# MEDICAL SERVICE



chai as strong as its member institutions ● misuse of antibiotics antimicrobials ● need of a rational drug policy ● the indian drug industry and the people's needs ● scientific scrutiny of some over—the counter drugs ● rational drug policy and primary health care—need for understanding, need for action

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# medical service

"the love of christ urges us" 2 cor 5 : 14

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EDITORIAL

## Health for the Masses

The World Health Organisation (WHO) has put forward a minimum four point formula for an effective primary health care system.

——safe water in the home or within fifteen minutes' walking distance, and adequate sanitary facilities in the home or immediate vicinity;

——immunisation against diptheria, tetanus, whooping cough measles, poliomyelitis and tuberculosis ;

——local health care, including the availability of at least twenty drugs, within one hours walk or travel;

——trained personnel for attending pregnancy and child birth, and caring for children up to at least one year of age.

In spite of this, the agonising factor is that these minimum requirements are denied to millions of people in the developing countries. In our country it is said that there are about 45000 formulations of drugs available in the market. Yet, in many remote villages even the minimum twenty drugs, of which WHO speaks of are not available. At this sorry situation, what is essential is education of the masses, Environmental deficiencies, poverty and malnutrition are the real causes of diseases in developing countries. Food must be the first concern for health work in a community where people are hungry or many children are malnourished. Then, should come safe and clean drinking water and unpolluted air. Any number of drugs cannot substitute for these basic elements. Hence, what is essential is to build up awareness from the part of the common man. Because, ultimately people themselves will have to bring health to them.

"Primary Health Care" says Zafrullah Choudhury of Bangladesh, "is generally lacking only when other rights are also being denied. Usually, it is lacking only where the freed of some goes unchecked and unrecognized as being the cause. Once primary health is accepted as a human right, then the primary health worker becomes, first and foremost, a political figure, involved in the life of the community in its integrity. With a sensitivity to the villagers, and the community as a whole, he will be better able to diagnose and prescribe. Basically, though, he will bring about the health that is the birthright of the community by facing the more comprehensive political problems of oppression and injustice, ignorance, apathy and misguided good will".

Our role in the health field, therefore, would be giving this knowledge to the common man and empowering him to take decisions which are good for himself and to the community he belongs, and thereby people themselves looking after their health.

# CHAI as strong as its member institutions

—Dr. C.M. Francis

The Catholic Hospital Association of India has chosen wisely to pause and look back at its past and the present, so that it can take action to develop further. Development includes growth and direction. Over the years, the association has grown in its membership and activities and, hopefully, it will continue to grow at an even faster pace. The present assessment should enable the association to make sure that it is proceeding in the right direction and, if necessary, make the appropriate changes in the direction, so that the desired goals can be achieved, translating ideals into reality. There is the challenge of exploring new grounds and of remodelling. I am sure that, given the vast experience and talents of the members of the association and its leadership, it should be possible to meet the challenges successfully, being sensitive to the changing needs for health care and health in the country. What might have been appropriate a decade ago, might have become inappropriate and obsolete today and certainly it will become so in the coming years. The health status of the people continues to be deplorably low, whatever indices are applied. There is a growing dissatisfaction with various aspects of health care: it does not reach the needy; the quality of care leaves much to be desired; the cost is prohibitive; it is becoming more and more impersonal. Rising expectations of the public must be met.

The Catholic Hospital Association must determine the avenues by which it can serve the people. There are many such possible areas:

i. Helping the member institutions to develop in providing comprehensive health care, with particular emphasis on primary health care and sharing experiences.

ii. Evolving alternate health strategies which can be made available to member institutions for adoption or adaptation and operational research for primary health care.

iii. Evaluating the member institutions so that the strengths can be built upon and weaknesses avoided.

iv. Training of community health workers for the member institutions and work elsewhere.

v. Providing consultancy services for community health work.

vi. Documentation, review and dissemination of the health care activities of member institutions and of others engaged in similar activities.

vii. Organising placement programmes for doctors and other health workers in member institutions and in the rural health care centres.

viii. Helping in the formulation and implementation of the National Health Policy.

ix. Participating with the Government and voluntary organisations for better health.

x. Acting as a forum for raising health issues and influencing the Government to bring forth legislation which will help in better health.

xi. Involving directly in situations of hazard to health, as in natural disasters

like earthquakes and cyclones or man-made disasters as in riots and gas leaks.

xii. Organising campaigns for better health, e.g.,

anti-smoking

respect life

rational drug policy.

In order to carry out these activities, the association must be healthy and strong. An association is as strong and healthy as its members. If the members are unhealthy, the association too would be unhealthy, as each part contributes to the strength of the whole. The strength of CHAI being in its member institutions, it is necessary to see how healthy the member institutions are.

To repeat a cliche, health has been defined as a state of complete physical, mental, social and spiritual wellbeing. This can be applied to the individual, the community and the institution. Let us apply it to the member institutions of the CHAI.

*Physical :* This would include:

*Accommodation :* the wards, outpatients, laboratories, library, rooms for seminars, meetings and conferences, waiting areas. In many of the member institutions, the accommodation is good compared to other hospitals, though very few are ever satisfied. There is always a yearning to have more, making the hospitals more and more unmanageable and less responsive to the psycho-social needs of the patients and their families. There is a view (well accepted in the case of children and probably true for others also) that members of the family staying with the patient can have a highly beneficial aspect. The hospitals have not catered to this need to any great extent.

*Equipments :* Laboratory, X-ray, therapeutic, diagnostic and others. Here again the situation with regards to availability of equipments is fairly good (relative to other hospitals in the country), though the tendency is to acquire more. It is necessary to ensure that all the equipments are in good working order. Advances in medical technology introduces more and more sophisticated and costly patterns of diagnostic and therapeutic procedures. The efficiency of some of these is doubtful. Newer and more expensive gadgetry needs highly trained and highly specialised technical personnel. Automated clinical laboratory testing often brings on more frequent testing. All these lead to cost escalation. The affluent patients can afford to pay the higher cost. If their demand is met, the deficit can be reduced. There is a conscious or unconscious shift to the care of the rich to the indirect negation of treatment to the poor.

*Furniture and machinery :* Hospital and common; laundry and other areas.

*Learning resources :* Books, journals, audiovisual aids. Most of the hospitals give low priority to these. There are however, a few notable exceptions.

*Pharmacy :* with the essential drugs and formulary.

Many hospitals have far too many brand drugs (pushed by the manufacturers and their representatives) and no formulary. It is necessary to have a drug policy and reduce the formulations to what is needed and not what can be sold. Some hospitals undertake the production of intravenous fluids and other formulations. *Quality control* is essential.

Facilities for other activities like nursing education, training of technicians and other paramedical programmes.

*Supplies* of various sorts, including linen and diet; standbye generators (good quality small generators are easily available in the market). Ambulances and other transport.

*Staff :* adequate in number and quality—professional, technical, administrative skilled and unskilled. Their selection, recruitment and development are very important. Catholic hospitals seem to have very few catholic doctors. This can be critical in areas such as Obstetrics and Gynaecology and in terminal care. In many Catholic hospitals, the administration is left in the hands of persons (religious sisters, priests) who have had no qualifications or previous experience in *hospital administration*. There is need for proper training of such administrators in the principles and practice of hospital and health administration.

*Medical Records :* An efficient medical record library is very useful for follow-up and better patient care.

*Satellite Centres :* One way of reaching out to the periphery is by having satellite centres, providing primary health care utilising the manpower and other resources of the main hospital and using the main hospital as a referral hospital. This would extend care to those who have been denied health care facilities all their lives. Another method is the use of mobile clinics.

*Mental :* The attitudes of management and staff should be in consonance with the *objectives* of the hospital. Are the objectives defined? Are all working in the hospital aware of the objectives? Are the objectives being followed? Is there an evaluation system? Are the objectives being redefined from time to time, as the needs change?

*Thinking* — Creative and constructive. Many hospitals live on their laurels and past achievements without making fresh efforts at innovation, improved management and better patient care. Everyone (management and health professionals) should adopt a problem solving approach. There should be discussions, journal clubs and bulletins devoted to improvement in patient outcome.

*Planning* — Is there a process by which the planning for service is carried out and involving all the sectors? Planning should embrace all aspects, strategic, operational and financial. There should be continuous evaluation, especially of changes introduced. Contributions to *improtvement in patient care and research* — Clinical and mortality conferences are a must. Attending regional, state and national conferences would be very useful for the professional, technical and administrative staff. Presenting papers and writing articles in medical and other health journals will keep the professionals on their toes. There is need for sharing of knowledge for the common good.

*Patient (and relatives) education :* Recently, I had a letter from a hospital saying that they have acquired a video cassette player for patient education and wanted advice on the purchase of tapes for patient management and health education. This shows interest in patient education. Education is lifelong. Everyone must keep abreast of the developments. This is particularly true for health care. The hospital must ensure that their staff are conversant with what is relevant at that time. There is need for constant *updating* and *continuing education* of the staff.

*Social :* How do the management and staff percieve the role of the institution in *meeting the needs of the community*? Are they *responsive* to the needs? An area which was traditionally agricultural, changed because a few industries were set up in the region. The morbidity pattern changed. The people's needs changed but the hospital continued to provide services according to the old pattern. We have to identify the newly emerging health problems brought about by the rapid changes and respond to them,

considering the relevance of the work to the community and involvement with and by the community. Most hospitals, while paying lip-service to this idea are reluctant to put it into practice.

Importance of *socio-economic* and *environmental* factors in the causation and persistance of illness: Do the hospital staff consider these factors when dealing with the patient? *Health economics* and cost of management should come into reckoning. Are the hospital staff *cost-conscious*?

*Health education* — Does it form an integral part of the activities of (all, many, some, a few) the hospital staff? Efforts must be made to inculcate principles and practice of *positive health*. Improving the life-style of the community and individuals (e.g. giving up smoking) and nutrition education can bring in great dividends. Effective features can be put up, counters can be opened where inexpensive books and leaflets, printed in local languages are made available to the public.

*Prevention of illness :* Immunization, well-baby clinics; periodical health check-ups; involvement in occupational health. Active participation in the national health programmes, especially in the eradication/control of such disease as tuberculosis, leprosy and blindness is necessary.

*Outreach programmes :* Most hospitals have outreach programmes, taking health care services to more and more inaccessible areas and nearer the homes. This is bound to have a salutory effect on health, especially if promotive and preventive aspects are emphasized, in addition to the mostly curative work. Evolving patterns of care for culnerable groups in our society and people with disabilities and diseases which have a social dimension.

*Spiritual :* Catholic hospitals should give the utmost importance to the *spiritual, moral, and ethical values*. The management, administration and staff should show their concern for these values in the everyday living. Do these values permeate every dealing? I am told that a common practice is to snatch the doctor from a neighbouring hospital, if he or she is found to attract a larger clientele. Hospitals are, occasionally at least, accused of being *corrupt, mercenary and dehumanised*. *Perception of life, death and issues in reproduction*. This is of special medico-moral importance to the members of the association. Discussion on problems in medical ethics: Does it form a regular feature in the activities of the hospitals?

*Taking a stand on moral and ethical issues*: Catholic hospitals have seldom been known to take a visible stand on such issues. *Hospital chaplaincy* is an urgent need of Catholic Hospitals. This requirement is sadly neglected. The hospitals often have no chaplains or have some retired priests, who are there more because they need the hospital services than their ability to be of service to the staff, patients and others of the hospital community. There is urgent need for trained, competent, and committed hospital chaplains who can attend to the spiritual needs and also provide guidance and counselling.

The importance of *prayer*. Are there prayers at set times? Many hospitals start their daily work with prayers either in one place or, if the hospital is large, in groups at the place of work. Some hospitals have devotional music at certain times, broadcast (gently) over the public address system. Are there prayers at critical times-critical in the life of the patient, the community, the country, humanity or the hospital? The healing ministry cannot be devoid of prayer and the recognition that we are not alone in this endeavour is extremely important in giving the needed strength and courage. Does the life-style and conduct of the staff show empathy for the

patients, the relatives and the disadvantaged in the community? *Code of conduct :* Is there a written and well-understood code of conduct for all those involved? Every patient, paying or nonpaying, must get the best quality (not recessarily costly) of care, responding to the Christian calling and ideals, "I was sick and you took care of me". . . . . "Whenever you did this for one of the least important of these brothers of mine, you did it for me".

An analysis, utilising the above criteria and others applicable to the particular situation and particular member institutions, is bound to help the hospitals see where they are now and help them to remodel themselves as needed. They can reinforce their strengths, remove their weaknesses and take hold of the opportunities to be of better service. Our hospitals brought much needed medical relief and help to large segments of the people when the health efforts by the Government were rudimentary. But we seem to have remained stationary. Our present day activities and style of functioning are not quite relevant in today's national context. Do we envisage a new role for our hospitals as powerful agents of change, bringing about a different orientation in our thinking — health versus medical care? The Catholic Hospital Association must help the member institutions to bring about a re-alignment of our priorities, extending basic health services to the communities and making the communities, families and individuals responsible for their health. When the individual member institution becomes better by reaching out to the periphery, more conscious of the need for social justice, cost-conscious and for the spiritual welfare of the individual and the community, the combined strength of the Catholic Hospital Association of India will become tremendous. The Association can then be a pace-setter and a great force for improved health care in the country and bring about better health for all.

The Christian health care services have received their mandate to participate in the Healing Ministry from Jesus Christ, the Healer and Teacher. The healing work was pointed out by Jesus Christ to the desciples of John the Baptist as evidence of being the expect Messiah. Our Lord Himself was 'reaching out' to the lowly and the lost. His disciples also gave great importance to relief of the sick and suffering fellow beings. The Catholic hospitals must have this spirit of healing, permeating all their activities imbued with a spirit of dedication and upholding Christian values. The Catholic Hospital Association must be the catalytic agent which helps any lagging member institution to achieve the goal.

# "DOCTOR — DO'S & DON'TS"

— Dr.Wishvas V. Rane

In clinical practice a doctor has to depend on drugs and diagnostic aids. The consumer i.e. the patient is normally ingnorant about the drugs, their effects and side effects. Buy, borrow or steal, a patient manages to buy any costly medicine. How-so-ever toxic the drug may be, he is willing to accept the side effects on the asking of the doctor. He is normally ignorant of long term side effects of drugs, and particularly drug induced carcinogencity or congenital anomalies that are usually accepted by the patient as act of God. But is this ideal? If not, how long will it continue and who should end it? In my opinion, it is the doctor who has to end this sorry state of affair.

The day is not far off when patients will start seeking aid of the courts in getting the redress from wrong treatment, unjust expenditure and side effects of the drugs. Though a doctor is legally permitted to use drugs, he is not immune to wrong use of drugs. Who leads the doctor to make wrong use of the drug? In my opinion, it is the drug manufacturer who is coaxing the doctor to use the drugs wrongly. Afterall, the drug manufacturer is in business and unfortunately our government machinery is not that vigilant and earnest in putting adequate restraints on the manufacturer.

Today the only source of information to a doctor is the medical representative. This medical representative is trained to talk only the positive side of his drug. The most unfortunate part is that lately the drug firms do not even leave a detailed literature (data sheet), but instead only show a visualiser that grossly highlights indications (and most of these are immaginary and without any scientific justification) and does not declare the contra-indications or the side effects. Strangely, even the composition of the drug is not indicated.

Dr. B.C. Mehta, the noted haematogoist from Bombay has reported that two of his cases were sensitive to analgin and were suffering agranulocytosis from analgin. The two cases, one being a doctor himself, became worst when their general practitioners used Baralgan for abdominal pain. On enquiries it was learnt that the general practitioners were ignorant of analgin's presence in Baralagan. Now for this lapse, who should be held responsible? Legally, it is the general practitioner who will be held responsible, but strictly speaking it is the manufacturing firm that should be held responsible for not giving the right information. How can we stop this? BY ASKING EVERY REPRESENTATIVE to leave a detailed literature for every product. This literature need not be on a glossy, multicoloured, costly literature, but a matter of fact printed on ordinary paper. Every doctor should first ask for the composition of the drug, then side effects of each constituent, and finally the contra-indications. We should force the government to screen every advertisement material — before it reaches the doctor.

