KOTTAYAM PROJECT REPORT

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RESEARCH IN THE METHODOLOGY OF HEALTH DELIVERY: TRAING PROGAMME FOR COMMUNITY NURSES/HEALTH SUPERVISORS

BY NARAYAN (Ravi)

A Report on

RESEARCH IN THE METHODOLOGY OF HEALTH DELIVERY : TRAINING PROGRAMME FOR COMMUNITY NURSES/HEALTH SUPERVISORS.

A Project

undertaken by

Dr. Jacob Chandy - Prof. Emeritus, Govt. of Kerala

Dr. Roy Verghese, Dr. Rex Thomas, Dr. Cyril Mathai,

Dr. Mathew Jacob and Sr. Alice John.

Kottyam, August 1972 - December, 1976

COMMUNITY HEALTH CELL

Bangalore - 560 001

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"Let us remember that two thirds of the world's people are under-privileged, underfed, under-healthy, under-educated and that many millions live in squalor and suffering. They have little to be thankful for save hope that they will be helped to escape from this misery. These (problems) are symptoms of a new evolutionary situation and these can only be successfully met in the light and with aid of a new organization of thought and belief a new dominant pattern of ideas, relevant to the new situation."

Julian Huxley, 1961

C O N T E N T S

PREFACE

A Project entitled "Research in the Methodology of Health Delivery" was supported by the Family Planning Foundation of India from July 1972 to December 1976. This Project headed by Dr. Jacob Chandy (Padma Bhushan, Professor Emeritus, Government of Kerala and retired Principal of Christian Medical College, Vellore) experimented with the possibilities of developing a suitable cadre of community health personnel (referred to as 'community nurse' in this Project) by organising a community based training programme using an integrated approach in Medical Teaching. By its very nature such a Project cannot be expected to be carried out in strictly controlled situations since the course and the training programme evolve with the increasing interaction between the project team, the trainees and the community itself. Hence a report on such a Project also should attempt to highlight a developing and evolving process rather than a statistical account of measured achievement. During the period of this Project numerous reports were written up from time to time by the team and by visiting consultants and are available with the Family Planning Foundation. A need was, however, felt to consolidate all these unpublished reports and reviews of the Project and

present it as an overview of this interesting and creditable endeavour. I was requested by the Family Planning Foundation to undertake this job. I did it by reviewing all the available reports and by visiting Kottayam and the Project environs and interacting with Prof. Chandy, some members of the Project team especially Dr. Rex Thomas, many of the trainees and members of the village communities covered by the Project. I also had an opportunity to meet some of the visiting consultants from Kottayam Medical College, Trivandrum Medical College and Christian Medical College, Vellore, who were associated with this Project in various capacities. The report therefore is based on information gathered from various sources mainly through personal interviews. In a report produced by this method there is bound to be certain discrepancies since it is based on the views of many people and at some places the reporters' own views and experience also come into focus. This is inescapable. The report has been presented as follows. Chapter I outlines the broad developments on the Indian scene in the field of medical man-power education in the country. Chapter II outlines the assumptions and objectives of the Project team. Chapter III outlines the methodology used in the working of the Project. Chapter IV outlines some of the actual events in the form of a process report. Chapter V highlights some aspects of the cost of the Project and evolves a model for replicating. Chapter VI outlines the implications for the future including the

suggestions of various evaluating teams and the responses of the state health services in the Southern Area.

Chapter VII is a paper written by Professor Chandy summing up his own experience and making a plea for the development of Health Science teaching in the country. He is convinced that the ideas enunciated in this article represent the essence of the entire experience in this Project and though an innovative training programme was organised, the main observations made by the project team justify this plea for increasing the health awareness of the community through Health Science Teaching rather than only evolving more innovative paramedical teaching curricula. It is hoped that this report of a very innovative project, will stimulate both enquiry and further research into evolution of relevant teaching curricula for doctors and other para-medical personnel in the country as well as stimulate serious consideration of this concept of Health Science Teaching. If it does so it would have served its primary purposes. Further details, clarifications and the complete syllabus can be had from Professor Chandy or the Family Planning Foundation of India.

Ravi Narayan

20th November, 1977

New Delhi-110 016

CHAPTER I

I N T R O D U C T I O N

In the last three decades since Independence, India has made considerable efforts in the development of a health care delivery system which could ensure to all its citizens especially the predominantly rural population the constitutional guarantee of "public assistance in the case of unemployment, sickness disablement, old age and any other cause of undeserved want". With the Planning Commission established in 1950, the Government launched a programme of economic and social development through a series of five-year plans starting in 1951. Health was an important sector and the goal was "to provide scientific medical aid to all who needed it and to promote public health and preventive aspects of medicine". With this goal in view the main challenge to medical educationists, planners and health administrators were

1. The organisation of training programmes for medical and paramedical personnel which would develop in them both competence and motivation to work in rural areas where the majority of our people lived.
2. The rapid expansion of medical and paramedical manpower resources to meet the increasing demands of the health care delivery system.

This challenge was even greater considering the fact that we had inherited a system of health care and medical education which had developed along predominantly British lines and in which the philosophy of care and education had been focussed on high quality care of the individual patient. Community orientation to medical teaching of doctors, nurses and para-medical workers was discussed and stressed at numerous meetings, conferences and symposia. Many suggestions for new programmes were taken up and experimented with in numerous training institutions. However a well established hospital-based curative system can be very resistant to change and reorientation, and hence by the early 1960s, it was evident that this 'reorientation of medical education' was merely 'conference rhetoric' rather than commitment to real change. A predominantly hospital based training with apologetic exposure to the community remained the norm.

When John Bryant (1971) wrote that "in every corner of the world the products of such systems have not only been unwilling to work where they are most needed - that is a familiar story - but they had limited capability for working there. They have not been prepared to do what needed to be done" - he was probably echoing the Indian experience till the mid-60's. However, from the 1960's various innovative and experimental efforts began all over the country both in government health

training institutions, medical and nursing colleges and various voluntary health agencies to solve the problem of rural health care. It was becoming evident that a health care delivery system dependent on highly qualified doctors and nurses would not be feasible with the economic constraints that we had and therefore we would have to evolve cadres of health workers with graded skills coordinated together in an integrated multi-tier system which would deliver comprehensive health care to the community.

It would be outside the scope of this report to discuss the various governmental and non-governmental efforts in this very important task of developing teaching programmes and training of various grades of health workers relevant to the needs of our health services.

However Table I briefly summarises the Indian response to the delivery of Health care i.e. the four tier health care system and Table II indicates some of the important institutions which were primarily involved with the development of the teaching curriculum and guidelines for these category of staff.

TABLE I

HEALTH CARE SYSTEM (TIERS)

	Tier	Existing cadres to be reoriented/ retrained/modified.
I	Community 'Doctor'	M.B.B.S. Graduate
	↓↑	
II	Health Supervisors Assistants Male/Female	Lady Health Visitor Public Health Nurse Sanitary Inspector
	↓↑	
III	Multi-purpose Health Worker Male/Female	Auxiliary nurse midwife, Basic Health Worker, Smallpox Vaccinators, Malaria Health Workers, Trachoma, Health Education Assistants etc.
	↓↑	
IV	Community Health Worker	Traditional birth attendant, indigenous practioners, school teachers etc. Health volunteers.

TABLE II

PIONEERING PROJECTS / INSTITUTIONS

Category of Staff	Pioneering Projects/Institution
Community Orientation for Medical Undergraduates 'Community' Doctor	Rural Health Research Project, Narangwal Comprehensive Rural Health Services Project, Ballabgarh, AIIMS. Depts. of Preventive & Social Medicine of Medical Colleges in India.
Health Supervisors/ Assistants	Gandhigram Institute of Rural Health and Family Planning, National Institute of Health Administration and Education, Comprehensive Rural Health Services Project Ballabgarh, AIIMS. Central and Regional Family Planning Training Centres.
Multipurpose Health Worker	Gandhigram Institute of Rural Health and Family Planning Comprehensive Rural Health Services Project, Ballabgarh, AIIMS. National Institute of Health Administration and Education Central and Regional Family Planning Training Centres.
Community Level Health Worker	Comprehensive Rural Health Project, Jankhed. KASA model integrated Health & Nutrition Project - KASA Integrated Health Services Project, Miray Voluntary Health Services Project, Madras Nutrition Rehabilitation Centres, Madurai. Rehbar-e-Sehat, J and K. Govt.

