MISCELLANY

- A: Health Economics
- B: Health Education
- C: Health Survey
- D: Dissemination of Information
- E: BCG Vaccine Trial

A: HEALTH ECONOMICS

176 DR Nagpaul: CHEMOTHERAPY PROGRAMMES AND DRUG REGIMENS RELATED TO THE ECONOMIC RESOURCES IN DEVELOPING COUNTRIES Bull IUAT, 1964, 35, 242-46.

There is no generally acceptable definition for developing countries. On account of multiple demands of varying urgency on small resources, public health often receives lower priority than it deserves. To change the equilibrium between man and bacilli in the direction of positive health it would be necessary to invest resources on many key factors. Control of tuberculosis can only be a part of the effort to achieve the positive health. It is also now known that undue importance to quick conversion of sputum or early return of patients to work, need not be given. But the **objective of TB programme for developing countries** should be i) not to neglect service to actual sufferers and ii) to apply specific control measures in harmony with measures aiming at the overall improvement of socio-economic conditions.

For developing countries domiciliary chemotherapy is the treatment of choice. Applying chemotherapy on a long term basis poses many problems, the main being the fall out of patients from treatment. The key factors are: a practical and economically feasible case finding and treatment programme, an adequate supply of anti TB drugs and effective executive-cum-supervisory organization. The District Tuberculosis Programme for a population of 1-1.5 million in each district, comprises one specialised district TB Centre which makes use of the area general health services for tuberculosis case-finding and treatment. Several stages of development are envisaged and a start can be made from any stage, according to the facilities already available. The emphasis is on providing treatment for the patients nearest to their homes, along with effective supervision exercised by general health services staff under the guidance of the district centre. The choice of a drug regimen in the programme will depend upon efficacy of the regimen, availability of drugs, average cost of treatment, suitability for self administration and acceptability by patients/organisation.

INH+PAS daily or supervised streptomycin containing intermittent regimen for smear positive cases, INH alone daily for sputum negative appear to be the regimens of choice for developing countries. It is unfortunate that a powerful regimen like S + H + PAS is very expensive and less acceptable. Thus a planned and systematic approach is needed to deal with the problem of TB. For running an organised and coordinated tuberculosis control programme, the national character of the Campaign should be recognised right at the start and maintained till the objective has been achieved.

KEY WORDS: CONTROL PROGRAMME, DRUG REGIMEN, ECONOMIC ASPECTS.

177 D Banerji: INDIA'S NATIONAL TUBERCULOSIS PROGRAMME IN RELATION TO THE PROPOSED SOCIAL AND ECONOMIC DEVELOPMENT PLANS Proceed 20th Natl TB & Chest Dis Workers Conf, Ahmedabad, 1965, 210-16.

It has been shown that most of the infectious tuberculosis cases in a rural community in south India are at least conscious of symptoms of the disease; about three-fourths of them are worried about their symptoms and about half are seeking relief at rural medical institutions. It is well known that the existing facilities deal with only a very small fraction of even those patients who are actively seeking treatment. India's National Tuberculosis Programme has been designed to mobilise the existing resources in order to offer suitable diagnostic and treatment services to those who already have **felt-need.** India's health administrators have to initiate suitable administrative and organizational reorientation of the existing medical and health services to satisfy this already existing felt needs. The more provision of such services could very well motivate the remaining tuberculosis patients to seek the help from the medical institutions. This motivational force is expected to get reinforced as a result of progress in the field of education, mass communication, transport and industrial and agricultural production. Simultaneously, progress in the social and economic plans will offer the needed resources for strengthening the existing health services in terms of personnel, funds, equipments and supplies. Further more, social and economic development, by increasing awareness of the population, will ensure a more effective utilization of the existing services. Thus, social and economic growth will not only help in the development of an epidemiologically effective tuberculosis control programme, but the very rise in the standard of living itself might make a significant impact in controlling the disease in the country.

KEY WORDS: CONTROL PROGRAMME, SOCIAL ASPECTS, ECONOMIC ASPECTS, HEALTH PLAN.

178 Nagpaul DR and Vishwanath MK: ECONOMICS OF HEALTH Proceed 22nd Natl TB & Chest Dis Workers Conf, Hyderabad, 1967, 279-300.