Now that we are on the analgesic and anti-inflammatory agents, please note that analgin is banned in most of the developed countries as it causes agranulocytosis and also gastric bleeding. There is absolutely no reason to use analgin drops for children and certainly not as anti-pyrectic (Ultragin). It is advisable to use aspirin or paracetamol. Never use analgin containing anti-spasmodics viz Avafortan' Baralgan, Codolsic, Spalcin, Spasmolysin, Spasmizol, Synalgisic etc. Please be aware

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of analgesic and antipyretics containing analgin viz Neogine, Novalgin, Pamagin, Promalgin, Sedyn-A forte, Ultragin, Zymalgin-A etc.

Amongst the anti-inflammatory agents, *phenylbutazone* and *oxyphenbutazone* is banned by most of the advanced countries and even the original manufacturers Ciba Geigy have withdrawn their brand Tanderil from the world market. The government of India has restricted the use of oxyphenubutazone for only two rare indications that are (1) *ankylosing spondylitis* and (2) *acute gout*. Even for these two indications oxyphenbutazone is contra-indicated for children under 14 years of age and for senile patients. So please do not use any syrup forms of oxyphenbutazone: Bestophen, Buta-proxyvon, Esgipyrine, Parazolandin, Zoland in Alka, and those containing oxyphenbutazone are : Actimol, Algesin, Butapyringa, Flamar-P, Flamar granules, Inflavin, Jagnil, Kilpane, Oxalgin, Oxytriactin, Paroxy-D, Parvon Forte, Phenabid, Phenzyn-A, Reparil, Rumatin, Sioril, Suganril, Tromagesic, Versalin etc. Those containing both the toxic drugs viz as analgin and oxyphenubutazone should never be used. These are: Esgipyrin, Kilpane, Oxalgin etc.

Most of the digestive enzymes and particularly the *diastases* are inactivated in acidic medium of the stomach and the quantities of enzymes required is in grams and not miligrams as given in enzyme preparations have no role to play. The very fact that enzymes are not stable in liquid forms, most of the liquid enzymes available in the market are given in two separate packs. Once mixed and constituted, they cannot be stable for more than 2-3 days. It is advisable not to prescribe liquid enzymes.

Dose of *injectible tetracycline* is 250 mg to 800 mg intramuscularly daily. Giving 50 mg or 100 mg (because more than 2 ml becomes very painful) by I.M. route is fruitless. It should not be given to children and to pregnant ladies. Tetracycline in drops, soluble tablets or syrup to children should not be given, as it permanently discolours the teeth and given during the pregnancy, it is likely to discolour the teeth of the offspring.

*Chloramphenicol* should be carefully used and reserved for it's use in enteric fevers. Intramuscular chloramphenicol sodium succinate is of no use. Chloramphenicol in combination particularly like chlorostrep should not be used and certainly not for diarrhoeas.

*Forte formulations of B complex* only increase the cost of the treatment. Being water soluble, these are soon thrown out through urine. It is advisable to give smaller doses repeatedly. Combinations of Vit B1, B6, B12, are of no advantage and are likely to give rise to anaphylactic shocks. Combinations of Vitamin B1, B6, B12 with anabolic steroids (Trinergic, Anabolex 12, Neurobol H, etc) should not be used as these do not give any additional advantage. Anabolic drops should not be used in children (Anabolex 12, Orabolin).

*Heparin* is an anticoagulant which inhibits clotting of blood in vitro and in vivo. It has no effect on a clot in vitro. It's assimilation through skin is doubtful. It's *topical* use in haematomas, thrombophlebitis is very doubtful. The preparations are: Beparine, Hirudoid, Thrombophob.

Most of the diarrhoea (atleast 70 to 80%) is of viral origin and replacement of water and salts by ORT suffices. All the *anti-diarrhoeals* containing *clioquinols* (iodochloro, di-iodochloro etc), *chloramphenical*, streptomycin, Kaolin, Pectin, should not be used. After stool examination if the diarrhoea is due to amoebiasis either metronidazole and or diloxanide furoate should be used. If the diarrhoea is due to giardiasis metronidazole or

furazolidone should be used. Antibiotics should be used only after the culture study. *Diphenoxylate* should not be used for children under six years of age (Lomophen, Lomotil).

Drugs of doubtful efficacy viz Encephabol, Normabrain, Piratam Nutropil should not be used routinely in mentally retarded children or for treatment of polio.

*High dose progesterones* viz Proluton Depot and Unitprogesterone forte depot do not prevent abortion. Routine use of high dose progesterones during pregnancy is contra-indicated. Use of *Estrogen + Progesterone* combination for pregnancy testing is hazardous and should not be used.

*Anti-asthamatic combinations with steroids* should not be used. If need, be, separate steroids be given in acute stages and that too for a short period, but certainly not in combination forms.

None of the food products viz Alprovit (drops), Procasenol, Promolan Protectone, Protinex, Protinules, Sanatogen, Sue, Horlics, Complan etc offer any advantage over normal digestible foods excepting that these cause negative nitrogen balance by depriving the patients of their hard earned money. Home made weaning foods are much cheaper and acceptable to children.

# Misuse of Antibiotics Antimicrobials

Dr. U.N. JAJOO

A Prescribing Physician

With the time slowly realises that there are really few diseases where allopathy can offer a cure. Infective illnesses is one sub-area. 'Antibiotics is the greatest tool that modern medicine offers today against bacterial infection However it is a double edged sword, if not properly utilised not only harms the patient but also has wide ranging social implications, evidence of which is ample in the medical literature.

Antibiotics account for 20% of drug sale in India (1976 figures). In a given case, many times it is difficult to prove that drugs are being misused or irrationally used, because in majority of prescriptions, the doctor hardly ever writes the diagnosis. Even from the hospital records it is difficult to conclude correctly because written documents do not mention all that is in the mind of a treating doctor (It speaks of our recording quality), say of example:

(i) A critically ill patient of meningo-encephalitis, where diagnosis is uncertain, use of Inj. Chloromycetin, Inj. Chloroquin, Inj. S/M, INH all together can be justified to cover up enteric encephalopathy, cerebral malaria, tubercular encephalitis and pyogenic meningitis. It is a shot gun therapy, but is justified if one takes into consideration the seriousness of the illness and non-availability of investigational support.

(ii) A child with upper respiratory infection may have conducted throat sounds in chest which are wrongly interpreted as crepitations and thus patient is thought to have bronchopneumonia. Use of antibiotics now is perfectly justified. It may be a silly mistake on the part of the treating doctor that he did not examine after the child is made to cough, but is a part of the game which has to be conceded.

(iii) A child with severe diarrhoea is treated with the combination of antihelminthic (mebendazole), anti-protozol (Metranidazole) and antibiotics to cover up wide range of diarrhoeal diseases in a setting where examination facility is not available, may also be justified if one keeps in mind that the doctor will not like to delay the treatment and risk with child's life.

(iv) A patient with fever more than 7 days duration who can not afford to get his blood investigations (Widal, blood culture, peripheral smear of parasites) done for a perfect diagnosis, if is put on Trimethoprim + sulpha combinations to cover up resistant malaria, resistant typhoid fever, gram negative septicaemia should also be justified.

It all means, that the prescriptions may vary considerably in the same patient in the different setting. The pocket of the patient,

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availability of investigative procedure, human error on the part of the doctor all have their say. Therefore it is difficult to really rationally analyse someone else's prescription without knowing the situation in detail.

But there are indirect means to judge that doctors do overshoot. Indian literature in this regards is scarce, however there are studies available where the prescriber is informed in advance that his/her prescription will be screened for appropriateness of the drug prescribed or he/ she is asked to fill up a form justifying the use of antibiotic use as good as up to 25% (1, 2, 3, 4, 5). Other studies where physicians have been made to write the diagnosis over the prescription, it was found that antibiotics were prescribed without any evidence of infection in as good as 62% — 90% prescriptions.[6] Thus there is no doubt that antibiotics are improperly used.

**What harm the inappropriate use of antibiotics can inflict?**

(i) Adverse reactions

(ii) Huge cost of the prescription (See appendix)

(iii) Resistant bacterial infection.

Mutation in genes destroys affinity of all target site for the antibiotics or modifies permeability of the cell so that antibiotics can not enter the cell and find its target site. This is the mechanism for developmet of resistance in a given patient. However, problem of drug resistance does not remain limited to 'A' patient. Drug resistance is a infections organism can be transmitted to other sensitive organisms of the same or different species through so called as "Resistant Factor". This drug resistance is due to ability in the bacteria to modify the antibiotics with the help of certain enzymes that they can produce. The modified antibiotics can not recognise their cellular target and therefore have no inhibitary effect on the cell.

To make things worse, this transmissible resistance is against series of drugs (multiple drug resistance). The fact that R factors can be transferred to every genus of enterobacteiraseae through non pathogenic bacteria like E coli (normal inhabitants of intestine), has become a major public health problem. If a person harbours E. coli with R-factor in the intestinal tract, they can turn sensitive pathogenic organisms like shigella, salmonella, V. Cholera to resistant ones. If this continues further, we may reach a situation when the future of chemotherapy can appear dubious.

Evidence of this type of resistance in Indian situation are many. The studies done on healthy subjects who had not consumed any antibiotics for atleast one month (Bombay; 1977-78) showed 28% of them harboured multiple drug resistant strains of E. coli and much lower (6%x) of multiple drug resistant strains among individuals of nearby village. The resistance was predominantly for drugs like Sulfonamide, Streptomycin, chloremphenicol, ampicillin, Kanamycin, and tetracycline which are most commonly used antibiotics. The resistance to newer drugs like gentamycin and trimethoprim has also emerged.

**How antibiotics improperly used?**

A. Antibiotics use when not indicated e.g.

(i) For common cold and all upper respiratory illnesses which are in majority self limiting viral infections. It is estimated that as good as 12% prescriptions of antibiotics are given for common cold[8].

(ii) For acute diarrhoea in children without any evidence of dehydration, dysentry, sereve malnutrition, septicaemia.

(iii) For viral infections without any evidence of bacterial super-infection.

B. Antibiotics use when contraindicated e.g. :-

(i) A patient of chronic renal failure gets sulphadrugs, tetracycline, aminoglycosides (Nephrotoxic).

(ii) A new born infant gets chloromycetin (grey-baby syndrome).

(iii) A diabetic patient gets sulpha drug like trimethoprim + sulpha combination (Papillitis Neuroticane)

(iv) Inj. streptomycin in a patient of ear-disease (ototoxicity)

C. Irrational combinations eg. :-

(i) Penicillin with tetracycline or chloromycetin (See appendix).

(ii) Gentamycin + Kanamycin (two drugs of the same group).

D. Improper selection of drug e.g. :-

(i) Use of Ampicillin because organisms are thought to be resistant to penicillin (Ampicillin does not act against penicillase producing organisms).

(ii) Demedocyclin is used when other tetracyclines which have less toxicity and equal effectivity are available (See appendix).

(iii) Erythromycin Esteolate (hepatotoxic) is use when other salt of erythromycin (erythromycin ethylsuccinate) which is less toxic and equally effective is available (Appendix).

(iv) Use of penicillin G when more acid stable preparation (Penicillin V) is available.

(v) Routine use of Inj. streptopenicillin for bacterial infection. Tuberculosis being so rampant and streptomycin being one of the cheap primary line of drugs, routine use of this combination is not justified if one keeps in mind the drug resistant tuberculous infection.

(vi) Use of Rifampin + Pyrazinamide + INH in a case of defaulter of tuberculous treatment who has turned up for the first time to the hospital. Majority of these patients still respond to primary drugs[9] and in our setting shift to costly drugs of secondary line is not justified.

(vii) Use of chloromycetin ear drops which contain propylene glycol as preservative which irritates the ear.

(viii) Using chloromycetin + streptomycetin combination orally for cases of acute diarrhoea (streptomycin need not be given in short costing bacterial diarrhoea. The common organisms are not sensitive to this drug).

E. Defective route of administration:

(i) Use of Injection chloromycetin when patient can be given oral drug. (Injectable drug has irratic absorption).

F. Inadequate doses :- The possibilities are (i) Doctor prescribes dose for inadequate duration (ii) The patient does not have enough money to buy the total course of antibiotics, thus either reduces the dose or the duration. The notorious drug misused by doctors is injection tetramycin which is available in the concentration of 50 mg/ml. For adequate dose 5 cc of this oily preparation has to be given in an adult which is so painful that probably patient will not come back. The most convenient way is to reduce the dose. It serves two purposes, one that it reduces cost to the doctor and second it con-

tinues to give satisfaction to a patient of getting a coloured injection.

*Why antibiotics are misused*? The possible reasons could be :-

(i) Poverty of Knowledge of the prescriber.

(ii) Shot gun therapy as an easy substitute for the careful.

(iii) Antibiotics are prescribed also by the doctors from other disciplines of medicine such as Ayurveda, Homeopathy, Unani etc. i.e. those who are not supposed to be qualified medical practitioners.

(iv) Persuasive sales promotion by drug pharmaceuticals which are often the only source of knowledge for a busy practitioner.

(v) Easy availability of these drugs from the counter to the public who quite often practice self-medication.

(vi) Absence of cross-checks on the prescribing habits of the doctors.

(vii) Unaware consumer about the harm that misuse of antibiotics can inflict.

**Is there a solution to the problem :**

— Refresher course for the health personnel on indication of antibiotics in infective disorders?

— Availability of antibiotics only by the prescription from the qualified health personnel.

— A mandatory justification by a doctor for the prescription of antibiotics?

— Abolition of different brand names and insistance of availability of the drug by genetic name?

— Mass education of the "Consumers" about the indications of antibiotics use in common infective illnesses?

— A cultural revolution uprooting the marketised value system.