In the light of these developments Prof. Jacob Chandy's project entitled "Research in the Methodology of Health Delivery" which is the subject matter of this report has added significance. By using rather imaginative and unorthodox methodologies in the training of a small group of girls now termed 'Community Nurses' the Kottayam project has shown that if training courses for health workers have to be really relevant to the needs of the community then major departures from traditional modes of thinking regarding courses and training programmes and methods may be necessary. The experiences of this project team are particularly relevant to the training of Tier I and II of our health care system staff (refer Table I).

CHAPTER II

2. Objectives of the Project

2.1 A review of the Health Care Delivery System in India and the various training programmes for medical and paramedical workers which have evolved over the last few decades show certain characteristics in the pattern of development and certain lacunae which must be taken into account while planning future health policy. Based on the insights gained by the director of this project during the years of his involvement in medical education and health planning in this country the following five assumptions were made as the basis for the development of this project.

1) All the grades of health workers - Doctors, nurses and paramedical workers such as Lady Health Visitors, Auxiliary Nurse Midwife, Basic Health Worker etc. have been given their training in a hospital setting with emphasis on curative medicine.

2) The westernised system of medicine which we have adopted and which is taught to these health workers raise many cross-cultrual conflicts and problems. In addition the workers are hardly trained to understand the sociological and economic realities of the communities they serve.

3) The para-medical workers get a sketchy training which does not provide them with an adequate academic base - to make them acceptable as health advisors to the community.

4) Most of the present grade of workers have not got the necessary knowledge or competence in the field of health education which is and should get the main emphasis.

5) The Doctors who are expected to act as leaders of the health team are trained mainly to take care of the sick and hence when asked to work in the community they find that they neither have the competence or the inclinication for it.

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2.2 All these factors have resulted in a growing gap between the health care delivery system and the community especially the consumer in the village setting. This project was therefore planned to try and fill this gap between the health system and the patient in his home with a new cadre of adequately trained health personnel with the right type of community orientation and experience.

2.3 Based on the above assumptions, it was decided that the new category of medical-workers should necessarily have the following characteristics as a corrective to the present system.

1) Recipient of community based training

2) Necessary understanding of the medical and health problems of a community with specific reference to the socio-cultural and economic environment in which they occur.

3) Adequate academic standing and technical competence to be accepted by the community as health advisors.

4) Competence in the principles and practice of Health Education.

5) Such a cadre would and should utilize the competence of and knowledge of doctors and existing para-medical workers in the field.

2.4 An Action-Research project was therefore undertaken by us, sponsored by the CSI Madhya Kerala Diocesan Medical Society and supported by the Family Planning Foundation, New Delhi with the following objectives in view.

Overall Objective: to produce a new category of Health Workers (called Community Nurse in this project) by evolving a community based training programme. The Community Nurse would act as a liason between the Doctor and the Community and take care of the comprehensive health needs of the community directly and through the supervision of existing grades of para medical workers.

2.5 Specific Objectives

To evolve through a community based

a) training programme a 'Community Nurse' who should be able to:

1) To collect, analyse and utilise important demographical and statistical data of a community required for planning health work.

2) To organise and manage antenatal services in the community.

3) To undertake and/or supervise domicilian midwifery services in the community;

4) To organise and manage post-natal services in the community;

5) To organise and manage under-five services in the community;

6) To organise and manage school health programmes in the community;

7) To organise immunization services for the community especially mothers and children;

8) To organise, motivate and continuously implement Family Planning services in the community;

9) To organise and manage supplementary feeding programme in the community;

10) To provide simple primary medical care for the Community;

11) To identify and refer all problems that require further skilled attention;

12) To provide health education and counselling to the community to increase their health awareness, utilization and participation in the health care delivery system.

b) To continously evaluate the effectiveness of the the training scheme in making the trainees both competent to take care of the above health needs

and motivated towards being community based personnel.

c) To evaluate the effectiveness of such a cadre in a community.

d) To identify and enumerate the factors which will lead to the acceptance of such a cadre by the community.

CHAPTER III

METHODOLOGY

3.0 The project by its very nature had to be tentative both in design and approach. Based on the overall and specific objectives laid down a role-definition of the 'Community Nurse' was attempted to act as a guideline to evolving the course methodology.

3.1 The Role Definition :-

The 'Community Nurse' envisaged by the project team would be expected to function in the following four roles in any community in which she worked.

1) Health Educator - She should be able to increase the health knowledge and improve the attitude, practice, utilization and participation of the community in existing health services by imparting health education which would cover the following aspects : Nutrition, Mother and Child Care, Immunizations, Early detection of disease and domiciliary management of minor illnesses, Environmental Sanitation, Personal Hygiene, Family Welfare.

2) Family Welfare Worker : - She should be able to organize and manage all promotive and preventive services required to improve the welfare of the family especially the women and children. This would include antenatal care, domiciliary midwifery, postnatal care, underfive care, school health care, family planning motivation, counselling.

3) Medical Assistant : - She should be able to diagnose and treat the simple medical problems of a community and be able to identify and refer those who require a doctor's attention. She should also be able to follow up patients seen and treated by doctors.

4) Health Supervisor : - She should be able to involve other local health workers in the field in all her activities and effectively supervise them.

3.2 SELECTION OF TRAINEES : -

The following criteria was used in the selection of trainees for this project :

1) All the trainees selected were females. This was mainly because it was felt that the role definitions emphasised the need to work mainly with women and children and only female-workers should be able to establish the necessary rapport and contact with this group.

2) The basic minimum qualification for all was pre-degree with physics, chemistry and biology (same qualifications as required for medical college admissions). This was insisted upon since it was felt that the 'Community Nurse' should be able to acquire adequate technical competence and professional skill to be able to make independent decisions and thus be acceptable to the community. In addition, with a sound academic base she would be able to undertake her work confidently and without any complexes.

3) The trainees were drawn from lower socio-economic groups and selected in consultation with the local community leadership to ensure that they were able to fit in with the local socio-cultural environment.

4) Motivation and aptitude were others important criteria for selection to ensure that the trainees would accept their 'community role' and responsibility.

3.3 NUMBER OF TRAINEES:-

Based on the above criteria 9 (nine) girls were selected out of about 52 (fifty two) applications. The reasons for limiting the number of ~~ve~~trainees were two-fold -

1) Since there was no guarantee that the course would receive official recognition by the Professional Councils in the country and there was a moral obligation to find suitable employment for the students after the course it was decided to get an undertaking from each of the ten mission hospitals run by the CSI Madhya Kerala Diocesan Society to absorb one of the trained ' Community Nurses' into their staff and utilise them to run suitable community health programmes.

2) The second, though more important reason was the need to limit the staff-student ratio and model the community based training on the traditional apprenticeship training at the 'bed side' the Gurukula system so that the staff would be able to help the trainees get the necessary insights and experiences required for the success of such a training programme. Since financial considerations of the project, made possible a team of only three or four doctor/nurses trainers - a group of 9-10 students was thought to be practicable.

3.4 SELECTION OF TEACHING STAFF :

The project team consisted of a Project Director and Research Officer who were responsible for coordinating all aspects of the project and directly in charge of developing and implementing the teaching curriculum and its ongoing evaluation. However, for the purposes of training the 'community nurse's' a team consisting

of two young graduate doctors (M.B.B.S.) and a Public Health Nurse (B.Sc.) were selected. The team was kept to a maximum of three to maintain a good staff student ratio of 1:3. The reasons for selecting a team consisting of graduate doctors and a Public Health Nurse was that it was felt that

i) Every Primary Health Centre (PHC) should become a training centre for such para-medical personnel in the future and most of them would have doctors and public health nurses to participate in the training programme.

ii) With the increasing durations of posting of interns from medical colleges in rural field practice areas it was hoped that interns could be used to train such cadres. This could be as additional responsibility during their rural postings.

3.5 ORIENTATION OF STAFF :

To prepare the team for their role as teachers of the proposed 'community nurses' a teaching workshop was conducted by the Christian Medical College, Vellore at the beginning of the project.

In addition to the team of doctors and public health nurse who were primarily responsible for all the teaching, consultants and experts from various medical colleges and mission hospitals were associated from time to time in the teaching programme.

3.6 TRAINING BASE AND FACILITIES :

The foremost principle in the planning and evolution of the teaching programme for the project was the attempt to deinstitutionalise the training as far as possible. Keeping this in view and also the factor of replicability of the project it was decided that from the very beginning inputs into the developing of the training base and teaching facilities would be kept to a minimum and the existing resources and facilities available in the community would be maximally utilised.

The training base therefore consisted of the CSI hospital, Mundiapally a 60-bed mission hospital (general and maternity beds, operation theatre, labour room, X-ray and laboratory facilities) which served as the 'community nurses' school and provided residential accommodation for the staff and trainees as well as accommodation for class rooms, office and library. The hospital was used for bed-side teaching and for management of referred patients from the field practice area. A small library with important textbooks and journals and necessary audio-visual aids for teaching were obtained from the project funds.

