total products studied 47. Excess number in above table is due to some products having more than one grade at a time).

Sr.No.	Brand Name	Composition	Comments	Grading	Reference
1)	Aristogyl F (Aristo) 90 ml : Rs.8.00	Per 5 ml:		C	13, 14, 2, 12, 18.
		Furazolidone 30 mg	: Shotgun therapy, incorrect ratio bet: Fura, & Metro. The ratio should be 1:5.		
		Pectin - 20 mg Light Kaolin-1-gm	: Of cosmetic use if at all, inadequate dose. May actually increase electrolyte loss.		
2)	Chlorambin suspension (Anglo-French). 60 ml : 6.11	Per 5 ml:	-"-	E	3, 17, 5.
		Light Kaolin-1 gm Pectin-50 mg			
		Neomycin - 50 mg.	: Inadequate dose of Neomycin, Many strains are becoming resistant to Neomycin.		
		Di-iodo-150 mg.	: Di-iodo. not a safe drug especially in children. May produce SMON. Should not be used in fixed dose combination.		
		Tincture belladona - 0.06 ml	: Antimotility drugs should be avoided in childhood diarrhoea; should never be added in fixed dose mixtures.		
3)	Chlorostrep (Cap.& Suspension) (Parke Davis) 60-ml: Rs.10.59	Per Cap.per 4 ml : (Chloramphenicol-125mg	Chloro-not useful in Salmonella gastroenteritis; severe side-effects; carrier state may be prolonged after chloro.	E	5, 7, 1, 2, 10,12.
		Streptyomysin sulphate-125 mg	: Shigella & other enteropathogenic organisms have become resistant to		

(contd....

Sr.No.	Brand Name	Composition		Comments	Grading	Reference
				Streptomycin; rapid development of resistance; sensitization; should not be combined with Chloramphenicol for fear of increased risk of optic neuritis.		
4)	Combactin (CFL Pharma) 60-ml; 5.19	Per 30 ml:			E	3,5,12, 17.
		Neomycin-300 mg	:	Dose of Neomycin inadequate; Many strains resistant to Neo.		
		Dicyclomine-10 mg	:	Antispasmodic drugs should not be added in fixed dose mixtures.		
		Light Kaolin- 6 gm Pectin-130 mg	:	As in (1) above		
		Sod.Lactate-800 mg Pot.Chloride-300 mg Sod.Chloride-470 mg	:	Electrolytes should not be included in anti-diarrhoeal preparation; inadequate and wrong proportion.		See WHO formula
5)	Darzin with Neomycin (Chemage)	Per 10 ml:			E	5, 2 and 12
		Light Kaolin-2 gm Pectin - 43 mg	:	As in (1) above.		
	60-ml: 6.88	Neomycin - 125 mg	:	As in (2) above.		
		Sod.Lactate - 267 mg Sod.Chloride-157 mg Pot.Chloride-100 mg	:	As in (4) above.		
		Piptal - 4 mg		Antispasmodic drugs should not be added in fixed-dose mixtures.		
6)	Dependal Tabs (Eskaylab)	Per tablet:			E	2.
		Furazolidone-100 mg.		Effective antibacterial agent, also useful in Giardiasis.		
	12 tabs: 2.91	Quiniodochlor-200 mg:		May produce SMON; not confined to Japan; 7 cases were reported in Bombay; not a safe drug; should not be used in fixed-dose combination.		

(contd.

Sr.No.	Brand Name	Composition	Comments	Grading	References
7)	Diarmycin-N (Nicholas) Rs. 60 ml: 5.10	Per 10 ml:		C	3, 5, 17,
		Neomycin Sulph. 100 mg	: As in (1) above		2, 12, 16,
		Sulphadimidine - 134 mg	: Most of the bacteria are resistant to sulphas by now.		
		Pectin-67 mg	:		
		Light Kaolin-1.34 gm	As in (1) above.		
8)	Diarrest (Ebers) Rs. 50 ml: 7.00	Per 5 ml:		C	13, 14, 2.
		Metronidazole - 100 mg	: Same as in (1) above.		12.
		Furazolidone - 33 mg			
		Pectin - 75 mg			
		Kaolin - 700 mg			
9)	Dysenchlor Tab. (S.G.Pharm) Rs. 10 tabs:1.32	Per tab		D	2.
		Chloroquinaldol - 100 mg	: As in (6) above.		
10)	Emantid (MM Labs) Rs. 60 ml: 6.25	Per 30 ml:		E	2, 12, 3, 7
		Furazolidone - 200 mg	: Effective antibacterial agent; also used in Giardiasis.		
		Pectin - 130 mg	: As in (1) above.		
		Light Kaolin - 6 gm			
		Tincture belladona-0.6 ml	: Same as in (2) above.		
		Sod.Lactate-800 mg	: As in (4) above.		
		Pot.Chloride-330 mg			
		Sod.Chloride-470 mg.			

(contd...

Sr.No.	Brand Name:	Composition		Comments	Grading	References
11)	Enteromac (Mac)	Per 5 ml		...	C	5, 17, 2, 12
	64 ml: Rs.4.21	Neomycin - 75 mg	:	Same as in (2) above.		
		Light Kaolin - 750 mg Pectin-30 mg.	:	See (1) above.		
		Diphenhydramine-3 mg.		Irrelevant & useless as antidiarrihoeal.		
12)	Enterosan (Wockhardt)	Per tab.		...	E	3, 7.
	10 : Rs.1.86	Berberine HC1-40 mg	:	May cause hemolytic jaundice.		
		Di-iodo - 300 mg	:	As in (2) above.		
		Homatropine-0.8 mg	:	-"-		
13)	Enterostrep (Dey's)	Per Cap.& per 4 ml:		...	E	Same asin Chlorostrep
	12 : Rs.5.16 60 ml: 6.86	Chloro - 125 mg Strepto - 125 mg	:	Same as in Chlorostrep(3) above.		
14)	Enterovioform (Ciba)	Per tab			D	
	500 : Rs.54.00	Quiniodochlor - 250 mg:		As in (6) above		

(contdd..

Sr.No.	Brand Name	Composition	Comments	Grading	Reference
15)	Furamide Compound (Boots) 10 : Rs.4.55	Per tab.	...	B & C	16, 5.
		Diloxamide Furate-250 mg	: Useful in cyst-passers; not the drug of choice in acute amoebiasis.		
		Strepto - 120 mg	: Shigella & other entero -pathogenic organisms have become resistant to stre-ptomycin; rapid develop-ment of resistance; sensitisation.		
		Chloroquine - 50 mg	: Unnecessary; not indicated in amoebic dysentry.		
16)	Furamide Susp.with Neomycin (Boots) 60 ml : Rs.5.18	Per 10 ml:	...	B & C	3, 5.
		Dilo.Furoate - 250 mg.	: Not the drug of choice for amoebiasis.		
		Neomycin Sulph - 80 mg	Very inadequate dose; many strains becoming resistant to neomycin.		
17)	Furoxone Susp. (Eskayelab) 57 ml : Rs.4.90	Per 5 ml:	...	A	2, 18.
		Furazolidone - 35.7 mg	: As in (6) above.		
		Pectin-75.mg Light Kaolin-1 gm	: As in (1) above.		

(...contd.