**Appendix - 1**

Please scan through the following table :-

— *Commonly used antibiotics and the cost*:

| Sr. No. | Drug | Dose | per tab./ cap/inj. cost | Total cost Rs. |
|---|---|---|---|---|
| 1. | Sulphadiazine (M & B) | 2 tabs 3 times x 5 days | 0.30 | 9.00 |
| 2. | Benicillin-V (M and B) | 130 mg 6 hrly. x 5 days | 0.48 | 9.60 |
| 3. | Tetracycline (Paran) | 500 mg 6 hrly. x 5 days | 0.34 | 13.60 |
| 4. | Chloremphenicol | 500 mg 6 hrly. x 5 days | 0.31 | 12.40 |

| | | | | |
|---|---|---|---|---|
| 5. | Septran (Sruxwell) — 80 mg | 2 tabs. twice a day x 5 days | 1.00 | 20.00 |
| 6. | Inj. Gentamycin (Lyka) - 80 mg. | 40 mg 8 hrly x 5 days | 10.20 | 76.50 |
| 7. | Kanamycin-1 gm | 1·5 gm total 5 days | 15.75 | 133.00 |
| 8. | Amoxicillin | 1 tab. 3 times a day x 5 days | 1.70 | 25.50 |
| 9. | Doxycyclin (US Vit.) | 2 stat, 1 O.D. x 4 days | 1.80 | 10.80 |

## Appendix - 2

Mode of action of different antibiotics (10)

| Site | Drug | Comment |
|---|---|---|
| Cell wall | Penicillin<br>Cephalosporin<br>Cycloserine<br>Bacitracin<br>Vanoomycin | Require cell wall growth for their cidal action |
| Cytoplasmic membrane | Polymyxin<br>colistin<br>Streptomycin | |
| Cytoplasm<br>(Protein & DNA-RNA synthesis) | Gentamycin<br>Tetracyclin<br>Chloremphenicol<br>erythromycin | Hampers normal protein synthesis |
| | Streptomycin<br>Kanamycin | Protein synthesis continues but forms a nonsense/abnormal polypeptic |
| | DNA — Naldixic acid<br>RNA — Rifampin | |

*Comments :-* Drug like penicillin group, action of which depends on cell wall growth, if combined with a drug which retards protein synthesis (chloremphenicol/tetracyclines), will be wasted unnecessarily because now cell does not grow under the influence of protein synthesis inhibitors. But the combination with aminoglycosides (streptomycin) is synergistic because protein synthesis (through abnormal) continues and cell wall growth is not retarded.

| Tetracycline | Absorption from GIT | Half life | Protein binding | Comment |
|---|---|---|---|---|
| Chlortetracyclin | Incomplete | 6-9 hours | 50-70% | |
| Oxytetracycline | ,, | ,, | 20-25% | Least hepatotoxin |
| Tetracycline | ', | ,, | 25-30 | |
| Demeclocycline | ,, | 16 hours | 40-50% | Hepatotoxicity more |
| Methacycline | Poor | ,, | 80% | |
| Doxycycline | Well absorbed | 17-20 hours | 25-30 | No nephrotoxicity |
| Minocycline | ,, | 17-20 hours | 70-75% | No phototoxicity but vestibulotoxic food does not interfere with the absorption |
| Erythromycin | Absorption | Plasma concentration | | Toxicity |
| Erythromycin base | destroyed by acid juice thus administered in capsule made with acid resistant coating | Good | 4-6 hrs | |
| Erythromycin stearate | Adequate | Good | 4-6 hrs. | |
| Erythromycin Esteolate | Adequate | Best, persists longer | | Cholestatic jaundice (Hypersensitivity) |
| Erythromycin ethylsuccinate | Adequate | Satisfactory persists longer | | |


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# NEED OF A RATIONAL DRUG POLICY

— Amitava Guha

The National Drug and Pharmaceutical Corporation (NDPDC) formed by the Ministry of Chemical and Fertilisers constituted three Working Groups who had studied various aspects of drugs and pharmaceuticals and submitted their report to NDPDC. The Steering Committee of the NDPDC had finalised its reports and recommendations, had submitted them to the Ministry on 18th August, 1984. It is expected that the Government of India would shape its 'Drug Policy' based on this report.

Chairman of the NDPDC is Shri Mahendra Prasad, a Member of the Parliament. He is also the Managing Director of Aristo Pharmaceuticals which till date comfortably sells *Aristopyrin* containing Amidopyrin, banned by the Govt. and many other irrational and hazardous drugs. NDPDC has 12 members which includes two members of the Parliament from Congress (I), seven are representatives from the industry and rest are government bureaucrats. The Council also includes a leader of a central trade union which has no trade union in the Pharmaceutical Industry. Needless to mention, that the Government did not consider that Non Governmental Organisations, who were actively working in the field of health and drugs had any role to contribution to make in any manner, to such a vital area like drug policy. It is, therefore, not very difficult to estimate that the drug policy prapared by such a combination of experts will serve the interest of the persons other than the ailing common people of this vast country.

NDPDC, in its report mentions — "In India, over 15,000 formulations (to our estimate it is 40,000) are marketed representing around 2,500 medicines in various brands, packs and dosage. UNIDO and WHO have noted that the developing countries cannot afford the luxury of unplaned production of many different drugs for prevention of same disease. Depending on the public health needs, disease problems and technoeconomics of production, UNIDO had recommended that each country should draw a priority list of essential drugs which contains the collective view of international experts. This list consists those required for satisfying the health care needs of the majority of the population. They should therefore be available at all times in adequate quantities and in appropriate dosage forms."

(Summary of the report of NDPDC, P:6)

Therefore the Experts Committee of NDPDC first selected 121 essential drugs which includes the following groups :-

| | |
|---|---|
| Antibiotics | — 19 drugs. |
| Anti malarials | — 5 drugs. |
| Anti T.B. | — 4 drugs. |
| Cardiovasculr | — 22 drugs. |
| Diuretics | — 11 drugs. |
| Oral contraceptives | — 10 drugs. |

It reflects that cardiovascula r disease and oral contraceptives are needed much more in our country than antibiotics, anti T.B. and anti-malarial drugs. The same is reflected form the demand estimate exercised by the Committee.

| Name of the drugs | Unit | Estimated production 1984-85 | Estimated demand 1989-90 |
|---|---|---|---|
| Cardiovascular | Tonnes | 29.21 | 112.45 |
| Anti malarials (2 drugs) | Tonnes | 440.00 | 725.00 |
| Anti T.B. (5 drugs) | Tonnes | 778.00 | 1490.00 |
| Phenylbutazone | Tonnes | 112.85 | 220.00 |
| Oxyphenbutazone | Tonnes | 110.00 | 6650.00 |
| Iodochlorohydroxyquinoln | ,, | 136.80 | 460.00 |
| Di-iodohydroxyquinolin | ,, | 95.55 | 160.00 |

(Compiled from Annual Report, Ministry of C & F and Report of the NDPDC).

The above table shows a surprising affinity of our Govt. to the demands of Phenylbutazone, oxyphenbutazone and clioquinols which are now considered as dangerous drugs and being banned in many countries. The NDPDC, in its 58 pages report had not uttered anything about withdrawing of banned and hazardous drugs.

The Industry has successfully convinced (or pressurised) our Govt. that".... many companies are in the red because of strict price control." (NDPDC Report, P : 12) 1978 New Drug Policy revised the Drug Price Control Order, 1970 which had put a blanket restriction of profit on all drugs at the rate of 75% mark up. 1979 Order exempted many drugs from the restriction but for some life saving and essential drugs in the categorised items. This was also unbearable to the industry. As a result there was sharp fall of production of life saving and essential drugs and sharp raise in other drugs of decategorised group. Profit of the industry remained unabeted. Analysis from the 1983-84 balance sheet of some large multinational companies shows.

*Rs. in lakhs.*

| Name of the Companies | Profit before tax | Net Worth | Capital employed | % of profit to net worth | % of profit to capital employed |
|---|---|---|---|---|---|
| Boots | 502.23 | 687·37 | 889.28 | 73% | 56% |
| Parke Devis | 218.71 | 587.49 | 591.02 | 37% | 37% |
| Hoechst | 753.70 | 2778·64 | 3585.63 | 27% | 21% |
| Roussel | 190·81 | 444·94 | 521.06 | 43% | 37% |
| Searle | 642.31 | 830.00 | 916.71 | 80% | 70% |
| Warner Hindusthan | 316.69 | 480.86 | 480·86 | 66% | 66% |

(Compiled by Dr. Mira Shiva, VHAI).

In a letter addressed to the Minister of Chemical and Fertilisers dt. 6-12-84, Dr Y.K. Hamied of CIPL Ltd writes: "During the meeting, I indicated that subsequent to the New Drug Policy, 1978 the prices of drugs in the decontrolled list had risen appreciablly in a number of cases even up to 200-300 percent or more." There is no doubt that the industry is making profit and pressurising for more allowance from the Government.

There is some amount of price control on 360 bulk drugs. NDPDC now recommends that this number should be reduced to 95 drugs and the mark up should be raised up to 125% which will result not only in immediate increase of the prices of all essential drugs but the prices of all other drugs will jump simultaneously.

Working Group on Planning and development set up by the NDPDC was supposed to study the production pattern of the industry and prepare recommendations for future planning. The Working Group indeed submitted their report in time. It was a 18 pages report out of which 12 pages are attributed to export orientation of the pharmaceutical industry. It is a novel idea! In India around 22% of the population use pharmaceuticals. Due to increase of prices which will be the inevitable outcome of the new Drug Policy will further squeeze the domestic market. If further allowances are given to the industry with liberalisation of import, the industry will function in full bloom in the external market. Even before the drug policy is passed the Government has already opened the flood gates of concessions and price enhancement. Bulk manufacturers of antibiotics have already been allowed to increase the prices for three times so far during the current year. Production of some bulk durgs were restricted to public sector and Indian companies. Now the Govt. has delicenced the production of 94 bulk drugs which will allow the foreign companies to manufacture the drugs which were so far restricted to them. This will render unequal competition and pose a danger to the Indian sector companies.

It needs a rational out look to prepare a drug policy which of course can not be isolated from the rational health policy. An all round anarchy is prevailing in the health care system of our country. A doctor, the moment he leaves his teaching institution is devoid of any connection to the developments of the modern medical world. This task is taken care, in a very oblique manner by the industry. Their hoards of sales promotion employees, tutored to speak for the products of the company, concealing the side effetcts, contraindications, drug interactions, etc. meet the doctors every day and with the help of these doctors an artificial demand of non-essential drugs are generated. Our policy makers never attempted to arrange for dissimination of drug informations.

In recent times injectable contraceptives have been rejected by many countries at the very onset of trials. German remedies, a multinational company took advantage of the peculiar situation of our country where there is no system of drug nomincleture and marketing code. The drug 'Net oen' a brand of "Morethidrolone Enanthate" a progestronal preparation similar to depot provera has not yet been complete ly field tried in our country. This drug is under the phase IV of the trial protocol of ICMR now. At this stage, German Remedies with the help of a mere six pages cyclostyled note which consists of few quotations from some insignificant trials, are convincing the doctors to indent the drug for actual use. In turn, these indents will be placed by the company to the Govt. to show that the doctors of our country are keen to buy them. The company will then *import the drug which is not used in Germany—the parent country of the company.*

Attitude of the multinational companies are known today. A global opinion is developing against their activities. The Govt. is quite helpless to their harmful activities. In June, 1983 a feeble attempt was made by the Govt. to ban certain drugs, most of which have weak marketability. However, this ban order could not be given effect as two multinational companies—Nicholas Laboratories and Organon (now Infer) took the issue to Supreme Court. The Injunctions of the High Courts of Calcutta and Bombay has allowed the companies to market harmful drugs. Till the court decides, the sale of these drugs will continue so will the injury of the people who would be consuming these drugs.

The Govt., according to the Drug Price Control order, 1970 regularly fixes the prices of bulk drugs. Industry has to furnish all informations to the Govt., Department (BICP) for approval of prices. It is found that a good number of companies are not following the prices fixed by the Govt. and selling them at a much higher rate. Some of them are :-

| Name of the Company | Name of the drug | Prices fixed by the Govt. | Selling price of the companies | —per kg of the drugs % of increase |
|---|---|---|---|---|
| Hoechst | Baralgon Kitone | 1810.20 | 24,735.38 | 1,267% |
| " | Glybenclamide | 2450.00 | 9,800.00 | 300% |
| " | Pheniramine Maleate | 582.74 | 809.00 | 39% |
| Merind India | Dexamethasonc | 51.00 | 92.62 | 83% |
| S.G. Pharma | Oxyphenbutazone | 696.72 | 1,002.00 | 44% |

(Source : Ministry of Chemical & Fertilisers).

This issue was similarly taken to court and injunction was issued by the High Court of Delhi on legal technical matter. Later the Govt. lost the case and made a leave petition to the Supreme Court on 9th July '85· As a result the industry is continuing the sale of the products at a highly inflated rate. Our policy makers had not considered these situations and the real need of the society had remained ever ignored.

Whatever have been mentioned here are only pointers to the seriousness of the situation. The industry led by the multinationals do not care for the people but for profits. Policy makers take care of the opinions of the industry only. A study by National Council of Applied Economic Research, sponsored by the Organisation of the Pharmaceutical Producers of India (organisation of the multinational companies) has formed a major back ground of the NDPDC's report. The issue of Rational Drug Policy is bound to ignore the interest of the people.

It is, therefore, the task of the Non Governmental Organisations to take up the issues, Scientists, medical profession health workers and other mass organisations need to concentrate their effort to study the situation, prepare alternative policy and campaign in support of their policy so that the vicious cycle of the Govt. industry metabolising profit out of the unawareness of the people can be stopped. Health will then become free from profiteering and emerge as a right.

# The Indian Drug Industry and the People's Needs

— Dr. B. Ekbal*

The Pharmaceutical Industry is today one of the most multinational of modern industries. The firms which dominate it in the developed countries are to some capacity present almost in every developing countries. The social importance of its products is such that in recent years it has been subjected to increasing enquiry and citicism in several countries.

The UNCTAD in a report in 1975 said that while the huge expenditure by transnational drug manufacturers on marketing research and development was borne by poor consumers it contributed little to the real health needs of the vast majority of the developing world. Ralf Nadar, in a recent study concluded that 77% of all drugs approved by FDA of U.S.A. during a recent 30 month period, were ineffective or offered little or no advance over existing products.

In 1975 Dr. Halfdan Mahler, Director General of WHO made a serious change, "Drugs not authorised for sale in the country of origin, — withdrawn from the market for reasons of safety or lack of efficiency — are sometimes exported and marketed in developing countries". The third world according to Mahler is being increasingly used as a testing ground for new drugs developed by the multinationals.

Consumers are captives of drug industry as in no other commercial venture, and physicians are forced to play the role of the purchasing agents for consumers. And doctors often prescribe in darkness partly because Medical Schools do not provide pharmacological training after graduation and partly because they succumb to high pressure sales tactics of drug sales representatives. Ruthless marketing techniques, and the unrelenting control of multinationals over bulk chemicals embodying the latest technology have guaranteed the companies windfall profits and a virtually impregnable market position. And these multinationals exploit the third world market through false advertising, representing the therapeutic value of drugs whose use have been severally curtailed or limited in the developed countries.

From all study reports, enquiries and judgement in India and other countries of the world it can be concluded that multinational drug firms produce and sell substandard medicine causing death, physical hazards, and deformation. The multinationals create confusion by misleading the physicians by misquoting the trial reports by hiding side effects and toxicity of drugs.

The multi-national drug companies because of their strong hold over the drug industry have given more priority to the production and marketing of non essential drugs rather than giving importance to the essential life saving drugs. They usualy produce profitable medicines like tonics cough syrups and vitamins not life saving drug. The whole picture is one of 'drug colonialism' says Dr. Halfden Mahler.

The drugs and pharmaceutical industry in India companies of 110 manufacturing units in organised sector and about 2500 units in small scale sector. The organised sector shares 80% of the market. At the end of the 6th five

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year plan in 1982-83 the planned target of production has been estimated to be Rs. 1900 crores. Pattern of production of the dominating units is private sector, which consists of multinationals.

A large part of the total output of these drugs firms consist of drugs which are non-essential like vitamns, tonics cough syrup and tranquilizers etc. Sales of vitamins is 65.2, 31.9 and 49.5 of the total turnover in case of three multinational firms. Manufacturing of vitamins has led to large scale abuse besides draining scarce foreign exchanges. Despite the fact that excess of vitamins beyond a certain quantity canot be absorbed by the body many firms are manufacturing tablets with higher vitamin contents. At the same time production of such medicines which can cure specific diseases is limited. Only 31.5 of the total drug produced in India are meant to cure specific diseases.

The production of cholera vaccines in Indian cannot meet needs in time of epidemics, eventhough production was started 40 years ago. Vaccines against polio, mumps, influensa and measles are not produced in India at all.

In an UNCTAD study, prepared by the Jawaharlal Nehru University and the Indian Council of scientific and industrial Research (ICSIR) on technology transfer in the Indian pharmaceutical Industry, a comparison of the patterns of disease and the pattern of drug production shows the inappropriateness of the drugs produced in India for catering to the needs of the masses. Of the 51 drugs marketted in India to combate the 3 major categories of diseases (infectious, parasitic and respiratory diseases) 28 have to be imported. Anti-Malarials like primaquin and trimethoprim are not produced at all in India. Further, though chloroquin is produced in India its, imports exceed local production although Malaria is a common disease among the poor. Similarly, eventhough cholera vaccine is being produced in India for over 40 years now, its indigenous production is inadequate during epidemics and the production of vaccines against influenza, mumps, measles and pollomyelitis is "non-existent".