3.7 FIELD PRACTICE AREA :

The main innovative emphasis of this project was to make the training curriculum predominantly community, or field based so that community side teaching would be carried out

and community involvement and participation in project planning would be ensured. For this purpose, three areas which were geographically circumscribed and consisted of people of lower socio-economic groups were selected. These areas were all part of the catchment area for patients attending the CSI hospital Mundiapally. The three areas were Elovanal, Thuruthumala, and Mundukotta. Some of the important demographic data of these areas are shown in Table-I.

TABLE - I

DEMOGRAPHIC CHARACTERISTICS OF FIELD PRACTICE AREAS

Feature	Elavanal	Thuruthamala	Mundukotta	Total
Total population	447	352	1055	1854
Total number of households	72	53	165	290
Average family size	6.20	6.64	6.39	6.3
0 -5 years	63	30	168	261
6 - 15 years	109	84	251	444
15 +	275	238	636	1149

A very interesting and significant feature of these populations were the overall literacy rate of Males - 97.5% and Females - 94% (defined as reading and writing in mother tongue). The participation of the people in these areas was ensured by adequate interaction and

contact by the project leaders with the community leadership Since the staff and students of the project would be involved with daily field work programmes of family care in the area a good rapport with the community by discussions and meetings was ensured at the start of the project.

3.8 TRAINING PROGRAMME :

The training programme of the project was based on the following guidelines :

1) Teaching was didactic - lecture discussions and tutorials and practical - clinical, laboratory and field work.

2) Teaching was on all working days - Monday-Friday and half-day on Saturday.

3) There were four hours of class room teaching

((everyday Monday to Saturday) and four hours of community work (Monday to Friday).

4) For the purposes of field work the staff and students were divided into three teams - each team consisting of one staff member and three students. Each group was allotted an area for total family health care, and all the families in the area were surveyed and regularly visited by the team. Definite guidelines for field work were drawn up (ref. Appendix A) and specific records

were designed for the entire group of families under the care of each team (ref. Appendix-B). The field work was so planned that in the initial stages the field work was mostly observational but as the semesters progressed the students were called upon to share growing responsibilities in th health care of the families. These responsibilities were commensurate with the degree of their acquired professional competence both in community and clinical medicine.

5) The entire course was spread over a period of three years - five semesters followed by a period of apprenticeship for 6 months.

3.9 CURRICULUM DEVELOPMENT :

After having defined the broad objectives of the project and after attempting a 'role definition' of the community nurse the actual curriculum was then developed. The whole methodology of development of this curriculum was itself very innovative in that it was not a once for all activity but a regular activity that continued throughout the project plan and was based on a series of staff seminars and periodic meetings were each and every detail of the syllabus/curriculum was drawn up following the under-mentioned guidelines :

1) The curriculum was designed so as to equip the community nurses with the knowledge and skills required for their roles in the community.

2) The basic aim was to cover all the subjects within the six semesters.

3) In every subject unnecessary academic minutiae were to be avoided and stress laid on the practical aspects of the matter covered.

4) For each semester an outline of the course was drawn up and the detailed syllabus worked out.

5) Throughout the course a very good interaction was maintained between staff, students and the community and the field experiences were used as a feedback to modify or reorient the course and even make mid-course changes. The trainee was as much involved as the trainer in designing and making curricular changes.

6) All the subjects were taught by the same faculty thus incorporating the very important and relevant factor of integrated medical teaching.

3.10 SPECIAL COURSES :

In addition to the teaching curriculum evolved by the team of doctors and public health nurse certain special courses were also arranged from time to time by visiting consultants or by planning short trips to various institutions in Kerala and neighbouring States. As the training progressed the need

for some of these courses to be organised by skilled specialists in their respective fields was felt and necessary arrangements made.

3.11 EVALUATION OF TRAINEES :

At the end of each semester of teaching an examination was held under the Chief Examinership of Prof. V. Benjamin Professor of Community Medicine, CMC, Vellore and Dr.(Mrs.) Molly Phillip, Professor of Preventive and Social Medicine, Medical College, Kottayam. The examinations were conducted in the main subjects taught during each semester. The examinations consisted of written (theory), practical and viva-voce. During the fifth and sixth semesters - practicals and viva-voce were conducted in the community itself. In addition to these formal assessment, Sessions there was a continuous but informal internal assessment of each candidate by the project staff during the regular tutorials and field work sessions.

3.12 INTERNSHIP :

On completion of the final semester of teaching it was felt that each of the successful candidates were to be given a period of internship in a new area where the independent work of the candidate would be observed and assessed. Each student nurse would be given two hundred and fifty families to survey and organise and manage a family health care programme. Their work would be supported by neighbouring mission hospitals where all patients referred by them would be investigated and treated.

3.13 EVALUATION :

In addition to the formal evaluation of the trainees, the project team invited many consultants and specialists from medical colleges, mission hospitals and other health institutions to observe the project in action and suggest suitable changes and give their critical assessment. The project team also played host to evaluation teams from the Kerala Government, and other interested institutions and professional groups.

CHAPTER IV

4.0 PROCESS REPORT :

Based on the methodology enunciated in Chapter III the project began in July, 1972 and was finally completed in December, 1976. In a project such as this the observations and results are more experiential rather than statistical and consist of the development of a course-curriculum and evaluation of the efficiency of the trained individuals in the field situation.

4.1 THE CURRICULUM :

The Course that was finally developed consisted of the following subjects (against each is shown the hours allotted which include both theory cum practical sessions). A detailed outline of the syllabus is given in Appendix-

Anatomy	- 100	Personal Hygiene	- 12
Physiology	- 100	Nutrition	- 35
Biochemistry	- 70	Parasitology	- 20
Biostatistics	- 30	Microbiology	- 30
Psychology	- 30	Pathology	- 20
Home Economics	- 8	Clinical Pathology	- 20
Sociology	- 30	Community Medicine	- 200
Fundamentals of Nursing care	- 120	Principles of Medical Care	- 100
Principles of Surgical Care	- 60	Principles of OBG Care	- 180
Principles of Paediatric Care	- 120		

TOTAL HOURS = 1285

4.2 THE SPECIAL COURSES:

The special courses arranged were nine in number and are shown below :

No.	Subject	Teaching Centre		Hours
1.	MCH & Family Planning	CMAI Team, Bangalore		75
2.	National T.B. Control	N.T.I., Bangalore		25
3.	National Filaria Control	Filaria Control Unit, Quilon		5
4.	National Leprosy Control	Leprosy Sanatorium, Nooranad	3	25
		Leprosy Hospital, Trivandrum	8	
		Leprosy Hospital Oddanchatram	14	
5.	Health Education	Deptt. of Community Health, CMC, Vellore		15
6.	Public Health Administration, National and International Agencies, Health legislation	Department of Social & Preventive Medicine Medical College, Kottayam		8
7.	Supervisory responsibilities in Community Health Practice	College of Nursing, Trivandrum		10
8.	Hospital Nursing Care	Fellowship Hospital Oddanchatram, CSI Hospitals, Pallom, Kanakari		1200
9.	First Aid	Red Cross Society, Kottayam		16
				1379

4.3 THE COURSE PROGRAMME :

The entire 'Community Nurses' course was divided into five semesters followed by a period of internship. The outline of the work done in each semester is as follows :

1) Ist Semester

Subjects Covered : Sociology, Psychology, Biostatistics, Personal Hygiene, Anatomy I, Physiology I, Biochemistry.

Field Work : Staff members contacted village leaders, did baseline surveys, gave health education talks and provided free consultation services and treatment of minor ailments to the people.

Special Courses : Nil

2) IInd Semester

Subjects covered : Nutrition, Community Medicine, Microbiology, Anatomy II, Physiology II, Fundamentals of Nursing.

Field Work : During the field work students were allowed to make independent visits and report their findings and work. Immunization Clinics held and different types of motivation methods were tried out. School health programme started in a neighbourhood school.

Special Courses : Nil

IIIrd Semester

Subjects covered : Community Medicine, Pathology, Bacteriology, Parasitology, Clinical Pathology, Fundamentals of Nursing.

Field Work : A new area was selected for community health work and students asked to do baseline survey themselves and analyse data collected. Preventive, promotive and curative services through home visits to previous areas were continued.

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Field Work : Target couple surveys done in all areas. Family planning motivation begun in all areas along with all other services which were continued. School Health Programme started in second school.