Sr.No.	Brand Name	Composition		Comments	Grading	Reference
18)	Imotil (Cevee Pharma) 4: Rs 2.75	Loperamide HCl-2 mg caps.	:	Antiperistaltic drugs should not be used in children below 2 yrs. Even in older children they should be avoided.	D	7, 3
19)	Kaltin with Neomycin (Abbott) 60 ml: Rs.5.20	Per 5 ml:		...	E	2, 18, 3, 7, 3, 5.
		Kaolin-1 gm Pectin-22 mg	:	As in (1) above.		
		Belladona-0.05 ml Neomycin-50 mg	:	As in (2) above.		
		Sod.Lactate-133 mg. Sod.Chlor.67.2 mg. Pot.Chlor.-55 mg.	:	As in (4) above.		WHO formula
20)	Lactisyn (Griffon) 6 amp: Rs.12.73	Per ampoule:		...	A	18.
		Lactobacillus lactis--490 milli. Lactobacillus acidophilus-490 milli Streptococcus thermophillus-10 mmilli Streptococcus Lactis-10 million	:	May be useful in infectious diarrhoeas but results are not proved by controlled trials.		
21)	Laviest (Franco-Indian) 12 caps. Rs.10.04	Per Capsule:		...	A	18.
		Dried yeast powder-10 million cells of saccharomyces Cerevisiae - 250 mg.		-"-		

(contd....

Sr.No.	Brand Name	Composition	Comments	Grading	Reference
15)	Furamide Compound (Boots) 10 : Rs.4.55	Per tab.	...	B & C	16, 5.
		Diloxamide Furate-250 mg	: Useful in cyst-passers; not the drug of choice in acute amoebiasis.		
		Strepto - 120 mg	: Shigella & other entero -pathogenic organisms have become resistant to stre-ptomycin; rapid develop-ment of resistance; sensitisation.		
		Chloroquine - 50 mg	: Unnecessary; not indicated in amoebic dysentry.		
16)	Furamide Susp.with Neomycin (Boots) 60 ml : Rs.5.18	Per 10 ml:	...	B & C	3, 5.
		Dilo.Furoate - 250 mg.	: Not the drug of choice for amoebiasis.		
		Neomycin Sulph - 80 mg	Very inadequate dose; many strains becoming resistant to neomycin.		
17)	Furoxone Susp. (Eskayelab) 57 ml : Rs.4.90	Per 5 ml:	...	A	2, 18.
		Furazolidone - 35.7 mg	: As in (6) above.		
		Pectin-75.mg Light Kaolin-1 gm	: As in (1) above.		

(...contd.

Sr.No.	Brand Name	Composition	Comments	Grading	Reference
22)	Linopec (Pharma Research) 110 ml. Rs.5.40	Per 5 ml: Light Kaolin-2 gm Pectin-120 mg.	... As (1) above.	B	2, 12, 18.
23)	Lomofen (Searle) 10 tabs: Rs. 1.97	Per tab. Diphenoxylate HCl-2.5 mg : Atropine Sulphate- 0.025 mg	... Antimotility drugs should not be used in children below 2 yrs. Even in older children they should ~~xxx~~ be avoided, should not be added in fixed - dose mixture.	E	3, 7.
		Furazolidone- 50 mg :	As (6) above		
24)	Lomotil (Searle) 10 tabs:Rs. 1.84 60 ml:Rs.6.59	Per tablet & per 5 ml: Diphenoxylate HCl-2.5 mg Atropine Sulph-0.025 mg.	... As in (18) above	D	3, 7.
25)	Lopamide (Torrent Labs) 10 tabs:Rs.3-00	Per tablet: Loperamide HCl-2 mg	... As in (18) above.	D	3, 7.
24)	Mabinol Complex (Mac) 10: Rs.4.67	Per tablet: Chlorophenoxamide-0.2 mg. streptomycin Sul.0.16 gm	As in (15) above	E	18.
		Iodochlorhydroxyquinoline - 0.15 mg	As in (2) above.		

(contd...

Sr.No. / Brand Name	/ Composition	/ Comments	/Grading	/ Reference
27) Metroquin F Suspension (Noel) 60 ml : Rs.8.95	Per 5 ml: Metronidazole - 100 mg Furazolidone - 35 mg Kaolin - 1 gm Pectin - 75 mg	... : As (1) above : As (1) above.	C	13, 14, 1, 12, 18.
28) Mexaform (Hind.Ciba Geigy) 10 = Rs.1.80	Per tab: Quinodochlor - 200 mg Phanquone - 20 mg Oxyphenonium bromide-20mg	... : As (6) above. : Not the drug of choice; other better drugs available for amoebiasis. : As (23) above.	E	3, 7
29) Neldar (Phar-East) 60 ml: Rs.8.18	Per 5 ml Neomycin Sulph-50 mg Sulphadimidine - 100 mg Kaolin-1 gm, Pectin-30 mg: Pot.Dihydrogen Phos-25 mg Sod.Lact - 150 mg Pot.Chlor - 60 mg Sod.Chlor-100 mg.	... : As (2) above : Most bacteria are now resistant to sulfas. As in (1) above. As in (4) above.	B, C	5, 3, 13, 12, 18, WHO formula

(contd....

Sr.No.	Brand Name	Composition	Comments	Grading	References
30)	Neo Combactin (CFL Pharma) 60 ml: Rs.5.26	Per 30 ml	...	E	2, 12, 18, 3.
		Dicyclomine HCl-10 mg	: As (4) above		
		Light Kaolin - 600 mg Pectin-130 mg Neomycin Sulph-300 mg Sod.Lact-800 mg	: As (1) above.		
		Pot.Chlor-330 mg Sod.Chlor - 470 mg.	: As (4) above		WHO formula
31)	Pectokab (Chemage) Rs. 100 ml: 5.98	Per 5 ml:	...	B	2, 12, 18
		Pectin - 60 mg Kaolin - 1 gm	: As (1) above		
32)	Pectokab-MF (Chemage)	Per 5 ml:	...	C	1, 13, 14
		Metronidazole - 100 mg Furazolidone - 35 mg. Light Kaolin - 1 gm Pectin - 75 mg.	: As (1) above.		12, 18.
33)	Pelopem (Mercury)	Loperamide HCl-2 mg	... : As (18) above	D	3, 7.
34)	Pesulin-O (Codila)	Per 15 ml:	...	E	12, 18, 3, 7
		P thalyl Sulphathiazone-1 gm	: Most of the bacterial strains are now resistant.		
		Pectin-0.15 gm Kaolin - 3 gm	: As (1) above.		
		Tincture opium - 0.08 ml	: As (2) above.		

(Contdd....

Sr.No. / Brand Name	Composition	Comments	Grading	References
35) Prepared atta-Pulgite (Dextromed)	Per 6 gm powder	...	B	
	Attapulgite-3 gm	: Limited cosmetic value; does not decrease fluid loss.		
	Sod.Chlor - 120 mg Sod.Bicarb.-81 mg Pot.Chlor - 99 mg Pot.Dihydro Phos-99 mg Cal.gluconate-204 mg.	: As (4) above.		
36) Protoquit (PFI) 60 ml: Rs.7.50	Per 5 ml:	...	E	1, 12, 18
	Furazolidone-50 mg	: As (6) above.		
	Iodochlorhydroxyquinoline-125 mg	: As (2) above.		
	Pectin - 75 mg	: As (1) above.		
37) Renokab Susp. (Manners)	Per 4 ml:	...	E	
	Streptomycin base - 50 mg	: As (15) above.		
	Neomycin base-25 mg	: As (2) above.		
	Kaolin- 0.75 mg Pectin - 50 mg	: As (1) above.		
	Belladonna tincture-0.05 mg	: As (2) above.		
	Sod Chlor - 25 mg Pot.Chlor-10 mg Cal.Lact-10 mg.	As (4) above		

(contd....