An analysis of 7399 formulations out of the total of 15,000 formulations being marketed in India in 1975, by all largescale units (accounting for the 85% of total formulations production) showed that vitamin preparations accounted for 15% of the total number of formulations, the largest single groups of drugs marketed. Tonics, nutrients and deficiency "drugs (9%) tranquillizers and sedatives (5%), expectorants (5%) accounted for another 19% of the total number of finished products sold. All these items together accounting for over 34% of the total, are vigorously sold to the rich under popular trade marks with high pressure advertising and sales promotion campaigns. Most of the basic ingredients required for these preparations have to be imported. For example in the case of cough syrups and tonics none of the basic ingredients in these formulations are produced in India.

While anti-infectives and antibiotics drugs account for 21% of the total, their production generally falls short of the quantities required to treat the widely prevalent diseases cured by them. An analysis of the value of the drug formulations produced reveals the same pattern. In 1976, the total value of drug production in the country was Rs. 700 crores, vitamins,tonics, health restoratives and enzyme digestants accounted for 25% of the total value of drug production, antibiotics 20%, anti TB drugs 1·4% and sulphonamides 1.3%. The study concludes that "In the planning of drug production in India, the pattern of diseases is not given enough attention. Instead, NMCs have transferred technologies for manufacture of products that are suited to the disease pattern of the western world to meet the de-

mand originating from a relatively small section of well to do consumers in India. This has occured because their 'patent protected' and branded products earn a much higher profit margins than the generic products required by the poor".

There are about 45000 brand drugs now on sale in India. It is estimated that 70% of the 15,000 in circulation are worthless and atleast 40% of them are harmful or potentially harmful. WHO in 1977 suggested that each country should draw up its own essential drug list which include drugs it considered to be of utmost importance and are basic, indispensible and necessary for the health needs of the population. WHO has published a model list of essential drugs consisting of 190 drugs. The Hathi Committee (1975) commended that 117 drugs will meet the health needs of the people in India.

There is widespread practice of freely selling irrational and down right harmful drugs, which are either banned or restricted in the west, by the MNCs in the third world countries. Valuable investigative work done by many individuals and organisations in different countries round the world has disclosed the extent to which these companies can go in their obscessive pursuit of profits. There is also a growing suspicion that the people of developing countries are being used as "guinea pigs" for extensive testing of certain drugs which is now virtually impossible to do in the developed countries with strict drug control laws and organised consumer protection movements.

The banning of the drugs in India or even their control is a tedious and often impossible task because of the plethora of control measures. Some of the drugs that have been bannned with a great deal of procrastination over the years is still furtively available in the market as are some drugs banned or rigorously controlled abroad. Recently the Drugs Consultative Committee recommended the weeding out of 22 drug formulations. The firms were asked to stop production by September 1982 and marketing and sales by March 1983. The Governments procrastination in stopping the sales of drugs obviously to help the manufacturers to clear the stocks, has come in for severe criticism in a recent judgement on drug issue by the Hon'ble High Court of Kerala.

But the banning of 22 formulations itself was so much diluted. For eg· hydroxyquinoline group of drugs are permitted to be administered for diarrhoeal diseases. The drugs have been known to cause SMON (Sub Acute Myelo Optic Neuropathy) in 28 countries of which Japan reported 10,000 cases. They suffer numness and weakness in the legs and eye damage. A large number became blind. One firm had to pay out millions of dollars as compensation and the drug was subsequently banned in U.S.A. and U.K.

Depo-provera an injectable contraceptive banned in America for its potential for causing cancer and birth defects is being pushed into millions of women in mostly poor countries including Bangladesh and Pakistan by some international agencies. The controversy surrounded the use of depo-provera has taken a new term following the publication of reports that the drug is also being pushed to U.S. citizens mostly black and Indian women. The drug may be marketed in India on the pretext of controlling the population explosion.

The absence of a national stability forum like the British Safety Committee on Medicine in U.K. or FDA in U.S.A. is one of the reasons for this sorry state of affairs. Only three out of 22 states in India (Maharashtra, Gujarat and West Bengal) have machinary to regulate the manufacture, distribution and sale of pharmaceuticals. A lot of drug analysis done at private laboratories barely equipped for the job.



Some vital measures like the introduction of essential drugs in mass scale as advocated by the Hathi Committee and WHO, centralised bulk purchasing of these essential drugs by national agencies, introduction of generic names in preference to brand names, cheap standardized packaging of a limited but sufficient number of products need to be implemented rigorously in poor countries in order to provide essential drugs at low prices to a much larger proportion of their people. But in almost all countries the large pharmaceutical firms have consistently opposed such policies. It is a measure of the enormous power and influence they wield that they have generally been successful in getting rid of all progressive measures taken by some third world countries like Sri Lanka and Bangladesh.

The use of drugs has in any case to be put in its proper perspective. In the developing countries like India ill health is mostly caused by a vicious combination of malnutrition and infectious diseases. Drugs cannot help unless the very sources of diseases, nutritional and environmental conditions are improved. Latrines to carry away excreta, improved housing draining stagnant water and pipes for clean water are much part of a programme to bring health to people as drugs and hospitals. A National Drug Policy linked to a heatlh strategy which meet, the real health needs of the people should be formulated.

The Kerala Sastra Sahitya Parishad has already initiated a big campaign exposing the anti-people and exploitative tactics of the multi-national drug companies. The questions of essential versus non-essential and dangerous drugs, the inadequacy of the drug safety control measures, the rising prices of life saving drugs, the non-implementation of the Hathi Committee recommendations are being highlighted during the campaign. The aims of the campaign will be to sensitise the medical profession on these issues and to launch a People's Movement for the formulation of a People's Drugs Policy. KSSP is planning to organise seminars, street meetings, exhibitions, signature campaigns, slide shows, art items; publication of pamphlets, books etc. during the campaign period.

Table 1

PRODUCTION OF VACCINES

| Vaccine | Target (Lac. doses) | Production (Lac. doses) 1980-81 |
|---|---|---|
| DPT | 400 | 145 |
| DT | 200 | 120 |
| Tetanus | 210 | 70 |
| Polio | 60 | 20 |

*Note* : 1 Pharmaceutical Enquiry Committee 1952.

> "No foreign concerns should be allowed to set up factories unless they undertook to manufacture products which were not manufactured in adequate quantities by other factories, starting from basic chemical and/or intermediate as near to the basic chemicals as possible within a reasonable time".

*Note* : 2 Recommendations of Hathi Committee.

1. Nationalisation of Multinational Drug Cos.
2. Establishment of a National Drug Authority.
3. Production of 117 essential drugs.
4. Elimination of irrational drug combinations.

5. Abolition of Brand Names and Introduction of Generic Names.
6. Revision of India National Formulary.
7. Quality control of drugs to be strengthened.

*Note :* 3 Hathi Committee 1975.

"Continued presence in this country of the highly profit motivated multinational sector can but promote only the business interests of the sector. Their presence in India, as a part of their global effort to capitalise on human suffering in an organised manner, must therefore cease as early as possible, we therefore strongly recommend that the multinational units in the field of drugs and pharmaceuticals should be taken over by the Government. Such take over will not create any dislocation in the production or distribution of drugs".

*Note :* 4 KERALA HIGH COURT JUDGEMENT O.P. No. 8439-82-L.

"As between the lives of the citizens of this country on the one hand and the loss that they may result to the manufacturers and traders by the immediate ban on the manufacture and sale on the other, Government has chosen to view the later as of more concern".

"The provision of a cut off date for manufacture as well as on sales is an irrational, highly unjust, unfair and amoral approach adopted as a result of a distorted appreciation of values".

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# Scientific Scrutiny of some over - the Counter Drugs

— Dr A.R. Phadke

A host of over-the-counter medicines—medicines which are advertised in the -lay-press, media, and can be bought without a doctor's prescription — are being marketed by various companies. As of today, there is no independent expert body to scrutinize these medicines on scientific grounds as to their effectivity, safety and price and to advise the consumers accordingly. Such a body is necessary for all industrial products used by a layman. But its necessity is particularly felt in case of medicines, because, in the field of medicine there is a lot of scope to include unnecessary, ineffective ingredients without the consumer least suspecting it. Moreover a sick person is less critical about the contents and the price of the medicine which he/she buys since he/she is psychologically more bothered about getting immediate relief, or improving health. Health is one area where people are prepared to pay more readily. Drug companies know this consumer-psychology very well and can exploit the situation to their profit oriented aims. The aim of this paper is precisely to show empirically that the logic mentioned above in fact operates in our country in case of over-the-counter medicines.

Three types of medical products are directly sold to the laity :-

1. Products offering symptomatic relief from minor ailments — e.g. Vicks Vapour Rub, Coldarin, Anacin etc.
2. Various types of tonics and "health restoratives" — Phosphomin, Gripe waters, Incremin etc.
3. Food substitutes—Complan, Glucon-D etc.

I have chosen a couple of most widely used products from each category for a somewhat detailed scrutiny as to their exact role, usefulness compared to their cost and compared to the claims made or impressions created by the producers in their advertisements, I have confined myself only to the allopathic medicines since I have no training in other systems of healthcare. I have selected certain brands for scrutiny and discussion only for the sake of illustration and I do not want to selectively criticize or favour any particular company. As far as possible I have used non-technical language and have explained some medical points assuming that substantial number of participants in this seminar are non-medicos.

## Pain-Killers, anti-cold and anti-cough preparations

(a) Pain-Killers — A number of analgesic-antipyretic (i.e. pain-killing and fever reducing) preparations are directly sold to the laity — e.g. Anacin, Aspro etc.

Table 1, gives details of some of them.

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Table 1

| No. | Name of the product | Contents | Price per tablet in paise (Oct. 1985 prices) |
|---|---|---|---|
| 1. | Aspirin | Acytyl Salicylic | 4 to 5 |
| 2. | Aspro | 1 Aspirin — 350 mg.<br>Caffeine — 20 mg. | 11 |
| 3. | Anacin | Aspirin — 389 mg.<br>Caffeine — 16.2 mg<br>Quinine sulfate — 8.1 mg | 17 |
| 4. | Avedan plus | Aspirin — 350 mg.<br>Acetyl-P aminophenol — 125 mg.<br>Caffeine — 30 mg. | 11 |
| 5. | Powerin | Aspirin — 350 mg.<br>Caffeine — 65 mg.<br>Codeine — 8 mg.<br>Salicylamide — 65 mg.<br>Paracetamol — 65 mg. | 23 |

### Unnecessary Additions

All these preparations contain Aspirin and in addition one or many other ingredients to get more analygesia. But standard text books of Pharmacology tell us that addition of these other analgesics have no additional advantage. Thus, for example, the famous Goodman-Gillman's text book tells us "The many mixtures of Aspirin with acctaminophen, or phenacetin and often with caffine and other drugs are promoted with claims that they provide more analgesia. None of these claims withstand critical scrutiny. In most clinical trials, relief of pain by an analgesic mixture has not been superior to that of Aspirin alone". (1) It may be argued that by adding other analgesics to aspirin, we are reducing the dose and hence the side-effects of aspirin.

But this claim too does not withstand scientific eivdence "All analgesic antipyretics alone or in combination, are adequately tolerated in recommended dosage. Difference in the incidence of gastro-intestinal distress and other minor adverse effect are (2) generally inconsistent and of doubtful practical significance".

Opinions expressed in standard text books have to be accepted than the ones ex-

pressed by individual researchers based on their individual experience. Addition of other ingredients merely increases the cost of the medication for equivalent dosage as can be easily seen from table No. 1.

*Pure Waste* — Some of the ingredients in some of these preparations are a pure waste. For example—Salicylamide (used in Powerin) It is "no longer an official drug. Its effects in man are not reliable, and its use is not recommended. The small doses included in "over-the-counter" analgesic and sedative mixtures are probably ineffective." (3)

Its a pure waste of patient's money and of national resources to include such products in analgesic mixtures. Similar is the case with Caffeine — "In controlled clinical trials analgesic mixtures containing Caffeine have not been found superior to aspirin for relief of headache nor has Caffeine been found to contribute other favourable effects". (4)

Quinine Sulfate (which was used in Anacin until recently) has not even been mentioned in the list of analgesic drugs, though like some other drugs it has analgesic properties. Besides, 8 mg, of Quinine Sulfate has absolutely no value since the appropriate dose is 300-600 mg. Similarly, addition of a mere 65 mg. of paracetamol (therapeutic dose — 500 mg.) or 8 mg. of codeine (therapentic dose — 30 mg.) is also not likely to be of any help.

Addition of such ingredients in such dosages helps to confuse the patient, 'justifies" a different brand name and increases the earnings of the companies and the shopkeepers. Yes, even the retail-traders are interested in selling these brands instead of Aspirin since they get very little margin by selling these brands instead of Aspirin since they get very little margin by selling a 2 paise-per-tablet-drug. It is necessary to stop the production of all these fancy products and Aspirin be readily made available as over-the-counter drug.

(b) *Anti-cold preparations — Scientific treatment.* Common cold is a symptom-complex caused by viral infection of the upper respiratory tract. Cold is sometimes caused by an allergic response to changed weather, dust etc. This "allergic Cold" is characterized by sudden onset-violent sneezing profuse watery discharge from nose as well as to some extent from eyes and by its dramatic response to antihistaminics (anti-allergic agents).

As is well known, we don't have any drug to kill the virus of common cold. It is a self limiting disease and the treatment is essentially aimed at relieving symptoms and helping the body to get rid of the virus. Thus, the treatment of uncomplicated common cold is—rest in warm bed, plenty of fluids and food, steam inhalation, gargles with warm salted water. If there is a feeling of blocked nose, a few crystals of menthol ("Thandai" alias' "Asman ka tara" used in Masala-pan) can be added to boiling water to inhale this mentholated steam. If headache, body-ache, and/or fever so demand, one can resort to one or two tablets of Aspirin three times a day.

Out of all these, ingredients, only menthol has definitive value, that too, when the "nose is blocked". At 2% concentration, menthol can act as a decongestant i.e. it reduces the excessive blood supply in the nasal tract and thus alleviates the feeling of " blocked nose'. However, its combination with Camphor (as is done in Vicks, Rubex) is "incompatible".

(Remington's Pharmaceutical Sciences, 15th edition 1975).

Camphor, turpentine oil, menthol have counter-irritant action i.e. they irritate the local tissue and thereby block the passage of painful stimuli from that area, thus, reducing pain. But these actions are hardly relevant in

## Role of Vicks Vapo Rub, Rubex etc.

Table No. 2 gives the ingredients of Vicks and Rubex ointments.

**Table 2**

Ingredients of Vicks Vapo Rub and Rubex per 100 gms. of the ointment.

| No. | Name of the ingredient | Vicks Vapo Rub | Rubex |
|---|---|---|---|
| | | *Quantity in gms.* | |
| 1. | Menthol | 2.82 | 2.8 |
| 2. | Camphor | 5.25 | 5.25 |
| 3. | Thymol | 0.10 | 0.10 |
| 4. | Turpentine oil | 5.5 ml. | 5.6 ml. |
| 5. | Eucalyptus oil | 1.41 ml | 5.5 ml. |
| 6. | Nutmeg oil | — | 5.5 ml. |
| 7. | Paraffin base | to make 100 gms. | |

common cold because pain in the nose is not at all the major symptom in common cold. These counter irritants merely give a psychological satisfaction that some "active" treatment is being taken with the help of a "strong medicine".

Turpentine oil in low dosage and eucalyptus oil have a "Stimulant-expectorant" action — i.e. they stimulate the output of secretions from the mucous membrane thus helping the body to throw out the sticky mucus. But this action is really relevant in the infections of the lower respiratory tract — e.g. bronchitis. In cold it may increase one's troubles by increasing the discharge through nose. Besides, steam is the best for this purpose. "Among innalants, steam innalation is supposed to be excellent expectorant. Steam of a very high relative humidity (above 85%) liquifies sputum, decreases its viscocity and affords the patient considerable symptomatic relief"[5]. Heat in the steam also gives considerable relief by relaxing the surrounding tissue. Thus, when we inhale the vapour of Vicks or Rubex by putting them into boiling water, it is the steam which is mainly useful. Eucalyptus oil etc. give only psychological relief if any. Menthol is useful only when the nose is blocked.