Health has been defined as the state of perfect physical, social and mental wellbeing which is somewhat an abstract definition. In this paper economics of health is measured through economics of sickness. Because sickness is experienced, it can be measured and it inflicts physical social and economic sufferings. In a community, economic prosperity is directly dependent on quantum of sickness and its prevention by health services. A sociological enquiry into part played by disease in the socio-economic development of society was made by carrying out a study in two village population groups. The social investigators of NTI made deep probing questions to elicit presence of symptoms, action taken by them, money spent on treatment and the loss of In first study observation participation technique was waqes. also adopted. The investigators lived in the village for four months. In the other study 20% households of those 22 villages which participated earlier in an epidemiological survey conducted by NTI, were interviewed.

Findings of two studies are combined and presented. Illnesses were classified into major and minor on the basis of clinical severity and the duration of symptoms. In both the studies 60% of all persons were asymptomatic during 2 months prior to the interview. About 18% had one minor illness, 13% had major illness and only 3% had one major and one minor illness. The quantum of multiple disease (3 or more) occurring in one person was less than 2%. Only 20% of living man days were spent as sick The average annual loss on account of health reasons man days. per family has been estimated to be Rs.90 and Rs.15/- per capita. The overall economic loss due to sickness, direct and indirect amounted to 3% of the per capita income in the poorer groups of villages and 6% in the economically more favourable placed villages. The material available here strongly suggests that the sizes of households will not have much influence over the sickness in the community. Another significant feature of this study was the phenomenon of **substitution within the family** whenever the wage earner could not go to work. The evidence examined in this paper suggests that the actual economic loss is only 1/3 of the calculated loss. It also suggests that the overall cost of sickness to the individuals and family is far less than what is normally calculated and is influenced by the money available in the household.

KEY WORDS: PHYSICAL SUFFERING, ILLNESS, HEALTH ECONOMICS, COMMUNITY.

179 SS Nair, MA Seetha & BC Arora: EDUCATIONAL & TRAINING REQUIREMENTS OF HEALTH CARE DELIVERY SYSTEM NIHAE Bulletin 1976, 9, 295-307.

The Health Care Delivery System (HCDS) consists of the (public) and non-governmental (private) health governmental agencies and the facilities they provide for one or more of the three main aspects of comprehensive health care viz., curative, preventive and promotive. The delivery of comprehensive health care in a country like India poses many problems. An adequate network of organisation, particularly governmental, has to be built up. This has to be primarily directed towards delivery of health care in the rural areas with considerable emphasis on preventive and promotive health. Such an organisational set up has to be manned by a large army of personnel with varying types and levels of basic professional education. At present both the know-how for practical application of professional knowledge under varying conditions and proper attitude for the same are often inadequate among the health personnel. These can be improved and maintained only on the basis of a long term plan for job training. Permanent facilities should be available so that training of new recruits and staff on promotion/transfer can be taken care of regularly and systematically. Also, refresher courses have to be undertaken regularly to keep the staff abreast of the developments in delivery of health care. At present juncture, Multi Purpose Worker (MPW), community level workers and health assistants in the public sector of HCDS, also require the training.

To make such training more purposeful, it must be emphasised that planning for training has to come well ahead so that implementation of any programme is not unduly delayed due to absence or shortage of properly trained health workers. То illustrate this, the training requirements of the National Tuberculosis Programme (NTP) which is integrated with general health services have been dealt below: Governmental Agency: i)Programme workers who attend patients and community should be trained by the District TB Centre (DTC) key personnel as in service training or on the job training, ii) Programme supporter PHC doctors in addition to being programme workers, DHO, ADHO, ADHS (TB) etc should undergo orientation course for 8 to 9 working days. iii) Trainer Professors and lecturers of preventive & social medicine, tuberculosis and medicine of medical colleges, trainers of central training institute also undergo orientation course for 8-9 days. iv)Research Worker in research methodology for 4 weeks. v)Programme planners & Decision Makers a)Ministers of Health, Secretaries & Directors of Health both at state and central levels - By periodic meetings, personal discussions, participation in Central Council of Health meetings. b)TB Adviser, TB Officer - By

periodic meetings, written communication, attending seminars. Similar estimates have to be made for other components of HCDS. Taking all these into consideration, the number of training institutions/facilities which are required to meet all the training needs can be worked out, keeping in view their proper regional or geographic distribution. The next step would be to organise the education and training of **private health workers** and **health consumers.** Adequate information for the detailed planning is not available for these two categories. But, a beginning has to be made as quickly as possible.

KEY WORDS: EDUCATION & TRAINING, HEALTH CARE DELIVERY, CONTROL PROGRAMME.