Sl.No.	Brand Name	Composition	Comments	Grading	Reference
38)	Ridol (Gufic)	Loperamide - 2 mg. tab :	As (18) above	D	3, 7
39)	Salazopyrin (Carter Wallace)	Per tab: Salicylazosulphopyridin 0.5 gm :	Effective in ulcerative colitis	A	
	50: Rs.57.35				
40)	Salvacol (Associated)	Per 5 ml:	...	E	3, 5, 12. 18, 3, 7
	60 ml: Rs.7.60	Neomycin Sulph-50 mg :	As (2) above.		WHO formula.
		Belladona tincture-0.05 mg	-"-		
		Light Kaolin-750 mg :	As (1) above.		
		Pectin-50 mg	-"-		
		Sod.Lacate - 135 mg			
		Pot. Chlor-55mg. Sod. chlor.75mg.	AS (4) abpve		
41)	Saril (Rallies) (TCE)	Per tab:		E	5, 2, 1 12, 18.
		Streptomycin Sulfate -240 mg :	As (15) above.		
		Pthalyl Sulphathiazole--200 mg :	As (34) above.		
		Tannic Acid-50 mg. :	Not useful		
		Pectin-10 mg :	As (1) above.		
		Di-iodo.125 mg :	As (6) above.		

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D I S CU S S I O N OF C O MM E N T S

In th table, the comments are written in brief against each ingredient. There is a great amount of repetition as similar ingredients appear again and again in different formulations. Here we would discuss merits and demerits of different group of drugs.

A) Antibacterial drugs:

As is now well known, these play little part in the treatment of the acute stage of gastroenteritis. Certainly none in viral gastroenteriti s. They may infact do harm by further upsetting bowel flora. They can't, in any case, act fast enough to stop further loss of fluid in adehydrated child. It must therefore be seriously considered whether they have any part to play in thetreatment of gastroenteriti s[5]. If no pathogens are isolated, there is clearly no point in giving antibiotics, and it is of interest to note that in 40 to 50% of cases no organisms can be isolated from stool samples.

Particular mention must be made about some antibiotics which are inadvertantly used in antidiarrhoeal formulations.

Chloramphenicol

It is a broad spectrum antibiotic effective against several gram positive and gram negative organisms. However, it is a potentially toxic drug,. It can produce aplasic anaemia, other blood dyscrasias, optic neuritis, super-infection ...etc. There is always a danger of development of resistance. Therefore, this drug should be used only in typhoid fever and its misuse in trivial infections should be stopped at once. Contrary to expectations, chloramphenicol is not effective in non-typhoid salmonella gastroenteritis.[5,7] If chloramphenicol is combined with streptomycin, ~~xx~~ risk of optic neutitis increases.[2] Therefore, this combination should be condemned.

Streptomycin

It is aminoglycoside antibiotic effective mainly against Mycobacterium; but also effective against E.Coli, Proteus, H.influenzae...etc. Formerly, this antibiotic was used in bacillary gastroenteritis as many organisms were susceptible., but now most of the strains of shigella and other enteropathogenic organisms have become resistant to it.[5] Besides there is a danger of rapid development of resistance and sensitisation after oral use.[2] The use of this drug should be reserved for the treatment of Tuberculosis. It should never be combined with Chloramphenicol as discussed earlier.

Neomycin

This is a locally acting aminoglycoside antibiotic. It is effective against some strains of E.Coli. However, organisms are fast becoming resistant to this antibiotic. The recommended therapeutic dose of neomycin is 100 to 150 mg/kg/day.[3] However, almost all the antidiarrhoeal preparations containing neomycin provide a very inadequate dose of this antibiotic.

Sulphonamides:

Some antidiarrhoeal formulations contain sulphonamide preparations. However, effectivity of sulpha preparations has recently gone down considerably. Most of the organisms are resistant to them and hence their use is wasteful and gives rise only to side effects.

Furazolidone:

Furazolidone is an antibacterial agent effective against a variety of bacteria. Shigella, Salmonella, E.Coli, Enterococci are susceptible to it. It is also effective against Giardia. It is a cheap drug with few side effects. So, it may be widely used as an antidiarrhoeal drug.

Metronidazole:

Metronidazole is the drug of choice in amoebiasis and Giardiasis. Therefore, it is commonly found in antidiarrhoeal formulations. Ideally in each case of diarrhoea, stool should be examined, organisms should be identified and then specific treatment should be started. However, in our country, where majority of people cannot afford the cost of stool investigation and hence, the stool is not examined, the causative organism is not identified, the combination of metronidazole + Furazolidone may be justified as broad spectrum antidiarrhoeal.

Aminoquinolines

Quinibdochlor or other hydroxyquinoline derivatives are known to produce Subacute Myelo Optic Neuropathy (SMON) after prolonged administration. This side effect is not restricted to Japanese people but several cases have been reported in Bombay. The exact safe dose and duration of this drug is not determined especially in children; and, therefore, this drug should not be used routinely for any nonspecific diarrhoea. Certainly it should not form part of any fixed dose antidiarrhoeal mixture.

B) ANTIMOTILITY & ANTISPASMODIC AGENTS:

Lomotil (Diphenoxylate + Atropine), Loperamide and opium derivatives are antiperistaltic drugs. They stop the loose motions temporarily. They give a false sense of security without curing the underlying cause.[3] Paralytic ileus, respiratory depression, cardiac toxicity etc. have been reported in children following ingestion of lomotil. It is not possible to predict the toxic dose in children and while some may have only the mildest symptoms with relatively large doses, others develop severe toxicity on ingesting normal therapeutic dose. Therefore, lomotil should not be used in children below 2 years; and even in older children these drugs should be avoided in the presence of infection. These drugs should be available strictly against prescription. The fixed dose formulations containing these drugs may prove dangerous and should be banned.

Antispasmodic agents like dicyclomine should be used very carefully to relieve spasmodic pain. They can cause paralytic ileus and should never be included in an antidiarrhoeal fixed dose combination.

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As a rule any drug with higher risk of serious toxicity should not be used in a fixed dose combination, since in such a combination,,it is more likely to be used when not really indicated. Hence, it is recommended that all such preparations be banned as has been pointed out above.

C) Absorbents, Astringents, binding agents:

Pectin, Kaolin, Bismuth salts are the drug belonging to this group. Light Kaolin is a hydrated and purified aluminium silicate. It is supposed to absorb bacterias and bacterial toxins. Pectin is purified carbohydrate product obtained from citrus fruit extracts. It is claimed to form stools. However, the dose of these drugs provided in antidiarrhoeal mixtures is too inadequate. Secondly, it is reported that these drugs may cause loss of electrolytes by preventing absorption through gastrointestinal tract. These drugs, if at all, are only of cosmetic value and may actually mask the severity of the disease.

D) Eelctrolytes:

In the management of diarrhoeas, administration of water and electrolytestakes precedence over all other forms of treatment. However, electrolytes should never be mixed in antidiarrhoeal drugs. Electrolytes must be administered with water in proper formula and as per need of individual patient. Electrolytes provided in the antidiarrhoeal mixtures are in wrong proportion and too inadequate. They give rise to false sense of security and may prove harmful.

CONCLUSIONS

1: Antibacterial drugs should be used very judiciously and only if absolutely necessary in management of diarrhoea;

2: All formulations containing combination of chloramphenicol and streptomycin should be banned as antidiarrhoeal agents;

3: All formulations containing streptomycin or chloramphenicol (alone) should be avoided;

4: All other antibacterial agents if combined in antidiarrhoeal formulations,should be provided in adequate dosage: e.g. Neomycin, Colistin, Furazolidone, Cotrimexazole...etc.