Special Visits :

Trivandrum a) Medical College & Hospital, Department of Preventive and Social Medicine, Department of Rehabilitation, Anatomy Museum, Histopathology laboratory Microbiology Laboratory, Forensic Laboratory, Mortuary, Labour Room, Premature Nursery, Malnutrition Ward, Blood Bank, Cobalt Therapy Unit.

b) Government Analysts Laboratory, Water works, School for Mentally Retarded, Central Dairy, Hindustan Latex Factory, Poor Home.

c) Bangalore : Course on TB Control at Nutritional Tuberculosis Institute.

d) Course in Maternal and Child Health and Family Planning by CMAI Team.

4) IVth Semester

Subjects covered : Communicable diseases, Pharmacology and Therapeutics, Medicine, Surgery, Obstetrics and Gynecology, Pediatrics, Domiciliary Nursing Care, Home Economics.

Field Work : Independent field work in field practice area encouraged. Participation in group teaching sessions in all areas ensured. School Health Programme continued. Participation in antenatal care services and in immunization clinics, BCG immunization done in all areas.

Special Visits/Courses :

a) Course in Health Education by Department of Health Education, CMC, Vellore.

b) Kottayam Medical College : Posting in Department of Preventive and Social Medicine and Primary Health Centres and sub-centres to study smallpox, vaccination, malaria blood surveys, working of SET centres, well disinfection and other practical public health procedures.

5) Vth Semester

Subjects covered : Medicine, Surgery, Obstetrics and Gynecology, Pediatrics and Community Medicine.

Field Work : Independent decision making and assessment encouraged in field practice area and all services continued.

Special Visits/Courses :

a) Quilon - National Filaria Control Programme.

b) Trivandrum - Leprosy Hospital, College of Nursing for course in supervisory responsibilities in Community Health Practice.

c) Odanchatram - Leprosy Hospital, Fellowship Hospital for training in hospital nursing care.

d) Kottayam - Red Cross Society's First Aid Course.

Special Assignment Conducted :

20 - 25 normal deliveries.

4.4 PROGRAMME SKILLS :

Throughout the training programme special emphasis was made to ensure that the trainees were made proficient in certain medical and community health skills. It was thus ensured that they had the following definite measurable skills.

a) Promotive and Preventive

i) Capacity to organise Community Health Survey with a view to find out community characteristics and the morbidity pattern determined by socio-cultural variants.

ii) Competence to organise under five clinics antenatal clinics and school health programmes.

iii) Skill to screen patients and treat common ailments including minor disorders of pregnancy, vitamins deficiency states, parasitic infections, such as hookworm, round worm and so on.

iv) Skill to provide prenatal, intranatal and postnatal care in the homes. (Each student conducted 20-25 deliveries in hospital and domiciliary settings).

v) Competence to identify local leadership towards involving them in health care planning and delivery.

vi) Skill in health education techniques at individual and group level on problems related to nutrition, environmental sanitation immunization and family planning.

vii) Skill to organise immunization programmes and administer smallpox, BCG, DPT, Tetanus Toxoid, TAB, Cholera and oral Polio vaccines.

b) <u>Curative Skills</u>

i) Skill to diagnose minor ailments and treat them e.g. Respiratory Tract Infections, Diarrhoea, Conjunctivitis, ear infections and common skin infections.

ii) Competence to diagnose the following conditions with the aid of history, clinical observations and laboratory investigations e.g. urinary tract infections specific vaginitis, helminthiasis, tuberculosis, leprosy, eruptive fevers such as measles, chickenpox and typhoid fever.

iii) Skill to identify acute and emergency conditions which need immediate referral e.g. acute abdomen, respiratory distress, heart failure, severe dehydration

and shock, abnormal conditions associated with pregnancy and labour e.g. ante-partum, haemorrhage, moderate to severe pre-eclamptic toxaemia, cord prolapse prolonged and obstructed labour.

iv) Skill to follow up chronic cases such as hypertension, cardiac failure, diabetes, mellitus and tuberculon.

v) Awareness of side-effects of routinely used drugs such as sulfonamides, penicillin, streptomycin, tetracycline, salicylates, antihelminthic drugs, anti tubercular drugs etc.

vi) Skill to use following diagnostic tools - Sthethescope, sneilens vision chart, oral and nasal specula.

c) Domiciliary Nursing Care :

Special skills to administer domiciliary nursing care in the following :

i) Sick children e.g. measles, scebies, gastroenteritis

ii) Neonatal Care

iii) Puerperal care

iv) Chronically ill and bed-ridden patients, e.g. post-stroke.

They were also skilled in the following procedures -

i) Tube feeding

ii) Enema

iii) IV fluid therapy

iv) Injections

v) Vaginal douche

d) **Diagnostic Skills :**

All the trained candidates were given necessary training to carry out the following investigations :

i) Blood - Hemoglobin, total and differential WBC count, ESR

ii) Urine - Albumin, sugar, ketones, microscopic

iii) Stool - Detection of ova, cysts, blood

iv) Sputum - for AFB

4.5 **EXAMINATIONS :**

Semester Examinations were held at the end of each semester by a group of external examiners under Dr. V. Benjamin, Professor of Community, Medicine, CMC, Vellore and included Dr. Molly Phillip, Professor of Preventive and Social Medicine, Kottayam Medical College and other staff of CMC Vellore from time to time. The distribution of the subjects for examinations by semesters were as follows :

Ist Semester

Sociology Psychology Biostatistics Personal Hygiene Anatomy I Physiology I Biochemistry	Theory and Viva voce

IInd Semester

Anatomy II Physiology II Nutrition Fundamentals of Nursing	Theory and Viva voce

IIIrd Semester

Community Medicine Maternal and Child Health and Family Planning Pathology, Bacteriology, Parasitology, Clinical Pathology	Theory, Viva Voce, Practical

IV Semester

Health Education	Theory, Viva Voce

Vth Semester

Medicine Surgery Obstetrics & Gynecology Pediatrics Nursing Family Care Presentations	Theory, Viva Voce, Ward Cases

All the theory papers were set up by the external examiners based on an outline of the portions covered in each semester provided by the teaching faculty. The questions were not theoretical but oriented towards practical situations (Refer Appendix C). A review committee appointed by the Government of Kerala consisting of the Deputy Director Health Services, Government of Kerala, Professor of Preventive and Social Medicine, Trivandrum Medical College, and Principal of the College of Nursing, Trivandrum participated in the final examinations.

All the candidates except one completed the examinations satisfactorily. All the candidates who were successful were given the certificates shown in Appendix - D and were then given a period of internship.

4.6 INTERNSHIP :

Following the final examinations the eight successful candidates were divided into two batches of four each and were posted in two areas Kanakari and Pallom where each student was given independent responsibility for the total health care of 250 families. The teaching staff of the project were posted at the mission hospitals in Pallom and Kanakari and they supervised the work and supported the 'community nurses' by treating the patients referred by them to the mission hospitals. During this period, the'community nurses' did regular house visiting and took care of minor illnesses, motivated for family planning gave health education, conducted antenatal postnatal under five and immunization clinics, undertook domiciliary midwifery. They were also responsible for nutritional programmes for the children, distribution of free milk and cereals and also giving nutritional education. They maintained family records for each family under their care and analysed the data themselves and used the information for the planning of their work.

TABLE I

DEMOGRAPHIC CHARACTERISTICS OF INTERNSHIP VILLAGES

CHARACTERISTIC	KANAKARI	PALLOM
No. of Families	1000	1025
Single Families	763	807
Joint Families	237	218
Total Population	6115	6449
Average Family Size	6.1	6.2
Male	2940	3074
Female	3175	3375
Under-5	605	641
Literacy	95%	93%
Employment		

TABLE II

ENVIRONMENTAL CHARACTERISTICS OF INTERNSHIP VILLAGES

CHARACTERISTIC	KANAKARI	PALLOM
Houses		
a) Own	955	906
b) Donation from Govt.	45	119
Electrified	23	32
No. of Rooms		
1 room	328	297
2 rooms	592	475
3 rooms	80	253
Water Supply		
Protected	187	486
Unhygienic	813	539
Sanitation		
Fair	370	223
Poor (without)	630	802

TABLE III

IMMUNIZATION STATUS AND FAMILY PLANNING ACCEPTANCE IN INTERNSHIP VILLAGES

CHARACTERISTIC	KANAKARI	PALLOM
Immunization Status (Under 5's)	605	641
Smallpox	298	313
BCG	84	94
DPT (3 doses)	218	236
Polio (3 doses)	92	96
Family Planning Acceptance		
Couples	805	825
Eligible Couples	610	613
Tubectomy	43	93
Vasectomy	25	128
IUCD	3	18
Other measures	93	122

NB : Kanakari has a large Roman Catholic Population and hence the lower acceptance rates.