Thymol has antibacterial and anti-fungal properties, eucalyptus oil also has antiseptic properties. But these actions are irrelevant in the treatment of common cold because common cold is a viral disease.

The five — gram tinned pack of Vicks or Rubex ointment costs Rs. 2.10 whereas, the price of equivalent quantity of menthol crystals in the market is not more than 15 paise. According to Martindale, "Menthol with aromatic oils in a soft paraffin base (Vicks Vapo Rub) provided a higher and more prolonged concentration of aromatic vapours from open vessels possible by retention of the molten basis on the surface of hot water"[6]. But one need not spend so much for this. The same effect can be achieved by adding one or two crystals of menthol every half a minute to hot water.

## Misleading advertisements

Menthol is not necessary is each and every case of common cold. It is, therefore, unnecessary to resort to these mentholated ointments the moment one catches cold. The advertisement by the concerned companies do not tell us this. One is less likely to go back to work or to school (smiling ! ) the next morning as is shown in the advertisements, because common cold, whatever treatment you take, takes its own time to bid farewell to you. The

claim that Vicks ointments can relieve headache is also misleading. These ointments can relieve headache caused only because of blocked nose and not the one due to toxic substances released in the blood. Medical text books do not mention "Chest cold symptoms" which Vicks ointment is supposed to relieve. Martindale's text book tells us that "it is dangerous to apply an ointment containing menthol to the nostrils of infants, e.g. for the treatment of catarrh, it may cause instant collapse"[7]. The containers of these preparations do not give a proper, specific warning that it is dangerous to apply this ointment to the nostrils of children below one year. Only a vague mention is made on the vicks' container—"Do not swallow or place in nostrils—Consult Doctor if-illness in very young children. Nobody is going to "place" the ointment in nostrials, but many do apply it inside the nostrils.

Rubex is produced by "our" Indian Company, an associate of the famous Alembic Chemicals. This company does not give even the insufficient warning given by Richardson Hindustan Ltd. On the contrary it advises to apply the ontment "inside and outside of nose" without any qualification. This shows their concern for the life of infants.

Vicks and Rubex ointment are thus:[1] very costly compared to the benefits they offer (they *may* relieve *some* of the symptoms of common cold[2]) promoted by the concerned companies with misleading claims. The increased price is because of some unnecessary, useless ingredients; advertisements and the profit motive of the concerned companies. In 1980, Richardson Hindustan Ltd., sold more than Rs. 9 crores of Vicks-range-products (ointments, tablets, inhalers etc) and earned a gross profit of a whopping 47% of sales. The "administrative and general expenses" of this company, which are the main, expenses on advertising and sales promotion accounted for 37% of sales. The consumer has to pay through the nose so to say, all these expenses.

I have delt with over-the-counter analgesics and" anti-cold ointments" in some detail because they are the most commonly used over-the counter medical products and because the irrationality for these products—especially these ointments—is not well known even amongst doctors. I will now deal with other products in a very brief manner.

### Role of "anti-cold" tablets

The content of some of the "anti-cold" tablets are given in Table No. 3.

These tablets contain analgesics and some agents supposed to act as nasal decongestants and as 'bronchodilators. But as mentioned above, salicyl-amide, Phenacetine (now recently deleted) caffeine (Present in Action-500) are not the drugs of choice for relief of pain. Antacids like calcium carbonate, aluminium hydroxide, Magnesium hydroxide have been included in these tablets to reduce the irritation of the stomach caused by Analgesics. But as quoted above, analgesics "are adequately tolerated in the recommended dosage" and hence, inclusion of these antacids is unnecessary. Moreover, as seen from table No. 3 they are present in these preparations in such low dosage that they are unlikely to play any useful role.

Phenylephrine (included in Coldarin) acts as a nasal decogestant when applied locally. But "its absorption from the gut is not relieable", and hence is not recommended by mouth.

Ephedrine hydrochloride (included in Action-500) is a bronchodilator used in the treatment of asthma or in a certain type of bronchit's. Its inclusion in an anti-cold tablet is not at all justified. Moreover the dosage in which it is used in this tablet is ridiculously low.

Because of these unnecessary or irrelevant ingredients and because of advertising,

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the price of these tablets is extraordinarily high, compared to that of Aspirin without offering any additional therapeutic advantage.

(C) **Cough tablets and mixtures :-**

*Scientific treatment :-* Cough announces body's intention to throw away a noxious, unwanted agent in the respiratory tract. In a sense it is a protective reflex. But when that "noxious agent" is the inflamed, pricking throat, the cough is useless, "unproductive". When there is accumulated mucus in the lower respiratory tract, the act of coughing can throw it-out and the cough in these two types of cough is therefore different. In unproductive cough, attempts have to be made to suppress the cough-reflex. In productive cough, attempts have to be made to bring out the accumulated sputum.

Unproductive cough can be reduced by reducing the irritation in the throat. This can be achieved to a certain extent by warm saline gargles. Such gargles amongst other things, wash the irritating agents on the surface of the throat; relex the surrounding muscles by warmth, thus reducing the pain and irritation in the throat. Irritation can further be reduced by chewing simple limlet tablet which increases salivery secretions from the mouth. Saliva is an excellent soothening agent. The "cough-centre" in the brain can be suppressed by codeine or similar opioids.

To bring out the sputum from lower respiratory tract, various expectorants are used. As quoted above, steam is one of the best expectorants. Other ones are to be taken orally.

*Unnecessary and irrational :-* Recent additions of Goodman-Gillman's text book make no mention of the commercial throat-lozenges;

An Indian text book — "Pharmacology and Pharmacotherapeutics" — spends a few lines on throat lozenges, — "These preparation act by increasing the flow of saliva the best natural demulcent which produces a protective and soothing effect" .... "Costly preparations like lozenges, etc. containing multiple ingrediants are usually unnecessary and wasteful"[8].

Codeine, which suppresses the cough centre in the brain is present in some of the cough-mixtures like Glycodin and Vicks-Formula-44 (see table No. 4) But these preparations contain some other ingredients which are useless, or atleast of doubtful value. Recent editions of standard text books do not recommend such ingredients as Antimony Potassium tartrate or Terpene Hydrate in the drug therapy of cough and cold. These ingredients are supposed to have an expectorant actions. Even if we assume that they have an expectorant actions even in the dosage given, *combination of a cough suppresant with expectorants is obviously not at all justified.* Moreover, the dosage in which these ingredients are added has *absolutely no scientific basis.* As a result of these irrelevant or ineffective ingredients, the effective cost of codeine in the adult therapeuticde dose of 15 mg, comes to about 64 paise and 105 paise for Glycodin and Vicks-Formula-44 respectively. Whereas the price of Tab. Codeine Phosphate-15 mg. is 16 paise.

Waterbury's Compound (Red) is promoted for relief from cold and cough and also as general tonic. Some of the ingredients have supposedly been included for expectorant action. Of these, none have been recommended in text-books of Pharmacology because of doubts about their utility. For example about creosotes if has been mentioned — "Large doses of creosotes and guaicols have also been shown to possess this (expectorant) action in animals"[9]. Their role in man has not been definitively established. Moreover, these agents have been included in Water-

Table 3

"Anti-cold" preparations

| No· | Brand name | Ingredients | Therapeutic dose | Price per tablet in ps. (oct-85) |
|---|---|---|---|---|
| 1. | Coldarin | Aspirin - 600 mg | 300-600 mg | 45 |
| | | Phenylephrine-10 mg | Unreliable absorption. | |
| | | Caffeine - 300 mg. | 60 mg. | |
| | | Terpene hydrochloride 30 mg. | Not recommended | |
| | | Calcium Carbonate - 200 mg. | 1 gm. | |
| | | Vitamin-C - 50 mg (now deleted) | Not necessary | |
| 2. | Action 500 | Salicyl-amide-390 gm | Not recommended | 50 |
| | | Phenacetin-242 mg. (now recently deleted) | 300-600 mg. (not recommended) | |
| | | Aluminium hydroxide gel - 32 mg. | 500 mg. | |
| | | Magnesium hydroxide — 130 mg. | 300 mg. | |
| | | Caffeine — 32 mg. | 60 mg. | |
| | | Ephedrine — 8 mg. | 30 mg. | |
| | | Paracetamol - 650 mg. | 500 mg. | |

(recently added to replace phenacetin)

bury's Compound in ridiculously low amount. Same is the case with Sodium Salicylate. This preparation is thus virtually useless for treatment of cold or cough.

Vicks Vapo Rub is also advertised to "bring out cough from the chest". As mentioned above, eucalyptus oil and turpentine oil contained in Vicks and Rubex ointments have expectorant action. But it is impossible to achieve the kind of dramatic effect in one night as shown in the Advertisement-Film on Vicks Vapo Rub. Moreover the way the ointment, when applied to the chest, is shown to act defies all laws of medicine.

Table 4

Cough-mixtures

| No. | Brand Name | retail price per 5 ml. in ps. | Important ingredients per five ml. | Therepeutic dose in treatment of cough |
|---|---|---|---|---|
| | | (Oct.1981) | | |
| 1. | Glycodin Terp Vasaka | 46 | Codeine phosphate 11 mg.<br>Antimony potassium tartrate — 56 mg.<br>Terpene hydrate — 11 mg<br>Methol — 3.75 mg<br>Tolu syrup 1.25 ml<br>Vasaka syrup — 47 ml. | 15 mg.<br>Not recommended<br>—do—<br>—do— |
| 2. | Vicks-Formula-44 | 35 | Codeine phosphate — 5 mg<br>Ephedrine — 5 mg.<br>Sodium Citrate — 250 mg. | 15 mg.<br>30 mg.<br>Not recommended |
| 3. | Waterbury's Compound (Red.) | 15 | Creosote — .0025 ml.<br>Guicol — .00012 ml.<br>Sodium Benzoate — 45 mg. | Not recommended<br>—<br>300 mg. for analgesoa |
| 4. | Codeine Phosphate tablet | 16 | Codeine Phosphate — 15 | 15 mg. |

Actually application of this ointment to the chest is virtually a useless exercise for bringing our sputum from lower respiratory tract. Obviously the ingredients cannot possibly reach the lungs through the skin. Vapours of eucalyptus and turpentine oil formed due to body heat are in such a low concentration that they cannot exert any useful effect by entering through the nose. This particular piece should be removed from this film.

It is necessary to educate the people through various media about the causation and the scientific treatment of cold and minor cough. Drugs like Aspirin, menthol should be made easily available as over-the-counter medicines. Existing over-the counter commercial preparations should be banned. Only scientifically sound preparations should be allowed to be marketed and their advertisements should also be monitored to prevent the misleading of the lay people.

— II —

## TONICS

Incremin, Phosphomin and Waterbury's Compound (Yellow) (Syrups) Vimgran tablets and Gripe-Waters are the most widely advertised and therefore used over-the counter-tonics.

### Gripe-Water

Tonic in a wider sense is something which "Invigorates" the body. Even in this sense,

Gripe water is not a tonic. It is not even advertised explicitly as a tonic. But these mixtures are advertised in such a manner that an impression has been created amongst semi-literate, illiterate people, that it is a tonic. The advertisement typically shows a chubby baby and carries a caption—"For health of the baby" or "for a growing baby" etc. An illiterate mother interpretes that Gripe Water is a tonic for infants. As a result, apart from Anacin, Gripe-Water is the most commonly used over the counter-medicine in rural areas and in slums.

A number of companies manufacture their own Gripe-Water. Typically it contains Anise-Water, Sugar, Sodium Bicarbonate and peppermint. All except sugar have carminative properties i.e. they help to "expel gas from the stomach or intestines in the treatment of flatulence and in colics". But as claimed in the advertisement it is not useful as and "aid to digestion" or to make the "cricis" due to teething problems" perfectly mild and free from danger".

### Disproportional Contents :

Table No. 5 gives the contents of the most widely used over-the counter-tonics. Vitamins contained in these preparations are closer to the values recommended by I.C.M.R. for daily dietary intake, Recommended daily intake of iron in adult man is 24 mg. of elemental iron. But as seen from the table, the iron content in Phosphomin-iron, Waterbury's Compound and Vimgran is such less than this amount. There is thus a disproportion in these three preparations as regards their Vitamin and Iron content leading either to wastage of Vitamins or an insufficient supply of Iron, depending upon how much of these preparations are taken daily.

Basically, the strategy of supplying iron in such low "Maintenance" doses through costly preparations is highly questionable. Self-administration of maintenance doses of Vitamins for a few days after an illness has some justification. But this is not the case with iron — since ordinary ailments do not necessitate extra amount of iron. If a person develops symptoms of iron-deficiency-anaemia, none of these above preparations would be able to correct the iron deficiency-which requires about 200 mg. of elemental iron daily for months.

### Misleading Advertisements and Wasteful ingredients :

An advertisement of Vimgran shows a good looking man telling us that he takes copper with his breakfast. "Consuming Copper" is shown as something good for health. Many laypeople get attracted by this caption and start taking Vimgran. But it is not necessary at all to include copper in any over-the counter multivitamin preparation — "Deficiency of Copper is extremely rare in Man..... There is no evidence that copper ever needs to be added to a normal diet, either prophylactically or therapeutically"[10]. Its a waste to add copper to over — the counter tonics. Similar is the case with salts of sodium, potassium, Manganese etc., etc., Glycerophosphates included in phosphomin is also a waste- "In General' the Phosphorus present in ordinary foods is an adequate source of this ion. The use of expensive preparation of organic phosphates as tonics has no validity"[11].

The excessive cost incurred due to the use of these preparations is not small because they are very costly compared to the utility they have. For example, a multivitamin costs 9 paise, whereas these syrups cost from 40 paise in case of incremin to 50 paise in case of Waterbury's Compound for roughly equivalent dosage. (Octo. 81).

It is necessary to educate the lay public through various media, scientific principles of dietics so that they do not unnecessarily

## Table 5

TONICS

| No. | Brand Name | Important Ingredients per 15 ml. in mg. | | | | | | | | | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Vit. B1 | Vit. B2 | Vit B6 | Niacin -amide | Vit. B12 Mcg. | Vit. C | Iron Elemental. | Alcohol | | |
| 1. | Phosphomin | 2 | 1 | 0.5 | 15 | 15 | — | — | 11% V/V | | Glycerophosphates of Na, K, Ca, Mn. |
| 2. | Phosphomin Iron | 2 | 1 | 0.5 | 15 | 15 | — | 9.3 | -do- | | -do- |
| 3. | Tonos - 7 | 2·5 | 2.5 | 1 | 25 | 2.5 | | 23.2 | -do- | | D-Pantothenol 1 mg. |
| 4. | Incremin (Per 5 ml.) | 10 | — | 5 | — | 25 | | 30 | Sorbitol 5 gms. | | |
| 5. | Waterbury's Compound (Yellow) | 1 | 1 | 18 | — | — | — | 3 | Malt | | Na-Salicylate K-Na, - Salts |
| | | | | | | | | | Vit. A I.U. | Vit. D I.U. | |
| 6. | Vimgran tablet | 3 | 3 | 1 | 20 | 2 | 50 | 10 | 5000 | 500 | Calcium : 100 mg. Iodine : 0.15 mg Potassium : 5 mg. Copper : 1 mg. Manganese : 1 mg. Zinc : 1.5 mg Magnesium : 6 mg. Folic Acid : 0.1 mg. |

resort to tonics and rely more on better management of their diet. It is also necessary to ban the production of all these preparations pending their restructuring on scientific basis. Their advertisements should also be censored to prevent misleading of the lay people.

— III —

## FOOD SUBSTITUTES

Of all the food substitutes, breast-milk-substitutes are the most important — The ill-effects of these milk powders are now very well known and hence there is no need to repeat these arguments here — I have therefore decided not to discuss these preparations here.