5: Hydroxyquinoline derivatives should not be added in any of the fixed dose combination. As far as possible, these agents should be avoided and should be available strictly against precription;

6: Antiperistaltic drugs (lomotil, Loperamide, Opium) should not be used in children below 2 years and when used in children, should be used very cautiously in proper dosage and for very short period of time. They should not be added in any fixed dose formulations. Antispasmodic drugs like dicyclomine should be carefully used in children and should never be added in fixed-dose combinations.

(contd.....

7. Electrolytes should never be added in fixed-dose combinations with antidiarrhoeal agents. That gives false sense of security and may prove harmful.

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REFERENCES

1) Goodman & Gillman, 'The Pharmacological basis of Therapeutics', 6th edition-1980, Macmillan Publishing Co.

2. Satoskar, Kale, Bhandarkar's 'Pharmacology and Pharmacotherapeutics'.

3. Acute Gastroenteritis, Chapter 7, P-69 in 'Infections diseases of Children' by Saul Krugman & Samual Katz, 7th Edn; The C.T.Mosby Co., 1981.

4. Current Paediatric Therapy-10 by Sydney Gells & Benjamin Kagan-1982 WB Saunders Co.

5. Infectious diseases, Epidemiology & Clinical Practice by A.B.Christie, 3rd Edn-1980, Churchil Livingstone-P 116,188,190.

6. Textbook of Paediatric Infectious Diseases by Feigin & Cherry, Vol.I-1983.

7. 'Paediatrics' 17th Edn. by Abraham Rudolph-1982 (Appleton-Century Crofts), P-1549.

8. NEJM 262-864-921/1960. New England Journal of Medicine

9. NEJM 256, 1121, 1957.

10. Valman H.B., Wlman M.J., Use of Antibiotics in Acute Gastroenteritis among Infants in Hospital, BMJ1.1969, 1122.

11. Goetzee M.Leary P.M. - Gentamycin in E.E.Coli Gastroenteritis, Arch.dis.Child.46, 646, 1971.

12. Diarrhoeas in children: Indian Journal of Paediatrics July-Agusut 1980.

13. Essentials of Paediatrics-by O.P. Ghai/1980.

14. Textbook of Paediatrics, Vol-2 by Forfar & Arneil,1984.

15. Report 1966: Annual Report on the work of the Infectious disease hospital & their associated laboratory services, Western regional board hospital, Scot-land, U.K.

16. Davis Joan R., Farrant W.N., Ufley Anne: Antibiotic Resistance of Shigella Sonnei, Lancet, 2:1157:1970.

17) Ibid, 1968, 479.

18) AMA drug evaluations: 1984, 5th Edn.

19) Curtis JA & Goel KM-'Lomotil poisoning in Children' in Arch of Disease in Child: 54; 1979-p-222.

PHC for examination because of their chest symptoms.[10]

Out of every 15-25 sputum smears examined one is expected to be smear +ve. If all the smear negative patients were to be X-rayed, two or three "suspects" could then be found (including those cases who could be culture +ve). Even if every one is referred only 20% may actually report to a distant centre for X-ray examination[2].

The Cost in US $ of diagnosing one case by different methods[1]

Examination	Approximate cost of one examination	Approximate cost of diagnosing one case
Direct microscopy	0.21	3.4
Culture examination	0.49	12.1
70mm X-ray film (static unit)	0.26	3.5
70mm X-ray film (mobile unit)	0.50	73.0

Method of case finding at DMC if supplemented with sputum collection from symptomatics on house visit by multipurpose workers has shown encouraging results in the preliminary trials (doubled)[11].

No matter what we do or say, some patients will always first consult a private practitioner of one or other systems of medicine. Therefore if we want to diagnose and suspect early, all practitioners of all systems must be involved in the health care plan[21].

D. Surveillance:-

Epidemiological groups of population and their contribution towards new cases in a year[12]

Category	Size of population	Contribution to new cases	Remarks
X-ray normals	88.7%	48.2%	
Probably active TB shadow	1.5%	26.6%	Most rewarding
Inactive X-ray shadow	9.8%	25.2%	

Survielence of abnormal shadows (11.3% population) can at the best prevent only 1/2 the incidence of cases that are expected to arise in the community in a year.

E. Case Holding:-

It is a process of ensuring that a case of Tuberculosis completes the prescribed duration of chemotherapy which is atleast 12 months. The efficiency of this component has been estimated to be about 30-35% in NTP.

Proportion of patients making 9 out of 12 monthly collections in one year was 52% from the

treatment centre near at hand, compared to 7% when patient had to travel a long distance to collect medicines[2].

Drug collection was the same(30%) whether the patient was asked to collect drugs from the nearest primary health centre or from a local village panchayat member[13]. Organising periodic reminder services enhances regularity in drug collection.

Making just one attempt at motivation at the start of treatment was found to be rather inadequate[13].

Motivation of patients with household members every month for a period of 3 months was more rewarding (doubles drug collection)[14]

Sizeable proportion of patients drop out immediately after starting the treatment[15].

Collection at which first default takes place

Centre	1	2	3	4	5+
DTC, PHI	Obligatory	55.6	19.1	8.3	17.0

Treatment failures were as often due to lapses on the part of the patients. Inadequate diagnostic equipment., drugs and trained manpower could not meet the felt need of patients. In the small group in which the lapse was on the part of the patients, it was found that acute social and economic factors were often responsible for the default, if it was not caused by human forgetfulness[16].

In punctual drug collectors- only 5 to 10% did not properly consume drugs, rest did take regularly[2,17]

F. Drug Management:-

Regimen	Cost in rupees	Efficacy in experimental situation-%	Efficacy in * field situation %
12 TH	51.10	82	60
12 PH	446.80	89	64
12 S_2H_2	136.24	94	68
2 SHT/10 TH	120.64	96	76
2 SHP/10 PH	516.32	-	
2 RSHZ/5$S_2H_2Z_2$	746.80	100	
1 RSHZ/7 TH	265.32	100	
2 SHZ/5$S_2H_2Z_2$	516.40	100	

19: SM.75 gm(1.14), INH 200 mg(.08 Rs.), Pyrazinamide 500 mg (0.93 Rs.) Rifampicin 150 mg(1.28 Rs.), Thiacetazone 150 mg (0.06 Rs.), PAS 500 mg (0.05 Rs.), Ethambutol 200 mg (0.21 Rs.)

* loss due to inefficient case holding

G. The Prospects: Estimated sputum positive cases in an average Indian District with and without a district tuberculosis programme, at the end of one year

	No. of cases at to prevalence	Dead (sputum -ve)	Cured (sputum -ve)	Remaining (sputum +ve)	Cases added	No. of cases at prevalence	Estimated probable reduction
Without program	5000	700 (14%)	1000 (20%)	3300	1700	5000	Nil
With programme							
A. Potential							
--can be diagnosed	2000 (40%)[9]	280 (14%)	920 (46%)	800			
--cannot be diagnosed	3000	420 (14%)	400 (20%)	2180			
	5000	700	1320	2980	1700	4680	6.4%
B. Field situation Today							
Nagpaul 19 Diagnosed	776 (25-30% of the expected potential)	147 (19%)	357 (46%)	272			
Not diagnosed	4224	590 (14%)	845 (20%)	2789			
	5000	737	1202	3061	1700	4761	4.8%[19]
Shrinivasan 20 Diagnosed	776	101	357	318			
Not diagnosed	4224	590	845	2789			
	5000	691	1202	3107	1700	4807	4%[20]

x After applying differential cure rates for the sensitive and resistant cases as exist in field situations

With 50% geographical area coverage of NTP annual reduction will be 2% with growth rate of 24.75, expected prevalence of pulm. TB cases by 2000 AD will be 5/1000 total problem and 1.2/1000 infectious cases.