Table I and Table II show the demographic and environmental characteristics of the two areas selected for the internship. It is evident from the tables that the main characteristics of these areas are high literacy rates, average family size of 6-7, increased percentage of nuclear families living in their own houses, poor environmental sanitation - all of which are characteristic of rural areas of Kerala.

Table III - Shows the immunization status and family welfare acceptance - these being taken as two indicators of health awareness in the area which inspite of a high literacy rate is not as much as expected.

After a period of six months the major thrust of their work was directed towards teaching of health and related subjects in the class rooms of local schools in the area. Their responsibilities here were

i) to teach good health habits to children, starting from Kindergarten to high school.

ii) to teach health as a science subject to grade 8,9 and 10.

iii) to take care of the health problems of the student body.

iv) to visit the homes of the children with even minor health problems and to create awareness of the same in their families.

In both the community and the school situations discussion with village leaders and teachers, increasing community participation, motivating community to accept and get involved in these programmes - all this was done by the trainees themselves.

Since the internship was divided into two phases - the project team got an opportunity to assess the impact of these trainees on the health of the community in their two defined roles. Phase I of internship was spent mainly as Community Nurses where regular house visiting, organising MCH clinics treatment of minor illness and health education at individual and community level was mainly done.

Phase-II - of internship was spent mainly health educating children at school level and providing a good school health service and using it as a contact point with the community.

A comparison of the impact of these workers by the two approaches was made possible and it was obvious that the participation and creation of awareness in the community was much higher by the second approach. To quote one example in one of the communities there had been a ninety per cent hook-work infestation. The trainees had been trying to get the people to accept better sanitary conditions like building latrines, avoiding defecating in the neighbourhood and providing footwear. The response was poor. However during the second phase when the children were educated regarding the problem of hook-worm in their school and the families were approached through their children - more productive participation came from the same community.

4.7 Development of Appropriate Technology :

A very interesting outcome of this close interaction between the trainees, the teachers and the community was the adaptation of some of the available local materials in medical

and nursing procedures. This innovative approach is a necessary lesson in the training of health workers especially in the developing world where financial constraints are a reality. All workers must be taught to improvise and adapt not only their skills but also develop newer and more appropriate technologies in their work. Only two examples will be given from the many developed by the team to illustrate this aspect of the work.

1. <u>Use of dry pedicle of Arecanut leaf known as 'Paala' in Kerala :</u>

A good sized pedicle measures about two feet x 1 foot This can be easily folded into any shape and fixed in that shape by suturing with fibre. The Paala was used by the team for various purposes :

i) As a basin to collect urine and faeces of patients who are bed-ridden.

ii) As a baby tray to receive the new born baby. The baby can also be given a bath in the Paala.

iii) As a receptacle for the placenta during domiciliary delivery.

Since the 'pedicle' is freely available it can be used as a disposable receptacle. If necessary, it can also be washed and dried in the sun and used again. Locally the Paala in these areas has been used by the people for storing curd or for drawing water from wells.

2. Leaves of pepper or plantan used as substitutes for vaseline guaze :

Burns are not an uncommon emergency in rural areas since open stoves are still the norm. In the hospital set up we usually use vaseline gauze dressings to prevent the dressings sticking to the wound surface. Vaseline is not so easily available and therefore the project team improvised a dressing using cleaned, smooth leaves of pepper or plantain painted with gingelly oil and warmed over a flame. The leaves were then applied to the burnt area and served the same purpose. Antibiotics and immunization against tetanus toxoid were given routinely.

CHAPTER V

R E S U L T S

5.1 To summarise, the Kottayam Project has achieved the following results :

1. It set out to produce a new category of health workers (called Community Nurse) who would act as liaison between the Doctor and the Community and take care of the comprehensive health needs of the community directly and whenever necessary through supervision of existing para medical workers.
2. It selected nine female students with minimum predegree qualification, and from lower socio economic groups.
3. With a small staff-student ratio of 1:3 it evolved a community based training programme wherein the community substituted for the teaching hospital.
4. The students were instructed by the same team of preceptors in all the subjects basic sciences, clinical medicine and community medicine. This team consisted primarily of two MBBS Doctors and a B.Sc. Nurse.

5. After defining the role of this new cadre of worker which included Health Educator, Family Welfare Workers, Medical Assistant and Health Supervisor, it evolved a curriculum by close interaction of preceptor and trainees and adequate feed back from field work experience.

6. The students were examined at various stages by the same team of examiners (again integrated approach) The Final Examinations were attended by the visiting Evaluation Team from the Kerala Government. All the candidates except one was found adequately prepared with the knowledge skills and attitudes required for their laid down roles in community health programmes.

7. The eight students were given a year of internship which was divided into two phases - the first one in which they primarily worked as community Nurses and the second phase in which they primarily worked as Health Education in schools.

8. The eight students were then absorbed by the Mission hospitals of the CSI Madhya Kerala Diocesan Medical Society where they are to date involved with the organization of community health programmes in the catchment areas of these Mission hospitals. Because of the comprehensive nature of their training nearly all of them work part time as Hospital nurses as well.

5.2 SUGGESTED MODEL FOR REPLICATION :

Based on the experience of the project team the tentative model evolved by the project team which could be used by others interested in replicating the idea is as follows :

Define Role of Worker needed
in local situation

↓

Based on the Role Definition
evolve a basic curriculum content

↓

Select trainers and training
base from existing resources
available in the local area,
community and the existing
health infrastructure and
regional training institutions

↓

Select trainees from existing
pool of pre-degree students
(sex, number, economic status,
motivation, aptitude etc. being
locally defined). Wherever possible
get community participation in
selection of trainees

↓

↓

Organise a training programme which has the community as a teaching hospital and didactic teaching and field work and field visits are closely integrated. Use the same preceptor for all stages of training. Duration of Course will vary depending on course content. Degree of Interaction between preceptors and trainees should allow for adequate feedback from field work experiences to allow for mid-course changes in curriculum.

↓

Evaluate the trainees with a suitably constituted examination panel consisting of consultants familiar with the role definition of the grade of worker and the course curriculum

↓

Plan a suitable period of internship to assess the efficiency of the worker in the actual field situation especially where independent and unsupervised decision making has to be undertaken

The Final Product of such a programme will be a varying combination of the four roles

i) Health Educator

ii) Family Welfare Worker

iii) Medical Assistant

iv) Health Supervisor

This will depend on the manpower needs and defined roles adopted by the State or District Health Service

Identify/create suitable job opportunities where the products of such training programmes could be utilised and maximum utilization of her knowledge skills and attitudes could be made under the supervision of a Medical Officer

5.3 COST OF THE TRAINING PROGRAMME :

At this stage the cost of the training programme as visualised by the above mentioned model should be considered. Table I shows the estimated expenditure of the Kottayam Project. However, it is important to remember that being the first of its kind such a project has a research input in addition to the

TABLE I

ESTIMATED COST OF KOTTAYAM PROJECT

A. TRAINING PERIOD	PER ANNUM	FOR 3 YEARS
1. Teaching Staff Salaries	31,200	93,600
2. Other staff salaries (Peon, Watchmen etc.)	4,200	12,600
3. Travel	5,000	15,000
4. Equipment Material and Books for Library	6,800	20,400
5. Contingent expenses including stationery and printing	7,800	23,400
6. Contingent expenses on visiting consultants etc.	5,000	15,000
7. Scholarships for students (9 students)	25,000	75,000
TOTAL :	85,000	2,55,000
B. INTERNSHIP PERIOD (6 months period)		
1. Staff salaries		7,800
2. Interns Stipends		19,200
3. Petrol/Oil		6,000
4. Incidental expenses including stationery etc.		6,000
5. Drugs etc.		12,000
TOTAL :		51,000
GRAND TOTAL : 3,06,000		

cost of the training inputs. The former being the cost of planning, evaluating and recording all aspects of the training programme with the view to evolving a strategy for replication. However, once this is done then the cost of the replicative model will only be the cost of the teachers salaries plus ancillary staff salaries plus travelling grant for field work and field visits plus contingent expenditure for stationery specialist visits, examinations etc. plus cost of teaching aids, library books plus cost of drugs, vaccines and basic equipment for comprehensive home-based healthcare. A major part of these costs will also be mainly capital and not recurring. In addition if an adequate inventory is made of available training manpower and material resources in the health infrastructure and training institutions of the area even the recurring costs can be markedly reduced.