### Pre-cooked foods :

In Maharashtra, the drug-companies are promoting weaning foods more than milk-powders. These are more pre-cooked balanced food-powders. Hence, weaning foods like Farex, Cerelac etc. are not necessary and do not have any additional nutritional advantage compared to their price, over home-made ordinary weaning foods. They are, however, not hazardous like milk powders which act as breast-milk-substitutes. Its a waste of money to spend on such preparations when the child can and should be gradually induced from 4th month onwards to normal balanced diet consumed by the family.

Preparations like Bournvita, Boost, Nutramul, etc. are also pre-cooked but nutritionally much less useful products. They contain cocoa, malt, milk-powder, barley, sugar etc etc. The exact proportion of these ingredients are not given in their promotional literature. They are nutritionally no better than ordinary balanced diet. It is deplorable that even producers of Nutramul, a co-operative agency, should resort to completely baseless, misleading advertising gimmicks in the form of projecting the imagery of the "Nutramul Dada".

### Glucon-D-Powder :

Glucon-D-Powder is used as an "energy giving" preparations. Laymen think that Glucon-D is a medical, "Powerful" powder because of the advertising gimmicks and because of the peculiar taste this powder has. Dissolution of this powder in water (or salvia) is an endothermic (heat absorbing) reaction.

Hence, this powder has a peculiar "cool" taste. It is the duty of all medical people to explain to the laity that powder has absolutely no special nutritional and/or medical properties: that it is not at all instantly absorbed from the gut into the blood etc. etc. This product should not be allowed to be advertised in the lay-media.

### Protein-Powders :

"Proteinex, Protinules, Provitex, Uniprotein are some of the most widely sold over-the counter protein powders. All of them contain about 50 to 60% of proteins, and the rest is made up of carbohydrates minerals, vitamins. If used in sufficient quantity as a supplement to ordinary balanced diet during convalescence, they can be of help. But as seen from the cost calculations made by the author in 1977 (see table No. 6), the cost of proteins derived from these preparations in much higher (for equivalent amount of protein) compared to that of proteins derived even in the costly form of milk and egg. Egg protein has the highest biological value of 95%. "Biological values is per cent of absorbed nitrogen when food-stuff indicated is the sole source of nitrogen". It is an indication of the quality of the protein being consumed. Other much cheaper sources of proteins given in table No. 6 have lower biological values. But the biological value of the proteins in these commercial powder is also not high. Subs-

tantial part of the proteins in these powders comes from ground-nut whose biological value is a mere 56-57% (see table No. 6). The rest come from milk powder. Thus, the quality of protein in these preparations is not better than the quality of proteins in ordinary foods. Table No. 6 gives biological values of some grains when used alone. It is now well-known that foods containing a mixture of cereals and pulses have a biological value more than the arithmatic means of their individual biological values. Many Indian dishes contain mixtures of cereals and pulses.

The only advantage these protein powders have over ordinary Idli or Urid-wada etc, is their reduced bulk. But this has to be weighed against their high price. These powders are generally taken in small amounts 20-30 grams a day, not more than 50 gms. a day. This will give only 30 gms, of proteins. Usual daily requirement of proteins of an average Indian is 50 gms. It is much more during convalesence. Thus these powders provided much less than half of the protein requirements during convalensence. These preparations generally give rise to false sense of secu-

**Table 6**

Comparative Costs of proteins from different sources

| No. | Name of the Source | Percentage of the proteins | Biological Value % | Price per kg. in Rs. | Cost per 10 gms of Proteins | |
|---|---|---|---|---|---|---|
| | | | | | Uncooked Rs. | cooked Rs. |
| 1. | Buffallow Milk | 4 | 67 | 2.60 | 0.58 | 0.73 |
| 2. | Hen's egg. | 13 | 95 | 5.00 | 0.77 | 0.96 |
| 3. | Ground Nut | 25 | 57 | 7.00 | 0.28 | 0.35 |
| 4. | Proteinex Powder | 56 about | 60 | 71.11 | — | 1.27 |
| 5. | Provitex Powder | 63 | 60 | 71.11 | — | 1.12 |
| 6. | Protenule Powder | 50 | 60 | 71.11 | — | 1.42 |
| 7. | Uniprotein | 50 | 60 | 71.11 | — | 1.42 |
| 8. | Bengal gram dhal | 17 | 61 | 3.00 | 0.18 | 0.22 |
| 9. | Red gram | 22.3 | 72 | 4.50 | 0.20 | 0.26 |
| 10. | Moth-bean | 23.6 | 54 | 3.00 | 0.12 | 0.16 |
| 11. | Green gram | 24.5 | 54 | 4.50 | 0.18 | 0.23 |
| 12. | Rice, Raw milled | 6.8 | 80 | 2.00 | 0.29 | 0.37 |

rity. A person is given only milk with these powders and relatives get the impression that the patient's protein requirements are being fulfilled.

Complan has not been included in the above list because it is advertised as the "complete food" and contains only 20% of proteins. The rest is made up of 22 (!) other vital foods like carbohydrates, fats, vitamins and minearls". It has been specially recommended for young Teenagers by the manufacturers under the caption "Growing children need complan". For a non-sick child, having normal appetite, obviously parents should better spend their money over many nutritious Indian dishes than on Complan.

**Conclusion :**

Most of the over—the counter medicines discussed above are obviously too costly compared to the benefits they render; some of them being virtually useless. It is necessary to scrutinize exhaustively, in much more detailed fashion all over-the-counter-drugs marked in India and to take up a systematic compaign against their irrational ingredients and misleading advertising. It is only through a mass educational movement that these malpractices can be stopped.

(*Note* :- Calculations are based on prices in September 1977. Protein percentages and Biological values have been taken from "The nutritive value of Indian Foods. . . . ."(12). Cost of cooking at home is assumed to be 25% of the cost of the grain).

**References :**


1. "The Pharmacological basis of therapeutics"-Edited by Goodman and Gillman. 5th edition, 1975, P. 349.
2. Ibid op. Cit. p. 349.
3. Ibid op. cit. p. 350.
4. Ibid op. cit. p. 349.
5. Ibid 2nd edition 1960, page 1068, (Later editions, do not contain much on the medicines used in common cold).
6. Martindale's "The Extrapharmacoeia" 27th edition, 1977, Page-295.
7. Ibid op. cit, page. 295.
8. Pharmacology and Pharmacotherapeutics-by Satoskar, Kale, Bhandarkar; 6th edition 1978, page 280.
9. Satoskar, Bhandarkar, op. cit, Page 280.
10. Goodman-Gillman, op. cit, 6th editions page 1326.
11. Ibid op. cit. page 1531.
12. The nutritive value of Indian Foods and the Planning of Satisfactory Diets, and ICMR publications, New Delhi, 1966, page 51, 52 and 145-147.

# Rational Drug Policy and Primary Health Care

Need for understanding, need for action

Dr. Mira Shiva
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The new drug policy for our nation is being formulated. On the drug policy will depend:

(1) How great or small will be the drug *shortages of essential and life saving drugs for the poor;*

(2) How many *irrational and hazardous drugs* will be sold in our country;

(3) How many doctors and patients will be *hooked* onto *prescribing* and *consuming irrational and hazardous drugs;*

(4) How much further *marginalized* will become, the *other systems* of medicine and of the *several reliant low cost effective alternative* methods of treating trivial problems with home remedies and herbal medicine.

(5) How much *profits the drug companies* will be allowed to make at the cost of the people

(6) How much *foreign exchange the* MNC's will be able to take *out of our country.*

It is the importance given to medicines that decides the nature of health care. Greater drug dependence as is the trend, is a byproduct and also a cause of *increased pharmaceuticalization and commercialization* of *health* care. National drug and health policy decides where the emphasis will be. A nation's drug policy influences the role of drugs in health care i.e. whether there will be a large variety of medicines for the privilaged few at the cost of basic essential and life saving drugs for the poor, or essential drugs available for all.

## New Drug Policy

### Need for Peoples Participation

Unlike the HATHI Committee which systematically reviewed the pros and cons of various aspects of the drug policy-before coming out with its recommendations, the report of the National Drugs and Pharmaceutical Council, 1984 is far from conprehensive.

Drug pricing and fiscal benefits seem to be all that the drug policy seems concerned about.

All other crucial aspects of a Rational Drug Policy have been totally neglected.

Our criticism of the National Drug Policy is for the following reasons :

Gross omission of any attempt at-

(1) *Selection and adequate production of essential drugs of good quality at reasonable price.*

(2) *Withdrawal of irrational and hazardous drugs.*

(3) *Ensuring availability of unbiased drug information to the health professionals and consumer caution.*

(4) *Ensuring effective drug distribution.*

(5) *Effective Drug Control and drug legislation.*

Many of these things have been stated several years ago-

Hathi Committee, way back in 1975 gave some of these very recommendations. According to Dr. Zafrullah Chaudhry winner of Magasaysay award and the spirit behind the Bangladesh Drug Policy, it was the Hathi Committee Report that inspired the courageous Bangladesh Drug Policy.

**Main Recommendations of Hathi Committee were:**

(1) Nationalization of multinational drug companies.

(2) Establishment of a national drug authority.

(3) Priority production of 116 essential drugs.

(4) Abolition of brand names and introduction of generic names.

(5) Revision and updating of Indian National formulary.

(6) Strengthening of quality control.

(7) Elimination of irrational drug combination.

In India Hathi Committee Report has been unfortunately gathering dust.

**Failure of the Drug Policies and Pharmaceutical Industry to meet the Health needs of the People.**

The drug production, distribution etc. has *not* been at all in keeping with the health needs of our people.

While shortages of essential and life saving drugs have occured on one hand, even rural markets have been flooded with costly brands of absolutely irrational drugs of doubtful therapeutic value. Market forces have succeeded in creating false drug needs. In the absence of unbiased drug information, the drug prescriptions and the drug consumption practices reflect the incongruity between real health needs and drug utilization patterns.

75% of the drugs in the market are unessential according to Dr. Halfden Mahler. 25% of our drug market constitutes of Tonics, Vitamins, Tonic restoratives, enzymes etc. *Tonic sales in India is 12% as against 3% in developed countries. On the other hand sale of Vitamin 'A' is mere 3%. Same goes for Calcium and Vitamin 'D'. In 1977, an UNCTAD study showed that, 34% of all drugs sold were tonics, tranquillizers and cough mixtures. Antimicrobials were mere 2% and essential vaccines merely 7%. In 1980, the production of vitamins, tonics and cough and cold remedies amounted to 23.5% i.e. 137 crores worth of vitamins alone.

The Hathi Committee in 1975 drew up a list of 116 essential drugs for India.* The World Health Organization in 1977, recommended around 200 essential drugs.** Sweden has 2000 drugs in the market. India has 30,000 formulations out of which 5000 are useful and 2500 are of marginal use.*** 68% of the drugs are classified as obsolete by the DCC, of these 30% are useless and 70% are actually harmful.

Under these circumstances it is crucial that a very rational selection of drugs for production and distribution has to be made.

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* Hathi Committee Report

** Technical Report-Series 615 updated later 641 & 685 in 1981 & 1983 res-pectively.

*** EP Feb 1985, page 839-Y.H. Gharpure Drugs for thesis Vol. XXVII No. 326—THE EASTER PHARMACIST, page 326.

### Rationale of Essential Drugs Concept

1. Medically and therapeutically ground choice.
2. Economically sound so that it prevents wastage on unessentials by National governments.
3. Socially sound as it responds to the health needs of the people.
4. Economically sound for patients as it allows best use of their scarce resources.
5. Limits use of irrational and hazardous drugs decreasing catrogenesis.
6. Makes it possible for *ensuring better quality control* of limited number of drugs.
7. Possible to make *adequate drug information* available for limited number of drugs.
8. Economics of scale increased bringing down the cost of a larger amounts of essential drugs are produced on priority basis.

While WHO's essential drug list has been considered extremely short and arbitrary by the drug industry as well as out own drug, control authorities — slashing the essential drug list under price control from 343 to 95 does not even indicate a desire at decreasing the target if not of banning them. In an attempt to decrease the price control basket, to decrease the essential drug list, does not make sense, when similar attempts at decreasing hazardous and irrational drugs is totally missing and their projected targets increasing.

Not merely is the number of drugs in market so large and so confusing, but majority are not essential. Attempts to restrict number of drugs has been made by several hospitals as well as countries even in the West indicating time and again that the Concept of Essential Drugs is as important for the Developed Countries as it is for the developing countries.

The best private hospitals in U.S. possess their own hospital formularies with *restricted drug lists*. U.K. has recently decided to restrict the drug list in the *National Health Services* at a *considerable saving to the nation*.

WHO has given very clear guidelines regarding selection of essential drugs, it is upto the different countries to draw up their own, based on their priority health needs. This would guide rational drug production, distribution, drug information, quality control. Since profit reasons have guided the entire policy formulation much to our regret not merely is the selection of the essential drug in the list not very rational — but so is the very setting up of the target demands.

Previous warped production patterns and warped growth rates have been taken as the criteria. Just as numerous Indians suffer from chronic malnutrition since they do not have the purchasing power to buy food while our buffer stocks increase and the market for junk food so also the market demands for irrational drugs do *NOT* reflect the need, but successful marketing of certain profitable drugs.

### Antimalarial

Every Indian knows that Malaria is a problem for children as well as adults in our country for which we have the National Malaria Eradication Program for that since several decades.

Chloroquin is in the priority drug list, needed for an important National Health Program. A comparative study of the drug production, as compared to the target set, the capacity utilization and the drug imports obviously reflect the real nature of the highly evolved

Chloroquin in Tons

| | 1977-78 | 78-79 | 79-80 | 80-81 | 81-82 | 82-83 |
|---|---|---|---|---|---|---|
| Production | 37.1 | 42.5 | 35.2 | 34.62 | 5.9 | 70 est |
| Targets | — | — | — | 72.0 | 60.0 | 111.00 |
| Capacity utilized | — | — | 19.9% | 19.9% | 33.5% | — |
| Imports | — | — | 52.8 | 71.8 | 166.3 | 198.2 |

Source : Statistical Tables 6 pg 246
Tables 7 pg 253
Tables 11 pg 268

— The Indian Pharmaceutical Industry problems and Prospects by P.L. Narayana, (NCAER) National Council of Advanced Economic Research.

Indian drug Industry; of our policy makers who have allowed such a trend, to continue; and our medical profession that has never protested; and mostly it reflects the inability on the part of the people to recognize and to react to a worsening situation and efforts allegedly in their own interest.

### Endemic Goitre

India has over 60 million people with endemic goitre. Iodine deficiency in pregnant women and children is known to be associated with birth of deaf, mutes, mentaly subnormal children. Over 1,000 significantly mentally deranged children are known to be born in Terai region alone. In areas with 50% population with goitre, 2% of all children born are expected to be abnormal.** All this is for want of Iodized salt. While the required amount is 7 lakh tonnes, we continue to produce 1 lakh tons from the UNICEF donated plants. Non ensuring of adequate production and distribution of iodized salt amounts to criminal neglect. In a situation such as this, tobe told that the budgets allocated for the National Control of Goitre Program and returned unutilized would make the blood of any socially conscious individual boil with anger. Enough people have to be angry to demand action, to ensure action and participate in it.

If such large numbers of our next generation are allowed to be born underweight and allowed to develop only to be blinded, maimed or mentally retarded — with the health and drug policies failing to change the situation significantly — even after 38 years of independence, then the policies which have already been found to be inappropriate need to be totally revamped and need relevant restructuring.