QUESTIONS:

1. Which component of TB control i.e.case detection, case holding and drug management has the potential of increasing its efficiency in field situations and to what extend?

2. Which component of TB control i.e. case detection, case holding and drug treatment is likely to be more rewarding if their efficiency is increased in the field situation?

Estimate of overall success in the treatment programme for various levels of efficiency of case finding, case holding and chemotherapy[22]

Component	Levels of efficiency				
	Present estimate of DTP	With expected improvement inefficiency of finding	With best chemotherapy	With better case holding	With all
Case finding	30%	70%	30%	30%	45
Case holding	35%	35%	35%	50%	50
Chemotherapy	75%	75%	95%	75%	95
Overall success	8%	19%	10%	11%	21%

3. What can be the role of (1) MMR (Static & Mobile units) in augmenting case detection?

(ii) Village health worker in augmenting case detection?

4. How can private practitioners of all the systems of medicine be actively involved in case detection and management?

5. If the distribution of antitubercular drugs is centralized through the peripheral network of government services only (Drug is not allowed) to be sold in the open market) so that registration of a case of tuberculosis is mandatory before receiving treatment-what will be its impact?

←7

REFERENCES:

1. A case finding by microscopy: D.R.Nagpaul, D.M.Savic K.P.Rao & G.V.J.Baily, W.H.O./T.B./Techn.Information/68.63.

2. District T.B.Control Programme in concept & outline D.R.Nagpaul, Ind J Tub.XIV. 196-198.

3. A Sociological Survey of awareness of symptoms Suggestive of Pulm. Tuberculosis: Bull.Wld.Hlth. Org.29, 665-683, 1963.

4. A Sociological study of awareness of symptoms and action taking of persons with pulm.T.B. Radha Narayan S., S.Prabhakar, Susy Thomas, S.Pramila Kumari, T.Suresh and N. Srikantaramu. Ind J. of Tub. XXVI, 136, 1979.

5. Socio-cultural context of T.B.treatment: Ind J Tub. 1982.

6. Prevalence of symptoms in a South Indian rural community and utilisation of area health centre. Ind J.Med.Res. 1977,66,635.

7. Symptom awareness and action taking of persons with pulm.T.B. in rural community surveyed repeatedly to determine the epidemiology of disease. Radha Narayan & H. Shrikantaram. Ind J Tub.28, 126, 1981.

8. Some aspects of sputum examination in T.B.case finding: Dr. Nagpaul, N. Nagamathan & M. Prakash. Ind J Tub. XXVI, 11, 1979.

9. Potential yield of pulmonary tuberculosis cases by direct microscopy of sputum in a district. of South India. G.V.J.Baily, D.Savic, G.D. Gothi, V.B.Naidu & S.S.Nair, Bull.Wld.Hlth Org. 1967, 37, 875/892.

10. An operational study of alternative methods of case finding for tuberculosis control, NTI Bangalore. Ind J. Tub.XXVI, 26, 1979.

11. Active case finding in tuberculosis as a component of primary health care. K.S.Aneja,R.Chandrasekhar,M.A.Seetha, V.C.Sunmugananden & GE Rupert Samuel. Ind J Tub. 1984, 37, 65.

12. Incidence of sputum +ve T.B. in different epidemiological groups 5 yr.follow-up of a rural population in South India: GD Gothi, A.K.Chakraborty & M.J.Jayalakshmi. Ind J.Tub.XXV.No.2, 83, 1978.

13.A. A study of some aspects of treatment cards in a DTP: Seetha et al. Ind J. Tub.23, 90, 1976.

13B. Feasibility of involving multipurpose workers in case finding in district tuberculosis programme Aneja et al: Ind J.Tub. XXVII, 4, 158, 1980.

14. Drug collection by patients through motivation of the families: Seetha M.A.Srikantaramu M., Aneja K.S. and Hardan Singh. Ind J.Tub.XXVIII 4, 1981.

... 7

15. Chemotherapy in national tuberculosis programme. K.S. [illegible]. NTI News letter 19, 58, 1982.

16. Effect of treatment default in India D,Banerji: Proceedings of the XXth. Int T,B.Conference, Paris, International Union against T.B. 1970.

17. A study to determine the reliability of assessing the regularity of self administration of drugs at home by patient's attendance at the clinic. S. Gehani, V.K. Perumal & D.G. Mathur. Ind.J.Tub. 1984. 31,74.

18. Cost consideration in short course chemotherapy. V.Sivaraman. Ind.J.Tub.Vol.XXX,2, 1983.

19. Tuberculosis in India - A perspective,D.R.Nagpaul: J. of the Ind.Med.Ass. 71, 44-48, 1978.

20. Tuberculosis in India - The prospect: S.Shrinivasan: Ind J.Tub.XXIX 71, 1981.

21. Recommendations made by tuberculosis Association of India - A Scheme for primary health care in tuberculosis: Ind J. Tub. 1981, 28, 218.

22. National Tuberculosis programme - relative merits of enhancing the operational efficiency of different components of the treatment programme. Ind.J.Tub.S.Radhakrishan Vol,XX 3,1983.

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Tonics : How Much An Economic Waste

KAMALA S. JAYARAO*

AMONG the pharmaceutical preparations that are indiscriminately prescribed are the vitamins, particularly those of the B-complex group. "Probably no single class of drugs (*Sic*) has been the target of as much quackery, misunderstanding, misrepresentation and misuse as the vitamins....."[1]. There are however a number of reasons for this, some in my opinion condonable.

Patients often come with vague symptoms which can be correlated to no known disease. The complaints may be genuine or psychosomatic, but the patient expects treatment. For example, a common complaint is pain in the back or pulling sensation in the legs. Or, it may be a simple complaint of general fatigue or loss of appetite due to no organic cause. What is one to do ? One usually prescribes a multivitamin or a B-complex preparation. This may be done for three reasons. The physician may sincerely believe that vitamins will help the patient or he may feel compelled to prescribe something. Thirdly, the patient himself may demand some medicine, generally a 'tonic'. What does a tonic mean, anyway ? In general parley it has come to mean a liquid preparation. However we do come across advertisements of 'nervous tonics' 'tonic for muscle strength' 'for energy' etc.. This is pure baloney. One of the definitions given by the Webster Dictionary for tonic is 'something that invigorates, restores, stimulates or refreshes'. Could it be the generous quantity of alcohol in these preparations ?

If the physician believes that B-complex would be beneficial, even if he has no scientific evidence or therapeutic basis, he need not in my opinion be castigated. We still do not know all the metabolic functions for which one or more members of the B-complex may be needed. Hence, we are probably not in a position to recognize all situations which may respond to vitamin therapy, though severe deficiencies of single vitamin have been well characterized in most cases.

The trouble arises with the dose that is prescribed. The physician should realise that in such undefined situation, the therapy is purely empirical. The burden rests on him to know whether he is prescribing the right amount, less or more. This brings us to the question of what the right amount is. Here we must defferentiate between vitamins taken as nutrients to ward off deficiency and taken for therapeutic purposes, in established deficiency. The latter dosages are not based on as careful a scientific scrutiny as the former. They are prescribed for **acute and severe,** single deficiency states like beri-beri, pellagra, keratomalacia etc. Since water-soluble vitamins are considered to be relatively innocuous, the amounts prescribed are very high, the main aim being to tide over the acute situation.