CHAPTER VI

E V A L U A T I O N

The evaluation of such a project in quantitative or qualitative terms is a very difficult proposition because the application of any pre-planned evaluation criteria to a continous evolving and developing process such as the training programme in the Kottayam project would neither be justifiable nor be successful in giving us the real achievements, failures and implications of such a project. A good training programme should be sensitive to the socal environment of the community which it seeks to serve, and constantly adapt itself to the changing requirements. Measuring this sensitivity or adaptability to local needs is also a difficult task. Moreover, in any attempt to evaluate this project one must not loose sight of the fact that the whole idea and experiment developed in the state of Kerala where the socio-cultural and political milieu is quite different from the rest of India. In an area of high literacy rate the people are more aware of their rights. In addition, with a more equitable distribution of wealth and a more planned distribution of health infrastructure the people will demand not only better quality of service but also better quality of health workers. Professor Chandy's project is thus an attempted answer to such a need.

6.1 AN EVALUATION :

In a comprehensive evaluation report written on this project Professor George Joseph, Head of Centre for Community Medicine, All India Institute of Medical Sciences has commented that "This project aims at filling up the gap that is felt to exist between the home and the hospital with a new cadre of adequately trained health personnel with the right type of community experience so as to achieve the effective integration of the four-fold dimensions of health right at the hub of the field of action (which perforce the family has to be)". Commenting on the conceptual model of this project he further states that "The project is an attempt to establish the feasibility of an intermediate level health worker who will have greater independence and initiative and therefore must have better professional training than their counterparts today. Such a cadre of health personnel however is not developed as an 'alternative' to the existent cadre of Basic doctors/community physicians but to complement and supplement them. It must here be stated that so far we have not identified the ideal type of health functionary who can be expected to deliver the goods in a comprehensive health care delivery system in the rural setting. The emphasis on better training for this new category is well placed in the context of the continued and continuing disparity, between the standards of health services in the urban and rural settings. As these personnel are meant to function in harmony with the home settings in the

rural milieu this can effect a breakthrough of the accessibility barrier of modern medicine. More so because either consciously or imperceptibly they have to indulge in health education in the given context, they are expected to possess the required expertise to deliver comprehensive health care upto a level beyond which they function in consultation with the physicians at the rural hospital or the health centre (existing network). A close function integration therefore is postulated. The point behind emphasising the techniques of community organization in the training programme for these personnel is to enable them to make use of the existing potential including the indigenous health manpower (dai, village physician etc) on a better scientific basis.

The envisaged shift in orientation may perhaps be explained thus instead of having the health establishments representative in the community in the present set up it is desirable to have the community's representative that the community nurse is meant to be in the health establishment." Commenting on the methodological aspects of the programme, Professor Josoph mentions that

i) "the making of the community the sole field for training is both innovative and corrective".

ii) "the initiation of trainees into a community survey and its continued and committed follow up offers a venue for training in community medicine in the traditional sense and clinical medicine in an unorthodox way."

iii) "The constant presence of the preceptors with the trainees in the family setting made the training both natural and realistic and the project proved that clinical instructions regarding the normal and deviations therefrom can be adequately imparted in the home setting."

iv) "It desires mention that the Project Director had a weekly session with the team (teacher and trainees) when the work done in each week was reviewed and evaluated. Suggestions that could thus be given - as guidelines for training thereafter helped to make any mid course corrections that was necessary. It is significant that everyone concerned participated in this process.

v) "Since the objective of the project was to evolve a group of health personnelwith a minimum of inputs preserving at the same time an optimum standard of training, institutions based instruction was reduced to the minimum and the training facilities that were readily accessible were maximally used and to greater advantage. Another aspect of the same idea was the greater utilization of the facilities available in the community for organizing training and community service programmes (e.g. school, panchayat building, churches etc.)

All these helped to minimise programme inputs.

Finally commenting on the overall relevant and replicability of this project he states

"The replicability of any projeect can only be inadequately discussed in isolation from the feasibility of its laid down objective. Ideally, considerations of replicability should not be allowed to obscure the relevance of the objective. Even so, the project under evaluation appears wholesome, in this context due to the minimal requirements of inputs which is a direct result of its conceptual reorientation. It appears therefore highly desirable that instead of the traditional and expensive institution bases, this project has accepted the community setting on the whole as its venue for training. The organizational structure is simple enough, the preceptorial role resting with two doctors and a Public Health Nurse, in the present instance.

The emphasis on a better quality of training that is aimed at augurs well in the context of our old mistake of diluting rural health services. This changed emphasis is evident right from the outset, from the fact that the minimum elegibility qualification is pre-degree, and can therefore presuppose a fair grounding in basic sciences. This has facilitated their improved image and acceptance in the community where they can command respect. In a community like the one in which the trainees were posted which is considerable enlightened (base-line survey conducted by the trainees has revealed an overall literacy rate ranging between 93% and 95%) it is unfair to send a poorly trained and diffident community health worker. Even in communities with a less impressive literacy rate, there

is no excuse for sending a semiliterate, illtrained, ill-equipped health worker to represent the promise of modern medicine to rural folk. It should be emphasized that the trainees as far as possible should be drawn from the respective communities so as to emphasize the local singularities in the delivery of health care. The possible apprehension about the possibility of attracting local talents of some standing (such as possessing basic educational qualification) into such a training programme will be misplaced not only because of the promise that the present programme holds out but also because of the every-growing problem of the educated unemployed in the country.

A concrete product of the project was the gradual evolution of a core curriculum which for purposes of national adaptation may be critically checked up against the professional skills aimed at, in the light of the overall health policy of the country. This in itself can have far reaching consequences. Once this is achieved, any health organization withthe requisite training manpower and effective links with the community (futuristic role of any hospital including the teaching hospitals) can be expected to undertake the responsibility of training. The Department of Community Medicine in various Medical Colleges in collaboration with the other clinical and preclinical departments and the existing nursing colleges/schools can take up this challenge. In this context, the kind of training programme envisaged can be doubly beneficial in enhancing the medical training programmes say of Interns and Postgraduates with direct experience in the community as a badly needed category of health worker is being moulded."

6.2 IMPACT OF THE PROJECT :

A very good method of evaluating a project could also be by studying the impact that a certain project has on existing training programmes. This impact could be by the diffusion of the ideas and experience gathered in the project and disseminated through discussions and reports of the project. In this particular context the Kottayam Project has been particularly successful in

a) making an impact on the B.Sc. Nursing training in Kerala; and

b) leading to the introduction of a B.Sc. Health Science course in Osmania University.

(a) A Report of the Committee appointed by the Kerala Government to evaluate the training programme for community nurses at Kottayam observes "That the standard shown by the candidates at the examination was quite satisfactory and they were found to possess a good background of community health work ..... Based on the observations of the performance of the trainees in the V Semester Examination and from the information that could be gathered by scrutiny of the curriculum and by interrogation of the teachers and organisers of the programme and the trainees, the Committee felt that the training programme had been conducted well with a group of dedicated teachers who have been successful in motivating the trainees for community health work." They further observed that the objectives of the course as contemplated are to prepare a new category of Health Supervisory Staff to render comprehensive health care in the community, to plan and

to supervise the care given by the peripheral health workers and to assist them in their personal and professional development so that they may make their maximum contribution to society as individuals, citizens and health workers. The products of this course can render better service to the community than the present Public Health Nurses as they are better equipped to function independently to a certain extent." After a few further observations on the needs of increasing the training in effective supervision of ANMs and health visitors and adding some hours on theory and practice of supervision, administration personnel management and educational psychology and counselling as well increasing institutional experience in the clinical subjects the review committee made this rather significant observation. "The present 4 year B.Sc. Nursing may be suitably modified to prepare health supervisors of this category. The first year of the present B.Sc. may be allotted for Basic Sciences and fundamentals of health care. At the end of the first year the students may be given an option..... of either a course leading to degree in community Health Sciences or to a degree in Hospital Nursing work. The community oriented training (as in this project) for the degree in Community Health Sciences can prepare personnel of the right type to replace the present category of Public Health Nurses in due course" -

(b) <u>B.Sc. Health Science Course at Osmania University :</u>

At the Convocation of the Osmania University in March 1976, Sri P. Jagan Mohan Reddy, Vice Chancellor mentioned in his report the institution of the new Degree course on Health Sciences and observed "This Degree course on Health Sciences

will be administered by the Faculty of Medicine and will be of great interest to the youth of today because it is job-oriented in its very conception. The key word of this new course is 'Awareness' - to make our student body aware and through them make the whole population aware of the scientific and technological knowledge and practice of positive health..... One of the objectives of this scheme is the integration of family planning with health and nutritive facilities working in the context of modern society. This new course is aimed at creating a new cadre of personnel who would be adequately trained in the scientific knowledge of health. It will be community oriented. These graduates will, therefore, fulfil a vital need by becoming the teachers of the impressionable minds of school children and bringing about health awareness among people of all ages." He later went on to add that the whole inspiration and guidance for such a course came from the experience of the Kottayam Project directed by Professor Jacob Chandy.