180 Radha Narayan: THE NEED TO HAVE A HEALTH EDUCATION COMPONENT FOR THE NATIONAL TUBERCULOSIS PROGRAMME NTI Newsletter 1977, 14, 16-19.

This paper describes the need for Health Education Component in the National Tuberculosis Programme (NTP). The potential achievement of the programme activities viz., prevention, case finding and treatment has been established by studies conducted by the National Tuberculosis Institute. Corrective measures to achieve the potential would no doubt have to tackle all the three constituents of the programme viz., objectives, activities and resources. However, incorporation of a health education component in the crucial activities of the programme would help, where under-achievement is due to the lack of knowledge and proper attitude both on the part of the patient and the health worker. In order to evolve an effective methodology, the goals of the health education component should be synchronised with those of While the health education aspects in the the programme. case-finding and treatment activities can be incorporated at health institutions and on an individual or group basis, education for the preventive activities has to be on a mass or community basis. While the nucleus of the **community education** should be on BCG vaccination, the mass media could be utilised for the overall tuberculosis education in the general population. Thus, there is scope for employing a variety of material, methods and media of health education in the NTP.

KEY WORDS: HEALTH EDUCATION, CONTROL PROGRAMME.

181 MA Seetha & GD Gothi: HEALTH EDUCATION IN NATIONAL HEALTH PROGRAMMES NTI Newsletter 1977, 14, 41-45.

This paper critically describes the place of Health Education in National Health Programmes. Health Education is one of the recognised ways of health promotion in the primary prevention of diseases in the community. Probably it may be required even at

secondary and tertiary prevention levels. This implies that health education has to be directed towards the community for accepting the health services provided and participate in all activities which promote their own health. Health education is part of any health programme and its component and implementation depend on the nature and organisation of the health programme itself. Integrated programmes are more acceptable to the community and economically feasible. Health education of the community under the integrated health services has to have new dynamics and priority over the conventional approach hitherto adopted in vertical programmes. Health education in all national health programmes has to be made into a comprehensive one, rather than planning individually for each programme. Community health education should go along with the "health education" of the health workers. The efforts to do former alone without improving the latter, has not been able to give good dividends.

KEY WORDS: HEALTH EDUCATION, NATIONAL HEALTH PROGRAMMES.

182 MA Seetha, Rajani Gandha Dei & N Srikantaramu: EFFECT OF SHORT TERM INTENSIVE HEALTH EDUCATION ON CASE FINDING IN A RURAL COMMUNITY

NTI Newsletter 1979, 16, 1-7.

As a part of the supervised field training of the students of health education from Rural Health Training Centre, Gandhigram, Tamil Nadu, a pilot project of short term intensive health education was undertaken at 11 selected villages under Primary Health Centre (PHC), Hesarghatta. The objectives were to measure the impact of an intensive health education effort in increasing the attendance of patients with symptoms suggestive of pulmonary tuberculosis at a PHC and to study the impact of health education in terms of increase in knowledge and change of attitude of the people towards the PHC. For participation of the community all the three health education approaches viz., individual approach, group approach and mass approach were planned along with audio-visual aids as and when required. Application of a specific approach depended on the level of awareness about tuberculosis and the availability of services which was measured by a base line survey conducted in the selected villages.

As expected this short term intensive health education has shown that the **knowledge on tuberculosis in the population increased**, following it. When it was measured by the yardstick of increase in the proportion of out-patients with chest symptoms, attending the PHC, no significant change was noticed during the period of observation. The likely reason could be that it was too early to measure the effect of health education within a period of 6 weeks. In this project the intensive health education work was done almost continuously for a short time which was probably not appreciated by the people. Though in all the villages following the health education programme, the people had understood the importance of getting the chest symptoms examined to rule out tuberculosis, they have not approached the PHC for the same. The other possible reason could be that the people are not satisfied with the services provided by the PHC. It goes without saying that when the services provided by the PHC itself are not upto the expectation of the people, the outcome of health education could only be minimal.

KEY WORDS: HEALTH EDUCATION, RURAL POPULATION, CASE FINDING.