On the other hand, we have these various undefined situations which we attribute to vitamin deficiencies or anaemia. These are neither acute nor proven states of deficiency. If the condition is due to a nutrient deficiency, the deficiency is probably chronic and marginal or moderate in nature. Here the implication probably is that the individual is unable to meet his nutrient requirements. This is perhaps a justifiable premise since the prevalence of B-comlex deficiency in our country is relatively high. According to certain surveys the prevalnce rate is 5 per cent in pre-school children and 17.8% in pregnant women (assessed by the presence of angular stomatitis and glossitis)[2]. The percentage of those with less severe deficiency is expected to be higher.

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What is a nutrient-requirement ? The requirement for a specific nutrient is defined as the smallest amount of that nutrient that will ensure a good state of health. This will however, vary from person to person. Therefore, nutrient requirements are set down as recommended dietary allowances (RDA). These levels are believed to 'meet the known nutritional needs of almost every healthy person.' By experimental procedures, the highest requirements in a population are assessed, some further allowances are added and the RDA for each nutrient is fixed. Thus for many individuals the RDA will be higher than their actual requirement. No person need take more than the suggested RDA. The RDA for various nutrients have been fixed by international organizarions like the FAO and WHO[3] and by various national bodies including the Indian Council of Medical Research[4].

I was interested to know how some of the commonly available vitamin preparations fare when compared to the RDA suggested by the ICMR. *Table I* shows the RDA for some nutrients, for various physiological groups. For specific reasons, I have not taken the RDA for infants and children but in absolute terms these values will be less than those for adults. In *Table II*, I have presented the quantities of various vitamins purported to be present in each commercial preparation. It is however not the complete formula of the preparation. I have taken only some important vitamins into consideratoin. The list is by no means exhaustive. I culled them from some recent issues of the Journal of the Indian Medical Association. They are marketed by leading pharmaceutical companies.

In the process of this search, I came across an interesting or disturbing feature, depending on how you wish to perceive it. Many advertisements do not say what ingredients the preparation contains, leave alone their quantities. Many inform you that the preparation is a unique formulation of **generous** amounts of vitamins or that it is a vitalizer with **balanced** amounts of vitamin (Incidentally, IDPL is one of them). The advertisement merely proclaims the efficacy of their product in specified condition. There is one advertisement by a leading company, which reveals nothing about the formula but claims that it is good for memory ! It contains nothing but vitamins B_1, B_6 and B_{12}. The companies are probably cocksure that the physician will rely more on their advice than on his own judgement (and they are dead right).

This lack of needed information is one of the reasons why *Table II* does not have more preparations listed. But this is ample for what I have to say. There is also no reason to believe that those which escaped inclusion would be any different.

The RDA for any nutrient is the amount which if taken regularly will ensure that a deficiency state of that nutrient will not develop. For example if a sedentary, house-wife takes 1.0 mg riboflavin daily, she is expected not to develop riboflavin deficiency. As I said earlier, 1.0 is the highest level and most can afford to live on lesser amounts. The situations which are under discussion now, are considered to be deficiency states of mild or moderate degree. The individual might have depleted levels of the nutrient and **may need** higher amounts than the RDA. What

Table-I **Recommended Daily Allowances***

	Thiamine (B_1) mg	Riboflavin (B_2) mg	Nicotinic acid mg	Pyridoxine† (B_6) mg	Folic acid mg	Vitamin B_{12} mcg
Man :						
Sedentary	1.2	1.3	16	—	0.1	1
Moderate	1.4	1.5	19	1.4	0.1	1
Heavy work	2.0	2.2	26	—	0.1	1
Woman :						
Sedentary	1.0	1.0	13	—	0.1	1
Moderate	1.1	1.2	15	2.0	0.1	1
Heavy work	1.5	1.7	20	—	0.1	1
Adolescents :						
13–15 yrs	1.1–1.3	1.2–1.4	14–17	1.6	0.1	0.5–1
16–18 yrs	1.1–1.5	1.2–1.7	14–21	1.8	0.1	0.5–1
Pregnancy (Second half)	1.2–1.7	1.2–1.9	15–22	2.5	0.15–0.3	1.5
Lactation	1.4–1.9	1.4–2.1	18–25	2.5	0.15	1.5

* Taken from reference 4

† Taken from RDA of Food and Nutrition Board, U.S.A. 1968.

should this higher level be ? For acute and severe states like beri-beri or keratomalacia text-books prescribe doses, empirically arrived at and found to bring quick relief. These are usually much higher than what would be required even for that degree of amelioration. *Table III* shows the prescribed therapeutic doses, as obtained from various standard books on nutrition and medicine.

For chronic, moderate deficiency states or for situations where vitamins are prescribed empirically, we may assume that levels much lower than the therapeutic doses and slightly higher than the RDA should be enough. Let us be generous and double the RDA, remembering that the patient does receive a certain amount from his diet too. With this information I would like you to critically compare *Table II* with *Tables I* and *III*.

Much of the time drugs are not prescribed according to any therapeutic schedule. They are usually prescribed as ' 1 dose or 1 tablet, three times a day '. Items No. 1-4 in *Table II* are close to the RDA with respect to vitamins B_1 and B_2. Given as per the above mentioned schedule they supply 2-4 times the RDA, and it was argued above that double the RDA should be enough in moderate or doubtful deficiency states. We must also remember that when a diet is considered to be low in a nutrient, it is not totally lacking in that nutrient. The average diets of the low socio-economic groups provide 0.5 to 0.8 mg each of B_1 and B_2. Items 7-9 provide about 5-25 times the RDA in a single dose. If even such preparations are prescribed thrice a day, the intake would be 15-75 times the RDA. Item 8 in a single dose supplies thiamine in a quantity prescribed for the whole day in beri-beri ? Moreover in beri-beri it is not necessary to prescribe very large amounts of other vitamins. Thus preparations like 8 and 9 are not necessary at all.

An argument may be put forward that since water-soluble vitamins are harmless compounds there is no necessity to raise a hue and cry about the dosages prescribed. This is no doubt true but, ' such practice is economically wasteful and in some instances, causes financial hardship '[1].

Table-II Composition of some multivitamin and haematinic preparations available in India.

	1 Capsule	2 Cap.	3 5 ml.	4 5 ml.	5 Cap.	6 Cap.	7 Cap.	8 Cap.	9 Cap.
Vitamin B_1 mg	1	2	1.0	1.6	3.0	5	10	50	20
Vitamin B_2 mg	0.5	2	0.75	0.8	1.0	2	10	25	5
Vitamin B_6 mg	0.6	1	0.15	0.8	0.5	1	5	10	2.5
Niacin mg	4	..	7	4.0	30.0	10	100	100	100
Vitamin B_{12} mcg	2	..	0.45	2.5	5.0	5	5	5	5
Folic acid mg	2	..	...	..	..	1	...	0.5	1.0
Vitamin C mg	..	50	..	..	..	50	200	300	100
Iron	..	Sulp.	F.A.C	Gluco.		Sulp.	Sulp.		
(Type of salt) mg		150 timed release	185	35		200	41		
Vit. A. I.U.	..		250				25000		10000
Vitamin D. I.U.	..	..	90				1000		1000

Table-II (Contd)