(c) The Tamilnadu State Health Services while considering plans for development of their Health Assistance Course, has it is reliably learnt studied the experiences of this project and takes the course syllabus into consideration and suitably modified it to meet their local needs.

Thus it would not at all be an exaggeration to suggest that this project has already had a very important and pioneering role to play in the development and modification of training programmes in the Southern regions of the country.

6.3 COMMUNITY EVALUATION :

After considering the evaluation reports of some of the consultants and the impact that this project has had on various existing and new training programmes in the south I would like to end this chapter on Evaluation by quoting from an interview I had with a group of mothers living in Mundiapally village - one of the areas where the Community Nurses worked. It must be remembered that in the final analysis the evaluation or success of any cadre of health worker will depend on what the community thinks of him/her and perceives as his/her role. This is the ultimate and real evaluation. When asked of what the community thought of the nurses who had been working there and why? The answers (translated from Malayalam) put together were "The Community Nurses were of great help to we mothers in the area because they gave medicines during our children's illnesses and advised us on how to bring up our children in a health way - with cleanliness and good food. In the hospitals we visit, the doctor gives a prescription and the nurse some medicines but neither seem interested in listening to our problems or worries. The main difference with these nurses was that they were sympathetic to our problems and had time to explain why the problem had arisen and what all should be done to tackle it. This interest in spending time with us to discuss our worries was most reassuring. When the nurses were here, sores had nearly disappeared and now it sores have become even worse than before. When they were here there was a motivation to follow their advice. Now we are not getting the health talks and the continous advice from them. Wetherefore follow sometmie

follow their advice. Now we are not getting the health talks and the continous advice from them. We, therefore, follow sometimes, We forget mostly."

CHAPTER VII

HEALTH AWARENESS AND HEALTH SCIENCE

Health education and consequent experience of scientific knowledge as an instrument in the dynamics of development in the developing countries.

"The creation of awareness is the sine-qua-non of development of man and his environment, and as such assumes unique importance in the context of a developing economy. Development can only occur if the individual can become aware of his own needs and can take responsibility to meet those needs. A scientific understanding of his physical, sociological and intellectual life and needs, and a means of realizing them without institutionalising them, is essential to enable man to delight in the joy of living. All education, ideally, should lead to the individual accepting responsibility for himself rather than seeking for service agencies to protect and preserve him. Consequently, Health Education and the experiences gained from this scientific knowledge, can create the health awareness which will lead to development. Health education, to become meaningful, has to be associated with health care. Throughout the world, in the developed as well as in the developing countries, we have been seeing the futility of a quantitative proliferation of health care facilities aimed at enriching healthful living. Well-meaning and colossal investment in this direction, without adequate efforts to create

health awareness among the people, had been just like hoping to entertain a blind man with a really superior mirror. It has taken years of trial and error to realize that the provision of health care facilities alone does not assure their utilization by the community.

The signal importance of the creation of health awareness being recognized, it remains to be considered how best this can be achieved. Surely people cannot be ordered overnight into awareness. Considering the human drama involved in this process, it is necessary to identify effective breakthrough points in the life of the individual, for the infusion of enlightenment into the human mind. I am convinced, and I am sure you will agree, that they receptive minds of children at school are precisely at such a point in development.

I don't have to emphasize that habits are developed very early in life and underfives are, therefore, the most vulnerable group. Inculcation of healthy habits has to start as early as possible.

The vital role of health education in health care efforts is, conceptually, but now axiomatic. Yet in all developing countries it is waiting for a systematic attempt at dissemination, with the school child as the focal point. Only programmed and formally imparted health knowledge and education, with a hard core of the scientific exposition of "Health Sciences", as against half-hearted and episodic attempts at health propaganda

can save the situation. It is the coming generation, with the scientific understanding of the necessity and urgency of family limitation, who will be able to nullify the ill effects of population growth. Hence there is an urgent need to introduce the teaching of "Health Science", as a separate subject, at the secondary level of schooling in all the developing countries. It becomes clear that there should be a steady progression from health habits learned early in life to the scientific awareness created through formal education, which is the dynamics in development for the attainment and maintenance of health.

It is necessary here to distinguish "Health Sciences" from "Medical Sciences", in their present pattern. Health Science is a discipline that seeks scientific and technological compilation of facts regarding positive health aspects of man and his environment - in its totality and the systematic dissemination of this vital knowledge in the community, which will facilitate the enjoyment of healthful living. It is necessary to emphasize this distinction because of the fact that "Medical Sciences", in general, have been assuming and asserting their major thrust and orientation towards sickness and curative efforts rather than positive health and promotive efforts for better living. The essential ingrediants of "Health Sciences", as they are envisaged to be taught at school level, may be outlined as follows : Population Dynamics: Family Life and Sex Education, including need for family size limitation:

Home Economic, Dietary needs and Practices; Normal Pregnancy and Delivery; Child Development; Child Rearing; Personal Hygiene and Habits; Preventive Health Care; including Immunization, Environmental Health, including common occupational health hazards, socio-cultural, as well as psychological and motivational factors influencing health and disease. Unless it is realized that "Health Science" is an important scientific discipline needing in-depth comprehensive knowledge, it may not be possible to have its full influence on health policy and socio-cultural and economic goals, with their resultant impacts on the dynamics of development. It is, therefore, unrealistic to assume that any teacher, with only a short orientation course, or anyone from the existing health man-power could be invited to carry out this onerous responsibility at the secondary school level. Personnel who could be expected to satisfy the requirements of this commitment are, to my knowledge, not available. This highlights the need for a full-fledged degree course comprehending the various facets of "Health Sciences" envisaged. This discipline of "Health Sciences" will include sufficient competence for the following :

1) Developing positive health habits from the lowest classes onwards.
2) Teaching "Health Sciences" in the senior classes.
3) Organizing and maintaining school health care programmes for the entire student and staff population of the school.

4) Establishing contacts with the community as a natural expansion of the school health programme, through the parents of the students.

5) Creating awareness in and enlisting the participation of the school teaching staff for the total care of the students.

I was able to convince the authorities of the Osmania University at Hyderabad, including its enlightened Vice-Chancellor, of the need for introducing a 3 year degree course in "Health Sciences" for this very purpose. The course, which has also found favour with the Government of Andhra Pradesh, has since then been instituted.

The easy modus operandi, at least for the time being, is to incorporate the course into the medical colleges, making the departments of Social and Preventive Medicine responsible for organizing it as a part of their faculty commitments. The junior faculty, as well as interns, can be given training responsibilities in the field work. This programme must be essentially community based and community oriented. It is important to note that these arrangements help to minimize additional financial inputs into the training programme. Also, there need not be much difficulty in starting this programme in any Arts and/or Sciences College with sufficient financial input.

The desirability of introducing Health Sciences as a separate subject at the school level and the framework of the degree course in Health Sciences have emerged from an action research project in the "Methodology of Health Care" that was organized in Kerala State, India, through the C.S.I. Madhya Kerala Medical Society, and funded in part by the Family Planning Foundation of India.....

I am convinced that we in India should strive toward instituting a degree course in "Health Sciences" in all our medical or allied colleges, so that we will have teachers to teach "Health Sciences" as a subject in all of our high schools. As these teachers also look after the school health programme and extend health education to the community, there will be transformation of school children into torch bearers of enlightened health awareness, which in turn will bring about positive dimensions of health into the way of life of the people in our country. [1]

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APPENDIX - A

THE PLAN OF ACTION FOR COMMUNITY WORK

....

Selection of Area:

In selecting the area for community work, priority was given to an area with a low economic background and where health facilities were meagre.

Contacting the leaders: and arranging a meeting with them.

The objectives of the work and the modus operandi were explained to them and their co-operation solicited. Suitable places and buildings to conduct Under Fives' Clinics and Anternatal Clinics were selected with their help.

Baseline Survey and Mapping of the Area.

Analysis of the Baseline Statistics.

- Socioeconomic Status
- Main sources of income
- Literacy status
- Source of water supply
- Sanitation
- Housing conditions.
- Kitchen garden, crops etc.
- Poultry, cattle etc.
- Utilization of health services
- Types of medical care available
- Demographic data:
  - .Total population
  - .Sex distribution
  - .children - Pre school & Infants
  - Target couples & Eligible couples
  - Family Planning Acceptors.
- Morbidity Characteristics:
  - Common morbidity conditions
  - Usual modes of treatment
  - Knowledge, Attitude and Practice on
    - Water Supply
    - Sanitation
    - Nutrition
    - Immunization
    - Family Planning
    - Common Communicable Diseases

Mortality:

No. of deaths in five years preceding the work: Age, Sex, Cause. Deaths during the plan period, Age, Sex, Cause.