183 MA Seetha: SOME CONCEPTS IN CURRICULUM FORMULATION IN JOB ORIENTED TRAINING NTI Newsletter 1979, 17, 53-59.

Some important aspects for consideration at the time of formulating the curriculum of orientation training programme for tuberculosis have been discussed in this paper. At the time of formulation of District Tuberculosis Programme, planning for training of manpower was taken simultaneously. The essentials of job orientation training are to change with the change in the requirements of the programme. Defining Objectives in clear terms is one of the important aspects to be considered while formulating the curriculum. This helps in preparing the contents, methods of teaching and developing effective assessment. Profile of Trainees is another important aspect. Factors which have to be considered at the time of formulation of curriculum are age, educational qualifications and professional experience of the trainees. Changes occurring in the general health services, introduction of multi-purpose workers scheme and participation of community health workers in the health services, would require a thorough revision of the training organisations and contents of training.

KEY WORDS: CURRICULUM FORMULATION, JOB TRAINING, DTP.

184 National Tuberculosis Institute, Bangalore - SURVEY AND PROGRAMME IMPLICATIONS Report on the Baseline Survey - DANIDA Health Care Project, Tamil Nadu, 1988, NTI, Bangalore, Vol. 1, 1-88.

SURVEY DESIGN: A baseline survey was carried out in Salem and South Arcot districts of Tamil Nadu which were covered under the Danish International Development Agency (DANIDA) Health Care Project. This work was entrusted to the National Tuberculosis Institute (NTI), Bangalore, which had more than twenty years experience in conducting large scale surveys in the health sector. Overall guidance was provided by a Steering Committee under the Chairmanship of Director (Evaluation), Ministry of Health and Family Welfare, Government of India. The baseline survey of the and demographic-cum-socio economic features, health status utilization of health services was considered necessary to provide bench mark data on the beneficiaries. Equally important was to have basic information on the rural health care delivery system so that the inputs could be directed towards factors that needed strengthening and the benefits accruing maximized. The rural area of Salem and South Arcot districts were bifurcated into two Stratum I consisted of all villages in which a Primary strata. Health Centre (PHC) or sub-centre was located and the remaining villages constituted Stratum II. A sample of 40 villages were selected. The equal number of villages were allocated in each stratum, proportional to its share of the total rural population of the district. The selection of villages was made with probability proportional to size (population) of the villages, after stratification by size. Every fifth household was selected on a systematic random sample basis from each village. Thus, 2,000 households were selected in each district and 4,000 in the project area. In all, eight questionnaires were prepared for the baseline survey - four for collection of information from PHCs, Medical Officers of PHCs, Field Health Workers (FHW) and Trained Birth Attendants (Dais) and the remaining four viz., Household Schedule, Morbidity Schedule, Eligible Women Schedule and Children Schedule from the selected households. The field work was carried out during July to November 1983 by twenty investigators specially recruited and trained by NTI under the close supervision of five experienced Social Investigators of the Institute. Keeping in mind the importance of high coverage, the field teams put in lot of efforts and thereby succeeded in collecting information from 99.7% of the 4,000 households selected for the survey. Method of data collection for MOs was through a pretest questionnaire, for PHC through a questionnaire-cum-interview schedule, for FHW and Dai through interview schedule and village appraisal was done through group discussion (group consisted of village officials, informal leaders, members representing different castes, classes

and women). The collected data after careful scrutiny by the statistical staff of the Institute was analysed, tabulated and reported.

FINDINGS: I. Socio-economic features: a) Literacy: Nearly half of the population of age five or more were illiterate. SC/ST population had more illiterates (58.9%) than "others" (45.8%) and had less who had school education of any level. Percentage of literates without schooling was negligible. There were no literate females in 53.8% of households (60.5% among SC/ST). In 24.9% of the households the highest level of female education was I to V standard and 17.7% VI to X standard. b) Employment: In the labour force of age group of 15-49 years, about 60% were employed. Employment among older persons was 53.5%. Children of 10-14 This was about five times years of age, 6.3% were employed. higher in Salem compared to South Arcot. Out of these employed, 45.2% were general labourers, 23% agricultural labourers and 20.6% artisans. Child agricultural labourers were more among females. The large percentage of persons who are not fully occupied for the whole year (about three-fourths of those aged 15-49 years and a substantial proportion of the elderly persons and grown up children) could be mobilised during their slack periods to carry the message of better health and hygiene as well as of the small family norm and thereby improving their financial condition also to some extent. c) Assets: About half of households did not possess any land and about 30% had less than two acres. Those not possessing any land were more among SC/ST (67.6%). Productive assets were not possessed by 65% of the households. d) Living conditions: Cowdung smeared floors were most common (65%) followed by cement floor (25%). This was more common in South Arcot (76%) compared to Salem (51%). Kerosene was used for lighting by 69% and electricity by 29%. Most of the households used foraged firewood (68%) for cooking. Almost all households (96.0%) let out used water into open place. Household waste was thrown into open yard by 65.0% and 34.6% used manure pit. Open field was used for human waste disposal by 98.4%. Provision of better sanitation arrangements and education for their utilisation needs to be taken up on large scale. The most common pests were mosquitoes (88%), flies and ants (76%), rats (40%) and cockroaches (27%). Nearly all (89%) did nothing to control these pests. The reason for this have to be investigated and suitable steps taken to remedy the situation. e) Staple diet: Main type of food was rice (50%), ragi (30%) and millets (20%). **f) Major problems:** The major common problems were non availability of water (54%), health facility (49%) and transport (26%). All the three were mentioned by more households in Salem. More SC/ST households mentioned non availability of "water" and "transport". II. Demographic profile: The estimated rural population of 64 lakhs in the project area at the time of the survey (second half of 1983) compared favourably with that of 60 lakhs from the 1981 census. Of the population of age 15 years or more, 67.9% were currently married and 21.5% never married. The birth rate for 1982 is estimated to be 30.0 per