	10 5 ml	11 Cap.	12 Cap.	13 Cap.	14 5 ml.	15 5 ml.	16 Cap.	17 3. ml I.M.	18 5ml. I.M
Vitamin B_1 mg				..				100	100
Vitamin B_2 mg				..				..	..
Vitamin B_6 mg				10				27.5	25
Niacin mg				..				..	..
Vitamin B_{12} mcg	25	25	15	50	7	15	25	1000	500
Folic acid mg	2.5	2.0	2	2.5	1.75	2	2.5		
Vitamin C mg	..	200	150	100	..	..	..		
Iron (Type of salt) mg	Colloidal oxide 100	Fuma-rate 350	Fuma-rate 350	Fuma-rate 300	Colloi-dal ox. 500	Fuma-rate 125	Fuma-rate 250		
Vitamin A									
Vitamin D									

It must also be remembered that water-soluble vitamins cannot be stored in large amounts unlike the fat-soluble ones. This of course is one of the factors underlying their low toxicity. ' In prescribing thiamine it should be remembered that the healthy human body contains only about 25 mg of the vitamin. Furthermore, it has no means of storing any excess taken in the diet: the excess is **lost rapidly in the urine.** The human body is certainly an effective machine for dissolving thiamine pills and transferring the solution to the urinal '[5]. Moreover it has been shown, atleast for riboflavin that intestinal absorption is limited by saturability and that higher the dose, smaller the fraction absorbed. This is no case in favour of parenteral administration either, because higher the amount in circulation greater the excretion in urine.

Thus, most of the ' high-potency ' or ' Forte ' preparations of multivitamins are a sheer economic waste. It is a drain on the patients' purse and the onus is on the doctor because he is making the patient buy a specific preparation. If bought by goverment or public sector dispensaries, it is a national waste. If preparations with smaller and yet adequate quantities were bought, for the same money more tablets could be purchased and a greater number of patients benefitted. Manufacture of such ' high-potency ' preparations must also use up an unnecessary amount of the scarce foreign exchange resources, since quite a few, and probably all vitamins (raw materials) are imported.

Thus it is not proper if one merely prescribes B-complex tablets and avoids brand name because he is a ' conscientious objector ' to brand names. As long as there is no uniformity in the dosage employed in various preparations, it is necessary to know which brand supplies or claims to supply requisite quantities of vitamins. Also, there is no need to blindly follow the ' one t.d.s. ' schedule. How much and how frequently, should be decided on the merits of the case.

Table-III

Suggested doses of vitamins for single, acute and severe deficiency

Condition	Vitamin	Dose (Oral)
Beri-Beri	B_1	10-25 mg bid or tds
Riboflavin deficiency	B_2	5-10 mg
Megaloblastic anaemia	Folic acid	5-10 mg
	B_{12}	5-10 mg
Megaloblastic anaemia of pregnancy	Folic acid	10 mg
Corneal xerosis		
Bitot's spots	Vitamin A	5000-10,000 I.U
Rickets	Vitamin D	1000-5000 I.U.

I also wish to draw your attention to one or two additional points. There is a widely held belief that a combination of vitamins B_1 B_6 and B_{12} is good for neuropathies and other nervous disorders. I don't think this is based on any solid therapeutic evidence. The reason the three are combined, I think is because each one has been shown to be effective in a specific disorder of the nervous system. Hence the triad is used as a short-gun therapy, indiscriminately. In fact, the brand names of certain such preparations incorporate Greek terms like ' encephalo ', ' neuro ' etc. The manufacturers of one preparation even claimi ts efficacy in improving memory.

' It (thiamine) may be given, though **without expectation of dramatic results,** in cases of nutritional neuropathy. There is no reliable evidence that it is useful in any other disorder of the nervous system. The prescription of synthetic thiamine, **either alone or in combination with other vitamins, as a general tonic or appetiser,** is supported by no scientific evidence and is now discredited. '[5]

' Vitamin therapy is often given to patients with polyneuropathy, although it is clear that polyneuropathy is not due to deficiency of vitamin B_1, B^{12} or any other known vitamin. Such treatment has a placebo value and probably no other, but is not to be decried....'[6].

For reasons mentioned right at the beginning I too do not decry the use of the combination as I do the dosage in such preparations. Items 17 and 18 in Table-II are two classical examples. Both are meant for parenteral use, another characteristic of this triple combination, probably because of the presence of vitamin B_{12}. The conventional prescription by physicians for parenteral B-complex is ' 2 ml I.M. once a day or once on alternate days '. Assuming the patient receives 6 ml in a week, he is given 600 mcg to 2 mg of vitamin B_{12}! What a collossal waste considering that vitamin B_{12} is an expensive substance. The prescribed dose even for pernicious anaemia is 2 mg weekly. even those who may argue that unlike the other B-complex vitamins, vitamin B_{12} is stored to a certain extent in the body may note that with each 1 ml goes 20-33 mg thiamine.

Many of the oral preparation too contain unnecessarily high amounts of B_{12}. The RDA for this vitamin is 1.0 mcg and in pregnancy and lactation, 1.5 mcg. Even conceding that a majority of the population cannot afford animal foods and hence many may suffer from vitamin B_{12}. deficiency, I see no

reason why any preparation should contain more than 2 mcg. and at the most 5 mcg vitamin B_{12}. This criteria is met by only 7 of the 16 oral preparations listed. If the preparations are haematinics combined with iron, they have to be prescribed three times a day. In which case the preparation should not contain more than 2 mcg B_{12}. Items 10–13, 15 and 16 must be very expensive and those who really suffer from B_{12} deficiency can ill-afford then. I also wish you to note that mixed haemanitics-iron preparation containing vitamins and minerals, are condemed by authorities in the field of anaemia. " Recovery of the patient with uncomplicated iron-deficiency anaemia is not helped by vitamin supplements or minerals"[7]. In our experience vitamin B_{12} and folic acid are not needed till haemoglobin levels come upto 11 gms. % or more.

Let us now consider the vitamin A content of these preparations. The prescribed dose of vitamin A for corneal xerosis and Bitot's spots is 1500–3000 *µg* (5000–10,000 I.U). daily[8,9]. The RDA during lactation, the maximum suggested for any group, is 3500 I.U. Notice the vitamin A content of items 7 and 9. Who needs **25,000** I.U. vitamin A daily ? Severe cases of deficiency like keratomalacia are not to be treated with oral preparations[9,10]. Those who really develop xerosis can never afford a pharmaceutical like 7 or 9, whose price is further raised due to presence of other nutrients. Imagine to what extent the price can be reduced simply by bringing down the vitamin A content, even to 5000 I.U., which itself is a high amount.

Then, there is the practice of adding glycerophosphates to liquid, multivitamin preparations. I do not know of what therapeutic value these compounds are. They are not mentioned in any standard text-book of pharmacology and therapeutics. As far as I know (see any pharmacopoea) they only form basic ingredients of syrups, possibly for flavour. However, a widespread misunderstanding is that they are ' energy givers ' or ' tonics '. Some brand names carry a prefix or suffix of 'phospho' and the advertisement says 'energy givers', ' vitalizer ' etc. This in my opinion is a fraud perpetuated by the drug companies and worse still, an unpardonable ignorance on the part of the doctor. The vitamins atleast, despite the excess and the wastage, do some good. I see no nutritive or therapeutic value for the glycerophosphates. Their presence is needed for syrup preparation but its name should not be included in the brand name and no claims should be made for its therapeutic efficacies.

One of the nutrients commonly added to multivitamin preparations is iron. Witness that out of the 16 listed items, only 4 do not contain iron. It is well-known that ferrous compounds are better absorbed than the ferric, and it is heartening to note that most are ferrous salts. A preplexing form is the colloidal iron oxide (items 10 and 14) which finds no mention in any book on pharmacology or iron metabolism. Since it is a colloidal preparation I doubt if the iron in it is easilly available to the body.