Regular and follow-up visits:

The students are expected to keep a daily diary in which they note in advance the houses to be visited and the type of visit (regular or follow-up). They present their plan for the day and the concerned staff member gives necessary instructions.

Records are maintained on:

Morbidity Statistics
- Age and sex distribution

Maternity Services
- No. of pregnancies
- Type of Antenatal Care (home or clinic)
- Health talks given
- Family Planning motivation
- Mode of delivery
- Postnatal follow-up including nutriton education.

Infants.
- Growth and development
- Nutrition
- Immunization
- Morbidity Conditions.

Under Fives
- Immunization
- Nutrition
- Morbidity conditions

School Health

Types of Service given:

Health education - Individual and group
Free consultation service : Early diagnosis and management of minor ailments.
Follow up of Chronic Cases
Tuberculosis - Case finding, treatment, health education, midwifery services and follow up

Underfives' Clinics - Health Education
Assessment of growth and development
Immunization
Nutrition Programme

School Health Programme -
- General check-ups
- Treatment of minor ailments
- Health Education

Improvement of Socioeconomic Status:
Motivation for kitchen Garden and Poultry

Improvement of Sanitary Facilities:
Health Education
Exploring possibilities for subsidizing Sanitory latrines andprotected water.

Family Planning - Motivation and Referral - Follow up

Nutrition - Education
Exploration of possibilities for nutritional supplementation including tapping of the locally available resources.

e	Occupation	Earning	Regular or Seasonal	Other Income	Source	Debts.	Properties Owned
							Date Date Date Date
	Man Woman Woman Children						House Land-Wet -Dry Cattle Poultry Furniture Others

Record of Services

ce	Name of patient	Diagnosis	Clinic House Hosp.	Type Fee	Remarks	Date Closed	Condition

MATERNITY RECORD

Hospital Number: Family Folder No.:

Head of Family.....

Name.....Husband's Name.....

Door No.....Street.....Village/Town.....Dt....

Para.....Previous Pregnancy.....FTND.....L.B.....PREM..

Abortion.....if Dead, Cause.....Date: L.M.P.....

E. D. C.....Urine.....HB.....

KAHN.....Date of Birth.....

Measurements: I.S..... I. C.....E. S.....PRES.....

Heart.....Past Illness or Abnormalities.....

.....

DOCTOR'S ORDERS :

Weight:
Blood Pressure:

ANTENATAL FOLLOW-UP

Date Opened.....Date Closed.....Condition.....

Date	Temperature	Pulse	Respiration	Urine	Oedema	Varicosities	Nausea & Vomiting	Blurred vision	Headaches	Breasts	Teeth & Gums	Discharge	Bowels	Weight	B. P.	Vit. Deficiency	Other observation	Teaching, Treatment Remarks

Delivery: Home / Hospital.....By Whom.....

Normal.....Intr.....Oper.....P.P.Haemorrhage

Date.....Time.....Ergot.....Pituitrin.....

DOCTOR'S ORDERS:

POSTPARTUM

Method of Family Pla

Adopted.....

Date	Temp.	Pulse	Resp.	Urine	B.M.	Lochia	Uterus	Breasts	Care, Treatment, Teaching and Remarks	Signature

NEW BORN

Sex: Name Birth weight: Length:

Condition of Baby.....Eyes Treated by.....Normal.....

Full Term.....Birth Reported by.....

Date	Temp.	Resp.	Urine	Mucus	Feeding when	Bed	Cord o/k	Dressed	Umbil.	Circumcision	Doctor's Order Care, Treatment and Teaching	Signature

CHILD WELFARE RECORD (INFANT)

F.FW.O.
C.F.No.

Name: Age: Sex: Date of Birth

Father's Name: Mother's Name:

Address:

Date opened: Date closed: Reason:

MILE-STONES

Head Raised:

Sat:

Stood

Ist Tooth

IMMUNIZATIONS

Name of Vaccine	Dates given
Small Pox	
B. C. G.	
D. P. T.	
T. A. B.	
Polio	

DOCTOR'S ORDERS:

Sig.

Date	Diet	Bath	Mother interested	Baby clean	Clothes clean	Diet as ordered	Sleep & play	Bowels normal	Personality develo

Dem. Nurse's Observation

DOCTOR'S ORDERS:

Dem. Nurse's Observation

Mother interested
Baby clean
Clothes
as ordered
& play
Bowels normal
Personality development

~~Appendix~~

HEALTH RECORDS
HEALTH SURVEY CARD (FAMILY)

Date of survey: Family Folder Number:

1. NAME OF THE HEAD OF THE HOUSEHOLD
2. ADDRESS: (Name of the House) House Number:

Village: Taluk: District:

3. RELIGION: 4. TYPE OF FAMILY Single/Joint
4. STRUCTURE OF FAMILY:

Serial No.	Name	Relationship to head of household	Age	Sex	Educational status	Marital status	Occupation
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

6. HEALTH STATUS

Serial No. of member	Present state of health	If any sickness in the past one year the nature and duration	Medical care	Approximate cost
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

1. Healthy
2. Sick-acutely
3. Sick-chronic

1. None due to want of facility.
2. None due to poverty
3. Allopathic

4. Ayurvedic
5. Homeopathic
6. Others (specify).

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6-a. IMMUNIZATIONS (Note the date when done)

Serial No. of the member	Smallpox		Triple Antigen				B.C.G.	T.A.B.	Polio
	Primary	Revaccination	1st	2nd	3rd	Booster			
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

7a. VITAL STATISTICS - BIRTHS

S. No. of the member	Age at first maternity	First Pregnancy				Second pregnancy			
		Date of termination	Medical care	Termination	Sex of child	Date of termination	Medical care	Termination	Sex of child

	Third pregnancy				Fourth pregnancy			
	Date of termination	Medical care	Termination	Sex of child	Date of termination	Medical care	Termination	Sex of child

	Fifth pregnancy				Six pregnancy			
	Date of termination	Medical care	Termination	Sex of child	Date of termination	Medical care	Termination	Sex of child

Medical care: 1. Hospital 2. Trained Midwife. 3. Untrained Midwife.
Traninations: 2. Abortion. 2. Still birth. 3. Alive now. 4. Dead now.

7 - b. DEATHS (Since the time of inception of the family in 19... -)

Name of the deceased	Relationship with head of household or any other. (Note S. No.)	Sex	Date of birth	Age of death	Cause of death Primary	Secondary	Medi ca

8. ENVIRONMENT: (Draw a neat sletch on page 4.)

1. Type of building: Attached Detatched
2. Build-in area: ¼ ½ ¾ near complete
3. Roof: Thatched/Tiled/Concrete/Others (Specify)
4. Walls: Thatch/Mud/Brick/Plastered/Wood/Others(specify)
5. Floor: Mud/Mud with dung plaster/Cement/Others
6. Kitchen: Functioning/Not functioning/Kerosene stove, etc./Elect
   Smoke out let
7. Drinking water:
   Protected/Unprotected/Protected/Unprotected Tube well/Tank/Rive
   Family well Community Well
   Piped/Others
8. Drainages: Absent/Present/Kitchen garden/Soakage pit.
9. Rubbish: Dumping/Composting/Incineration/Scattered/Latrine
10. Latrine: Strface/Open pit/Pig Latrine/Closed pit/Closed pit
    c Water /no WS
    Bored hole Board hole Septic tank Urban
    (no W.S. slab)(c W.S. Slab) flush out
    Conservancy/any other (specify)
11. Cattle shedb Insanitary/Sanitary Distance from house.....
12. Rank vegetation: Absent/Present/plenty
13. Mosquito breeding places: Present/Absent Actual Present/Absent Potential
14. Biological environment: (Tick those present) Dogs Cats Cows Sheep Goats Chicken Ducks Mosquitoes Flies Others (specify)
15. Fly breeding places: Present/Absent Actual Present/Absent Potential

9. FINANCIAL INFORMATION:

	Rs.		
Monthly family income from:		Monthly family expenditure for:	
1. Salaries and wages		1. Food	
2. Land and agricultural products		2. Clothes	
3. Buildings		3. Education	
4. Business		4. Medical care	
5. Livestock		5. Rent or/and mortgage	
6. Other items (Specify)		6. Tax	
		7. Debts - interest Repayment	
		8. Any others (Specify)	
Total ..		Total ..	