The problem of Goitre is a health problem, ensuring availability of iodized salt should be

** Dr. C. Gopalan, Nutrition Foundation of India.

Health Ministry's problem — but the availability of iodized salt is being handled by another Ministry and issue of drugs by Chemicals and Fertilizer, which after the reshuffle is put under the Industry Ministry. With this kind of policy making on one hand and the status of health services on the other, the poorest become the worst sufferers. It is known that" *"The imported and inappropriate model of health service is top heavy, over centralized heavily curative in its approach, urban and elite oriented, costly and dependency creating".**

What is becoming extremely unacceptable is realization that the present medical model is failing miserably to meet *even the curative care needs of the majority.*

### Vit. 'A' Shortages

WHO's "point of fact" on Vit. 'A' deficiency and nutritional blindness states the role of Vit. 'A' in human growth and immunological responses, besides Vit. 'A' deficiency is known to be the "single most" frequent cause of blindness among pre-school children in developing countries.'[1]

It is not merely a question of blindness with Vit. 'A' deficiency but the recognized association of increased morbidity and mortality due to respiratory and gastro intestinal infection. "Children with mild Vit. 'A' deficiency are at 2-3 times greater risk of infection and at 4-12 times greater risk of dying than children with normal Vit. 'A' status."[2]

Xerophthalmia Nutritional blindness, and death are associated with disasters and we have had our share of disasters, draughts, Bhopals, floods etc.

Children who are being weaned, and are not on breast milk and unable to obtain their quota of Vit. 'A' from extra milk or food are the worst sufferers.

### Vit. 'A'

Malnourished children born of malnourished mothers is not a rare phenomenon in India. All those involved with ICDS or any kind of community health or under five work are aware of the extent of the nutritional problems and Vit. 'A' deficiency, specially during the weaning period in under fives.[1]

National Institute of Nutrition, has recommended oral ingestion of 200,000 I.U. in Vit. 'A' every 6 months to prevent blindness.[2] No one denies there are nutritional alternatives to Vit. 'A', but often its the very denial of this nutritional input that leads to blindness.

According to Sri Yogendra Makwana (Minister of State for Health) reply to a Lok Sabha unstarred question,[3] - a scheme to distribute Vit. 'A' solution through PHC's, ICDS blocks tribal and drought prone areas and urban slums was set up. The targets are as follows:

| | 1982-83 | 1983-84 | 1984-85 |
|---|---|---|---|
| Targets in million | 25.00 | 25.00 | 27.00 |
| Achievements | 19.09 | 18.94 | 21.00 |

* Ministry of Health,
National Health Policy Document, 1981.

1. Kamal S. Jayarao : Vit. 'A' Deficiency Aug. 1976; Medico Friends Bulletin.
2. Swasth Hind, pg. 321, Protection against Vit. 'A' Deficiency, Nov. 1979.
3. Reply by Sri Yogendra Makwana, Minister of State for Health and Family Welfare. Unstarred question 5891 in Lok Sabha by Smt. Jayanti Patnaik.

Production and Targets of Monitored Bulk Drugs[1]

| Unit | 1977-78 | 1978-79 | 1979-80 | 1980-81 | 1981-82 |
|---|---|---|---|---|---|
| Vit. 'A' MMU | 50.2 | 62.2 | 58.8 | 59.8 | 52.6 |

On Comparing Production and Targets of Monitored Bulk[1-2] Drugs

| *Unit* | 1980-81 | | 1981-82 | | 1982-83 | | 1983-84 | | 1984-85 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | T | P | T | P | T | P | T | P | T | P |
| Vit 'A' MMU | 66.0 | 59.8 | 66.6 | 52.6 | 77.0 | 52.0 | 49.90 | 60.23 | 105 | 41.92 |

(T — Target, P — Production)

*Estimated for the year* 1984

55.9

Inspite of all these laudable efforts frequent shortages of Vit. 'A' from the field have been reported and still exist. Inspite of knowing that our child population is increasing annually, the target in 1982 and 83 remains the same, and yet the achievement in production comes down during that year.

### Vit. 'A' Deficiency

As a response to Sri Jaganath Patnaik's unstarred Lok Sabha question 6371, Mr. Veerendra Patil said that Vit. 'A' is a centralized item and main item marketted as Vit. 'A' Palmitate (oily) and Vit. 'A' Acetate (dry powder).

M/s Roche and Glaxo are the major producers of Vit. 'A' and the entire production of Vit. 'A' in the country during 1982-83 and 1983-84 was from these two companies.

1. Narayana, P.L.; "The Indian Pharmaceutical Industry Problems & Prospects", Table No. 7, page no. 244—National Council of Advanced Eco. Research, 1981.
2. Up-dated Ministry of Chemicals, Fertilizers Annual Report 1984-85, page 38.

   Reply of Minister, Chemicals & Fertilizeers, Mr. Veerendra Patil on 14th May in Lok Sabha, Unstarred Question 6371.

Their production in MMU :

| | 1982-83 | 1983-84 | 1984-85 |
|---|---|---|---|
| Roche | 38.24 | 40.72 | 37.60 |
| Glaxo | 14.25 | 19.51 | 16.56 |
| Total quantity of Vit. 'A' imported. | 12.425 MMU | 20.346 MMU | 12.685 MMU |

### Anti T.B. Drugs

India has 10 million T.B. patients, out of which 2.5 million are actively infectious and 50,000 die each year because of T.B. We produce 1/3rd of the minimum requirement of anti T.B. drugs, according to ICMR — ICSSR Report.

Shortages of anti T.B. drugs have been reported from several places, including primary health centres and government dispensaries. The production of basic anti-T.B. drugs has not been adequate. A situation has arisen where sales of costlier anti-T.B. drugs like Ethamtintal and Refampian are being pushed, false market demands created, which are tending to form the basis of targets set.

A point to remember is that with the increase in population, even when the T.B. incidence has not decreased, the overall total number of T.B. patients has.

It should be noted that costlier and the newer anti T.B. drugs are being pushed and so also Streptomycin Penicillin combinations which are considered irrational by medical experts, specially in countries where T.B. is a significant problem. In India we have over 10 million T.B. patients with 2.5 million actively infectious. This is so inspite of the National T.B. Control Programme, T.B. Association of India, etc. Over the years, the incidence has not decreased. In fact, with actual increase in our population, this has obviously meant increase in the number of T.B. patients. Emergence of drug resistance to Streptomycin is a reality, specially with over use of streptomycin penicillin combination.

In such a social reality, the danger of emerging streptomycin resistance does not warrant the misuse of this combination for all kinds of known and unknown infections, lest it be argued that we have wonderful new drugs like Rifampicin ethambutal etc. — well these wonderful new drugs are not given as part of the National T.B. Control Programme and those usually suffering from T.B. cannot afford them and overuse and misuse of drugs when no effort to prevent default is made is a hazardous proposition. Specially after Chingle Pet trial results on the non-role of B.C.G. in preventing pulmonary tuberculosis — misuse of such combinations should not be allowed. The irony is that this is happening at the cost of streptomycin availability for T.B. patients.

Shortages for leprosy drugs, anti-epileptic drugs for gloucoma, for hypertension, even of anti malarials have occurred for prolonged periods, this continues in contrast to more and more irrational drugs flooding the market. Such shortages in a country with such a developed drug industry and a democratic form of Govt where peoples representatives are elected and expected to give priority to the peoples interest and their needs the existing silvation does not make sense.

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Mira Shiva : The drugs needs of a national health priority Tuberculosis Paper pressnted at MFC Annual Convention, 1984 on 'Rational T.B. care'.

| S. No | Name of the Co. | Name of Formulation | Composition | Pack Size | Nos. of the units produced during the year ended December — | | |
|---|---|---|---|---|---|---|---|
| | | | | | 1982 | 1983 | 1984 |
| 1. | M/s Roche Products | Arovit Tabs | Vit 'A' 50,000 10 per tab. | 8's | 22,37,336 | 21,77,927 | 21,25,428 |
| 2. | -do- | Arovit Drugs | 1,50,000 10 per amp. | 7.5 amp | ,20,233 | 11,195 | 6,686 |
| 3. | -do- | Arovit Inj. | 1 lakh 10 per amp. | 3 amp | 2,67,250 | 2,35,308 | 1,79,199 |
| 4. | -do- | Arovit Forte | 3 lakh 10 per amp. | 3 amp | 1,93,164 | 1,46,686 | 1,42,119 |
| 5. | -do- | Rovigon Tab | Each tab. contains :Vit 'A' 10,000 10 Vit. 'A' 25 inj | 8's | 17,68,533 | 14,52,019 | 13,34,547 |
| 6. | M/s Glaxo Lab. | Prepaline Caps. | 24,000 IV | 100's | 64,148 | 42,525 | 42,965 |
| 7. | -do- | Prepaline Inj. | | 1 ml. | 23,790 | 19,364 | 4,014 |
| 8. | -do- | Prepaline Inj. (Forte) | | 1 ml. | 4,34,651 | 3,80,806 | 28,956 |

# CONTINUED SALES OF BANNED BANNABLE AND HAZARDOUS DRUGS

While on one hand shortages of essential drugs are occurring, irrational and hazardous drugs continue to be sold.

It is amazing, how with imports of 'high technology' how rarely are the 'controls' and 'precautions' imported. Bhopal proved it to the nation and the pharmaceutical sales are another example.

Technological know-how has come to mean know-how required for putting up the production plant. The knowledge of the status of the product in terms of efficiency, safety, comparison with other drugs, evaluation studies in other parts of the world are all part of knowhow.

Numerous unsafe and controversial drugs continue to be marketted. We expect our drug control authorities, not to issue licences for drugs known to be hazardous and banned elsewhere, we expect them to withdraw licences and also withdraw such drugs from the market, for which safe alternatives exist.

Thalidomide disaster sums up the problem of hazardous drugs and the implications of their indiscriminate sales. Over 16,000 children were born malformed, invalid for life because their mothers consumed Thalidomide — a drug which was sold to them for morning sickness and safety alleged. Obviously tests on effect on foetus was not done.

*The E.P.* Drug Story* is a medical crime story — it received significant press coverage in 1982 when the national campaign against EP drugs was launched. Here is just a brief review:

*In 1976* WHO based reports from Australian Medical Association warned all the member countries *not* to use high dose estrogen-progesterone drugs for pregnancy test — as it was found to be associated with foetal malformation.

While it was used only for women desirous of terminating their pregnancies in certain countries, others switched over to safer alternatives i.e. urine testing for pregnancy.

*In India till* 1982 drug marketing literature advocated the drugs for pregnancy testing. What was probably most hazardous was the fact that not merely were these drugs being prescribed freely by the doctors *without any warning* to the mothers, (who had every intention of having their babies-healthy babies) but these products were sold freely over the counter *without warning* to anyone for the asking.

The drugs were consumed not merely for *pregnancy testing* but for *inducing abortion* and several *other gynaecological problems.*

Warnings in Medical jargon, warnings in an alien language, warnings in microscopic letters, even if written would not have made any sense — to the illiterate and ignorant women, on the 'Women's Day' 8th of March 1982, the EP campaign was launched. Journalists, consumers, women activists wrote in the press, held meetings, discussions and circulated information to protest. Refer: "Are hormonal drugs safe" VHAI handout. On 26.6.85 through DO No. 12-48/79 DC, the production of these drugs was banned from the 31st

* E.P. is short for high dose estrogen Progesterone Combination.

of March and their sales banned from the 30th of March '83, Ref: "EP Update" VHAI, VHAI — handout. The sense of achievement was short lived. Organan — (now known as Infar), Unichem and Nicholas went to Calcutta and Bombay High Courts and got stay orders against the ban. Ref: "Review of EP drugs" VHAI handout.

Today, the drugs are freely sold. Licences for production of the drugs have been given for two more years. Issues related to health and therapeutics are being decided in the court. Ref: Unifinished EP Campaign — Drug Action Network.

Money power can buy doctors, bureaucrats, politicians and even those who are supposed to safeguard the interests of the people. It may be of interest to know that, Organan, so concerned about the needs of the Indian women, does not produce high dose of EP drugs for Dutch women in Netherlands.

The EP case story indicates that efforts of a section of public and even action by drug control authorities (under public pressure) is not enough to prevent the powerful drug lobby to continue making its profits at the cost of health of the people.

Justice Potti's verdict in the Kerala High Court on the Public litigation case on banned drugs, makes enlightening reading —

*"as between the lives of the citizens of this country on one hand and the loss that may result to manufacturers and traders by the immediate ban on the manufacture and sale on the other hand, the Govt. has chosen to view the latter as of more concern."*

"The provision of a cut off date for manufacture as well as on sales is an irrational, highly unjust, unfair and a immoral approach adopted as a result of a distorted appreciation of values" — Dr. Potti, Kerala High Court — OP No. 8439-82 L.

Disgust and anger has to be expressd at such drugs, at the drug companies producing them, at the drug legislations and the authorities concerned who formulate these policies and allow such crimes to continue on the public.

### Antidiarrheals

While 1.5 million Indian children die of diarrhoea each year, the drug market of antidiarrhoeal is flourishing. Message of ORT is drawned in the glib sales talk for the galaxy of antidiarrheals.

### Lomotil

Known to have caused several infant deaths due to its extremely narrow safety margin continues to be given to children. Social Audit fought a long drawn out battle just to ensure that the multinational company Searles producer of Lomotil gave a *warning* against the use of lomotil for under 2.*

### Clioquinols-Hydroxyquinolines (Mexaform like drugs)

The crippling and blinding of over 11,000 Japanese with mexaform enterovioform is well known. Efforts by drug companies involved and the medical community to associate SMON Syndrome (subacute Myelo Optic Neuropathy) with "virus", "genetic" causes were countered by a group of socially conscious lawyers, journalists and doctors. The role of Dr. Olle Hansson who fought as a witness on behalf of the SMON victims is well known. Not merely did he show the association of blindness (optic neuritis) with mexaform and enterovioform he scientifically showed that the drugs were absorbed from the gut

*1. "Drugs Diplomacy" by Charles Medawar & Barbara Freexe Social Audit.

2. "Taste of Tears" Health Action Series, by Mira Shiva & Aspi Mistry, VHAI, New Delhi.

3. "Diarrhoea Management" by Dr. S. Datar, MFC.

and therefore it could affect the nervous system. Ciba-Geigy had made several efforts to deny this and supress the facts which were available to it. Efforts of Dr. Olle Hansoon who led a boycott of over 3,000 Swedish doctors against continued sales of drugs, efforts of Japanese lawyers and SMON victims to get these drugs withdrawn world wide, succeeded in forcing Ciba-Geigy to withdraw Enterovioform and Mexaform from the world market by March '85.

Irrationality of combinations e.g. chloromycetin streptomycin and as well accepted elsewhere and the fear of emerging resistance against Typhoid (solimonella Typbi) due to misuse of chloromphenical and its combination are proving tobe genuine fears. Over 20,000 Medicans died in 1975 in a Typhoid epidemic because resistance had emerged to chloroquin unrecognized by the medical professionals. Several deaths from Kerala and chlorophenical resistant. Typhoid in endemic form is being reported from there and spreading. Resistance to majority of the commonly used antibiotics contributed to the deaths of over 2,000 in 1983 in West Bengal dysentry epidemic. Besides death and uncontrolled spread of diseases, resistance due to misuse of patent antibiotics for trivial problems means, dependence on costly, unaffordable alternatives.

At the Drug Action Network meeting in August '82 organized jointly by VHAI — MFC — hazardous drugs were the main focus:

— Paediatric Tetracyclin
— Anabolic steroids
— Aundopyrines
— High dose Estrogen Progesterone drugs
— Hormonal preparations
— Antidiarrheals — lomotil
— choquinals.

Detailed handouts were prepared on the above drugs by VHAI.

Since then consumer alerts regarding Oxyphen butazones have been sent in July '84. Over 1034 deaths with Tandril have occurred due to agronulyajtosis according to information from Ciba-Geigy's internal files, information which was leaked out following international pressure from drug action and health action groups. Forced Ciba-Geigy to decide to withdraw, goes to late Dr. Olle Hansson — friend of the third world. Based on views of expert committee meeting. Phenyl butazone could be used only in 2 conditions :

(1) Ankylosing Spondytilis

(2) Gout

Tandril is sold under the name of Suganril and is produced by Suhrid-Geigy. Suhrid Geigy has alleged that Ciba Geigy's decision to withdraw Tandril does not bind them in any way as they are an Indian company now. Sales continue unaffected white prescribers continue to prescribe and consumers continue to consume.