Of the various ferrous salts, ferrous sulphate is the least expensive and should be the treatment of choice, yet only 3 preparations contain it. It is said that contrary to popular thinking and claims, gastrointestinal intolerance to iron preparations depends on the **total amount of elemental iron** in the gut and on psychological factors; it is **not a function of the form in which iron** is administered.[1,7] Thus claims made for compounds other than ferrous sulphate, of increased tolerance or decreased toxicity, are not genuine. Also, sustained – release (timed–release) compounds (no. 2) take the compound beyond the duodenum and proximal jejunum and thus reduce iron absorption. Therefore it is wasteful to prescribe such preparations.

The RDA for iron ranges from 20–40 mg per day depending on age, sex, physiological state etc. This of course is for food iron and for free inorganic salts would be less. The therapeutic dose, on the other hand, is 60 mg elemental iron, thrice a day. Ferrous sulphate, fumarate and gluconate contain 20%. 33% and 12% elemental iron respectively. Items 11–13 and 16 are probably meant for iron deficiency anaemia. Prescribed twice a day they supply 250–350 mg elemental iron which is higher than the therapeutic dose. Thus taken, 13 supplies 150 mcg vitamin B_{12}. On the other hand, no. 7 supplies only 8 mg elemental iron per capsule. One may argue that this may be used as for prophylaxis and not treatment. Have a second look and tell me the situation where in an individual is **grossly deficient** in every vitamin one can think of and is yet not deficient in iron ? This is a pure commercial gimmick to claim haematinic value for the preparation. As early as 1936 Strauss said " shot-gun therapy is to be deplored for a number of reasons. Most mixtures of substances **fail to contain enough of any one ingredient to give maximal effects.** The patient must pay not only for the material he needs but also for the non–essentials " (cited from ref. 1).

One can go on endlessly in this manner. My intention in writing this is to bring to the notice of MFC members the fact that all multivitamin and haematinic preparations are not same.

1. There is no uniformity in dosage employed.
2. There is no authority to lay down criteria for
3. There is no authority to check whether the claimed doses are actually present.
4. Doctors prescribe these preparations with total ignorance of or indifference to principles of nutrition and therapeutics.
5. High-potency preparations should be available separately for single vitamins. Multivitamins need not contain amounts much higher than RDA. They are economically wasteful.
6. The false claims made for improvement of unspecified and unproven conditions are perpetuated due to the ignorance or compliance of the doctors.
7. Most of the companies have foreign collaboration. Most of the raw ingredients are to be imported. Could this be one of the reasons for the high dosages employed ?

I am sure you will find asking yourself many more such questions.

References

1. The Pharmacological Basis of Therapeutics. (L. S. Goodman and A. Gilman, eds.). Fourth edn. MacMillan Co., London. 1970.
2. Nutrition Atlas of India (C. Gopalan and K. V. Raghavan eds.) National Institute of Nutrition, Hyderabad, 1971.
3. Energy and Protein Requirements. WHO Tech. Rep. ser. No. 522. 1973; Requirements of vitamin A, Thiamine, Riboflavine and Niacin. WHO Tech. Rep. ser. No. 362, 1967, WHO Geneva.
4. Dietary Allowances for Indians (C. Gopalan, B. S. N. Rao) Indian Council of Med. Research, Spl. Rep. Ser. No. 60, 1968.
5. D. Davidson, R. Passmore, J. F. Brock and A. S. Truswell. (1975). Human Nutrition and Dietetics, Sixth edn. Churchill Livingstone, Edinburg and London.
6. W. G. Bradley (1975). The treatment of polyneuropathy. Practitioner 215: 452.
7. T. H. Bothwell and C. A. Finch (1962) Iron Metabolism. Little, Brown Co., Boston.
8. S. G. Srikantia (1975) Human vitamin A deficiency. Wld. Rev. Nutr. Diet. 20: 184.
9. Reddy, V. (1969) vitamin A deficiency in children. Indian J. Med. Res. Suppl. to vol. 57. p. 54.
10. M. F. C. Bulletin 8, August, 1976.

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Background Paper I

"CASE FINDING" & "CASE HOLDING" IN TUBERCULOSIS CONTROL PROGRAMME

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MFC-Back
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A. The Situation

Prevalence of the disease = 20/1000 population (X-ray diagnosis)
= 4.1/1000 population (bacteriologically Proved)
= 2.5/1000 population direct smear+
= 1.6/1000 population smear - ve culture +

Incidence of the disease = 1.3/1000 population (1/3 of prevalance of bacillary cases)

(Roughly 20% of the prevalence or the number who leave the 'pool' every year due to death and spontaneous cure resulting in state of near balance in prevalence over a span of few years)

Natural course of the disease = 50% die in 5 year
20% continue to excrete bacilli after 5 years
30% get cured spontaneously

Tuberculosis infection and disease is uniformly distributed in urban and rural areas.

80% of the disease occurs in the age group beyond 35 years

There is a gradual but slow, natural decline of tuberculosis in our country.

Socio economic uplift has brought down tuberculosis much more drastically even before control programmes were introduced.

Community with well functioning programme has shown fall in the prevalence.

Under T.B. control Programme, age of T.B. has shifted up, though incidence/prevalence has not shown any change.

B. Case Detection:-

The case detection efficiency of DTP is estimated to be about 30% of the expected.

Potential risk of acquiring infection from cases confirmed on culture only is considerably lower than from cases with tubercular bacilli detected in the smear.[1]

Of those who present with symptoms like tuberculosis (cough more than 15 days duration) above the age of 20 years (4.1% of total population), 30% show lesion like tuberculosis on

...2

MNR out of which 1/4th (6.2%) are confirmed as cases by direct smear examination.1

In the population above the age of 5 years (82% of total population) 1.8% have x-ray shadow like tuberculosis and 0.4% (1/4th) show sputum AFB positivity.2

As much as 95% of the infections pool (bacteriologically confirmed cases) are aware of symptoms and as good as 52% come themselves to seek medical opinion, out of which 96% cases can be found by meticulous sputum examination.3

Action taking for relief in the symptomatic group was 50% however, nearly 70% of those found to have bacteriological evidence of active disease by x-ray took action.4

To seek relief, symptomatic group go to[5]:

Private practitioners	58%
Public Health facilities	35%
Do not seek any treatment	5%

If preliminary treatment fails:-

59% go to private practitioners

10% to public health facility

30% can not afford and do not seek treatment.

Those who seek relief from the nearest health facility were only 23%.

Among patients registered at DTC, only 27% have not received treatment earlier ie., 1/3 patients come to DTC, 3/5 to private practitioners.5

Patients were not prepared to travel more than 5 kms unless symptoms are very pressing.6

Repeat sputum examination increases yield of the cases (10% of initial yield with each successive specimen). Among symptomatics attending TB Centre (relatively advanced cases) two specimens examined discovered 85% of all smear positives who could be found on examination of as many as 8 specimens from each individual.4, 8. Peripheral health institutions (with microscope alone) have the potential of diagnosing within one year 60% of total direct smear +ve cases or 10% of entire number of cases estimated to be prevalentein the district at a point of time that could be confirmed by any bacteriological method.9

C. Active Case Finding

For sputum positive cases, the large majority of patients could not be found even if services were provided close to their villages (0.5 to 8 miles). Number of patients found under such conditions was considerably short of the estimated total prevalence. By none of the methods (community development approach ie., active detection of symptomatics and referral to microscopy centre/or mass campaign with x-ray available at few miles distance) was it possible to diagnose even about 50% of the existing cases in the community ie., number that was already reporting to