For those of you interested to know the chemicals and Fertilizer Ministry's future plans regarding these drugs, see below:

Demand targets for known hazardous and unsafe drugs for which safer alternatives are available indicates the total lack of NDPDC to even seriously consider phasing out these drugs or at least not planning their growths e.g.

| | Unit | Estimated production 1983-84 | Estimated Demand 1989-90 | Growth% |
|---|---|---|---|---|
| Oxyphenbutazone | Tons | 110.60 | 6650.00 | |
| Iodochlorohydroxyquinoline | Tons | 136.80 | 460.00 | |
| Dilodohydroxyquinolin | Tons | 96.55 | 160.00 | |

## DRUG INFORMATION

—Dealing with its scarcity

Nothing can illustrate the situation regarding Drug Information better, than knowing that some of the members constituting the Parliamentary Drug Consultative Committee had never heard of WHO's Essential Drug List — nor of the concept of essential drugs.

For such an important concept, that is basic to formulation of a rational drug policy and almost a decade old, for the doctors in medical colleges, health personnel in Government and Voluntary sector not to know about it, indicates total apathy in sharing of drug information by authorities concerned.

Why is it that Hathi Committee's recommendations are not taught in Pharmacology? Why questions of banned drugs, controversy between Generic Vs. Brands, criteria of rational drug Therapy — based on WHO recommendations not taught in medical schools, when some of the major problems related to warped prescription practices is related to ignorance about these.

The Health authorities not merely have failed to draw up a comphrehensive essential drug list for the nation but they have also failed to pick up the National Drug formulary from the dusty shelves since 1977 and update it.

Failure of the Chemicals and Fertilisers and Health Ministries to produce the banned brand drug list — has forced us to bring out the list initially in a cyclostyled form and now in a printed form for public education.

Drug Bulletin from the PGI, Chandigarh, Pune Journal of Continuing health education by 'Arogya Dakshata Mandal' have been making a brave effort at providing unbiased drug information to health personnel.

VHAI's Drug Action network newsletter and its handouts drugs and information services; MFC 's Bulletin which has often covered drug issues, their study reports on analysis, antidiarrheals; several articles and handouts by All India Drug Action Network members have contributed significantly to the Drug Information lacunae. Materials produced by KSSP, CERC, Drug Action Forum, West Bengal and others along with the contributions mentioned earlier are amongst the only drug information available today.

Locost will be producing Drug Information sheets on drugs being sold by them, DAF, West Bengal is planning a Drugs and Therapeuts Bulletin.

It goes without saying that *information is power* and that *information is for sharing* and information is for action. For any significant peoples health action we have to educate ourselves, because no one else will.

Unlike in other forms of exploitation *an aware person can take action by refusing to prescribe* and *refusing to buy and consume* drugs that *are banned, hazardous* or *irrational.* This is drug action, health action and a political action.

Gandhi did it against imported milled cloth and as a protest against taxation on salt led the 'Dandi March' and the famous 'Salt Satyagraha'. Consumer groups call it 'Boycott'. Such actions are needed when no other remedial action seems forthcoming and when 'irrationality' and'unethical' practices begin to go unchallenged and start setting the norms.

Today not merely growing exploitation, needless health hazards due to unsafe drugs is at stake — but the entire concept of rational health care. No one will help change the situation but us.

# New drug policy—Adding Insult to Injury !

—Dr P.K. Sarkar

Before 1962 there was no control over the drug prices in India. Thereafter, several orders have been issued by the Govt. of India (GOI) to regularise and control the production and price of drugs (modern scientific drugs; Allopathic drugs). The last Drugs Prices Control Order of 1979 (DPCO, 1979) deserves special mention. With a view to ensure adequate production and to keep the price of certain useful drugs within limits GOI has categorised different drugs into four categories and fixed the limits of profits for drugs belonging to each category as follows.

The idea implicit with the DPCO, 1979 was that the drug manufacturers would produce essential and life saving drugs which would fetch some what lesser (!) profit which they would make good by selling drugs belonging to category III & IV and thus the supply of of essential drugs to the market at a reasonable price would be ensured. In the following discussion we shall try to analyse the impact of DPCO, 1979 on the drug scene in India. Following tables will show the decreasing trend of production of essential drugs.

| | | Maximum profit allowed |
|---|---|---|
| Category I | Life saving drugs | " —40% |
| Category II | Essential but not life saving | " —55% |
| Category III | Useful but not belonging to above categories & new drugs | " — 100% |
| Category IV | Others (like Tonics-Vitamins, enzymes, cough syrups, etc. & new drugs) | Unlimited Profit margin |

Table I

| Drugs | Actual Production (April to Sept. 1980 (in tonnes) | 1981 |
|---|---|---|
| 1. Chloramphenicol (antibiotic for typhoid fever) | 46.41 | 36.16 |
| 2. PAS (anti TB drugs) | 215.16 | 122.22 |
| 3. INH (" ") | 69.18 | 53.70 |
| 4. Piperazine salt (for worm) | 6.30 | 4.20 |
| 5. Dapsone (antileprosy drug) | 10.20 | 10.17 |
| 6. Diethyl carbamazine (antifilaria drug) | 10.58 | 8.42 |

(Source-Rajya Sabha proceedings, Sept. 1981)

Dr P.K. Sarkar is lecturer in pharmacology & active member of WB Drug action Forum which is a co-ordinating Committee member of AIDAN. Dr Sarkar will be editing DRUG & RATIONAL THERAPY.

Table II

| Drug | Lisenced capacity | Actual production (Metric Tonnes) 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|
| PAS | 110 | 13.5 | 13.78 | 5.7 | Nil |
| INH | 80 | 73.77 | 54.00 | 71.5 | Nil |
| Protinex | 110 | 254.86 | 252.15 | 278.59 | not known |

Data relate to Pfizer, a multinational company.

On the other hand the table II shows that the production of nutritional supplements has been stepped up.

Presently about 40% of drug market has been occupied by these substances (Tonics, Vitamins, Enzymes, Sleeping Pills, etc). The drug manufacturers have not only increased the production of useless drugs, they are also enhancing the prices of drugs including some essential drugs almost every year. Following table III will give us some idea of this price escalation.

A casual survey of some twenty drugs out of 45-000 drugs sold in the market shows that the drug manufacturers have enhanced the price of drugs (between 41 and 614 percent) over a span of four years only. The list is not exhaustive and price escalation has left very few drugs untouched. It is thus apparent that the DPCO, 1979 like the proviuos one of 1970 has failed to achieve its objectives: A perpetual shortage of essential drugs for the treatment of common ailments of the people of India continues while the drug prices keep on soaring. It will not be out of place to mention that about 30 to 40 per cent of bulk drug is imported every year, though different expert committees have repeatedly (Hathi Committee, 1975; UNIDO, 1981) opined that India has the requisite infrastructure and technological know how to manufacture almost all the drugs in India and there is no need to import bulk drugs.

While this unhappy scene continues, there has been a concerted attempt by the drug manufacturers to add insult to injury. On the plea that their business has become unremunerative they are trying their best to change the existing Drug Policy of the country. Drug companies have collected favourable data through a private organisation (NCEAR) in place of the conventional BICP ( a Govt. organisation) and with the findings of NCEAR study, they have been pressurising the government for changes which will be favourable for them. To appease the drug companies the government is going to change the Drug Policy again. National Drugs and Pharmaceuticals Development council (NDPDC) had appointed three working groups for the purpose. The reports of the working groups have subsequently been considered by a steering committee whose recommendations have already been submitted. The outstanding changes proposed by the committee may be briefly mentioned here. The existing DPCO, 1979 is operative on 360 bulk drugs which means that formulations (finished products like Tablets, Syrups, Injections, etc) made out of these 360 bulk drugs come under the DPCO and their prices are controlled by

Table III

| | Name of product Packing (Manufacturer) | Price-June '81(a) | Price June '84(b) | percent Rise (c) | price Sept '85 | Percent rise from (a) |
|---|---|---|---|---|---|---|
| | | Rs. P. | Rs. P. | (c) | Rs. P. | (a) |
| 1. | Dristan (Manners) | 4—26 | 6—90 | 62 | 8—12 | 97 |
| 2. | Otrivin (Ciba) | 4—75 | 6—38 | 34 | 8—00 | 68 |
| 3. | Antrenyl (Ciba) | 1—28 | 2—33 | 82 | 2—50 | 95 |
| 4. | Digiplex-170 m. (Rallis) | 5—35 | 12—55 | 98 | 14—84 | 177 |
| 5. | Vitazyme-110ml (East India) | 4—60 | 8—14 | 77 | 9—50 | 107 |
| 6. | Takazyme (P&D) | 4—40 | 8—92 | 103 | 11—22 | 155 |
| 7. | Dexorange-200ml (Franco-Indian) | 10—29 | 14—50 | 41 | 19—00 | 85 |
| 8. | Hepatoglobin-300ml (Raptakos) | 11—14 | 19—12 | 72 | 20—09 | 80 |
| 9. | Protinules-100g (Alembic) | 9—86 | 13—22 | 34 | 13—91 | 41 |
| 10. | Protinex-225g (Pfizer) | 14—50 | 21—72 | 50 | 21—72 | 50 |
| 11. | Syu-300g (AFD) | 15—02 | 16—71 | 73 | 28—71 | 91 |
| 12. | Durabolin-25 mg. ml (Organon) | 7—28 | 10—54 | 45 | 12—10 | 66 |
| 13. | Sustanon-1ml (Organon) | 20—07 | 31—21 (10 tab) | 56 | 35—90 (10 tab) | 79 |
| 14. | Lynoral (20 Tab) (Organon) | 1—05 | 3—20 | 515 | 3—75 | 614 |
| 15. | Menstrogen (20 tabs) (Organon) | 6—00 (20 tab) | 4—68 (10 tabs) | 56 | 6—00 (10 tab) | 100 |
| 16. | Mixogen (20 tabs) | 3—55 (20 tab) | 4—53 (10 tab) | 155 | 5—20 | 192 |
| 17. | Aquaviron-B 12-1 ml (Nicholas) | 2—41 | 5—50 | 128 | 6—04 | 151 |
| 18. | Celin 500 (Glaxo) | 1—96 | 3—00 | 53 | 3—33 | 70 |
| 19. | Sukcee (IDPL) | 2—02 | 3—26 | 61 | 4—60 | 128 |
| 20. | Stemetil (M&B) | 0—88 | 2—32 | 164 | 3—58 | 307 |
| | Source : (from MIMS '81) | | (Actual price printed on pack) | | (Actual price printed on back) | |

the Govt. In the proposed Drug Policy this number has been reduced to mere 95. There will be no price control on the remaining 265 bulk drugs which the Government so long considered to be life saving and essential. This is to say as if those drugs will cease to be life saving and essential once the new policy is announced. The next change relates to the profit margin of these 95 drugs to be henceforth considered essential by the government. In the existing DPCO, depending on the nature of essentiality the mark up (profit margin) varies between 40&100 per cent. The manufacturers have demaned a uniform mark up of 125 per cent on all the essential drugs. It is reported that the new drug policy can not be declared because of lack of unanimity between the government, IDMA (Indian Drug Manufacturers Association) and OPPI (Organisation of Pharmaceutical Producers of India, an MNC lobby) on the extent of this profit margin. It has also been reported that the government may agree to a uniform mark up of 75-80 per cent. Once this issue is settled the new Drug Policy will be declared which will invariably lead to a further increase of the price of essential and life saving drugs. This is definitely going to deteriorate further the existing drug situation in India;

The All India Drug Action Network (AIDAN) has sharply reacted to the proposed changes in the new Drug Policy contained in the steering committee recommendations. AIDAN has criticised the recommendations almost entirely and has submitted the critisissms to the Minister-in-charge of Chemicals and Fertilisers in August 1985. It may also be mentioned that AIDAN has not only critisied the Govt. Drug Policy but also formulated an alternative Drug Policy suitable for the country which in contrast to the one by the government is rational and needbased. In their Drug Policy Govt. only mentions the production and price of drugs where as the one formulated by AIDAN contains such discussions as estimation of the drug needs, self sufficiency in production, distribution, quality control, drug price, information dissemiation and many other topics. The most crucial demand made by AIDAN is the recognition of a scientific definition of DRUG and elimination of all products from the market which have absolutely no medico-scientific basis and falls outside this definition. These products occupy the larger share in the production process. Provided these are eliminated there will be no dearth of essential drugs if the entire production capacity is employed for the purpose.

## CHAI Executive Director elected Asian Representative to International Committee of the Federation of Catholic Hospitals and Health Care Institutions

The first International Congress of Catholic Hospitals and Health Care Institutions was held at Vatican, Rome from 29-31 October '85. Fr. Ferdinand Kayavil, President, CHAI and Fr. John Vattamattom SVD, Executive Director, attended this meeting. The meeting was organised under the auspices of the newly established Pontifical Commission for the Apostolate of Health Care workers. About 1500 delegates from 40 different countries representing six continents attended the meeting. During the meeting Fr. John Vattamattom SVD, Executive Director, CHAI, was elected to represent Asia along with Dr. Y.W. BAHK of Korea in the international committee of the World Federation of Catholic Hospitals and Health Care Institutions. The need was felt by the Holy Father to have this organisation of health care institutions to coordinate the works done in the Church throughout the world and to have a solidarity among these institutions. Holy Father's keen interest in this was evident when he came to the meeting on the last day and addressed the gathering, with very encouraging words and imparted his Apostolic Blessings on all the health care personnel and institutions all over the world.

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### ACKNOWLEDGEMENT

Dear Reader,

By an editorial oversight the sources of the articles which were reprinted in the July 1985 (Vol. 42 No. 6) issue of Medical Service on Bhopal, were left out. These were recollected from a wide range of sources acknowledged below:

| Article | Source |
|---|---|
| 2. Introduction Bhopal a peoples view of death their right to know and live | Introductory chapter of a book by the same name Eklavya, Bhopal |
| 3. The challenge of Bhopal | Editorial, medico friend circle bulletin, 114 June 1985 |
| 5. Medical research in Bhopal | Medico friend circle bulletin 112, April 1985 |
| 6. Mental health introduction | Mental Health Care Manual for Medical Officers, Bhopal, NIMHANS, April 1985 |
| 7. Emotional reaction to stress | |
| 8. Industrialization: The darker side | The Indian Express 3rd Feb. 1985 and Parisara, Bangalore booklet on Bhopal |

— Editor

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7th February, 1985.

## PRESS RELEASE

Only 14 out of 59 analgesic preparations found scientifically justified :

Dr. Jamie Uhrig and Dr. Penny Dawson of Medico Friend Circle have analysed 59 preparations listed as analgesics and antipyretics in the July '84 issue of MIMS, India and found 45 of these 59 preparations to be irrational on some ground or the other.

Basing themselves on the latest authentic textbooks, Dr. Uhrig and Dr. Dawson rigorously studied each of these preparations and graded them into the following categories :

A : Use of the product is justified—14 preparations for example : Plain paracetamol, Aspirin etc.

B : The combination is not proven to be superior to single ingredient preparation and hence not recommended .....16 preparations. For example—Equagesic, Fortagesic, Malidens. Micropyrin, Optalindon.....etc.

C : The combination has been proven to be inferior to single ingredient preparation and should be withdrawn .....11 preparations. For example—Apidin, Carbutyl, Dolopar Plus, Norgesic, Parvon-N, Parvon-P, Proxyvon, Spasmo-proxyvon, Sudhinol-N C .....etc.

D : The preparation contains analgin and should be banned.....18 preparations. For example—Codosic, Dolopar, Novalgin, Ultragin, Sedyn-A forte, Spasmizol.....etc.

Medico Friend Circle appeals to socially conscious medicos to ask for withdrawal of all the preparations in categories B, C and D.

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We congratulate Dr. Uhrig and Dr. Dawson for their spontaneous initiative in conducting this study. This study is available with the Rational Drug-Cell of M.F.C. at a cost-price of Rs. 3/-. Please write to :

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