thousand population as compared to SRS estimate of 27.7 for Tamil Nadu. The birth rate was higher in South Arcot and in Stratum II. The birth rate among SC/ST was higher in both strata of both the districts. About 98% of total births were live births. Fertility was highest in the age group 20-24 years (254) followed by 25-29 years (206) and 30-34 years (143). It was higher in South Arcot

for 25-29 years, 30-34 years and 40-44 years as compared to Salem. The death rate for 1982 is estimated to be 11.0 per 1000 population. The infant mortality rate for 1982 is estimated to be 34 per 1000 live births compared with census. This gross under estimate may probably be due to some reservation or reluctance to report infant deaths possibly due to practice of infanticide by some sections of the population. As stated earlier, the proportion of child deaths out of total deaths was nearly double among females as compared to males. Of the eligible women (currently married and of age 15-49 years), 22.1% were in age group 25-29 years, 20.6% in 20-24 years, 18.0% in 30-34 years and 16.3% in 35-39 years. Thus, 42.7% were in the age group of 20-29 years with the highest fertility. Almost all eligible women had only one marriage. They had married more frequently at the age of 15-17 years (46.0%) followed by 18-20 years (32.7%). While 11.7% of the eligible women had no child. 38.8% had the first child at 18-20 years and 28.0% at 15-17 years. At the time of the survey about one tenth of the eliqible women were pregnant.

III. Morbidity: During the month prior to the survey 15.4% were sick (22.2% in South Arcot and 10.6% in Salem). Among the common diseases during the three months prior to the survey, fever/flu was mentioned by 27.9%. Common cold/cough together with conditions affecting the respiratory system were reported by 22.6% and occupied second position. Conditions affecting the digestive and excretory systems (including stomach ache) were mentioned by only 13.4%. This is quite surprising since only 23.3% of the households used tap water for drinking. The 70% of households who used ground water for drinking were apparently getting water without contamination. About 42% of the sick persons did not seek treatment. This proportion was more in South Arcot (47%) compared to Salem (33%). The reasons for such a large proportion of the sick persons not seeking treatment needs to be investigated. While 39% of those who sought treatment did so from Government Health Institutions, 34% went to private doctors/institutions. More than half did not spend any money on treatment. About one fifth spent less than Rs.50/- and 7.3% between Rs.50/- and Tuberculosis prevalence rate was 5.3 per 1000 Rs.100/-. population and is well within the expected range obtained from sophisticated and costly prevalence surveys. Among the tuberculosis cases, nearly 90% had cough for 15 days or more. More than 95% of the cases had taken action to relieve their symptoms and the vast majority had gone to Government Health Institutions. Some tuberculosis cases had visited more than one type of health institutions in search of treatment. These findings are also quite similar to those obtained from

sociological investigations in the field of tuberculosis. Prevalence rate of leprosy was 1.8 per 1000. The disease was more common in South Arcot (2.7) compared to Salem. When anyone is sick, 61.5% of the households go to Government doctor, 81.3% among SC/ST against 55.0% among "others". Services of private doctors were availed by 35.7% (16.9% among SC/ST compared to 41.9% among "others"). About 60% travel 5 kms or more to get treatment from Government or private doctor. The main reason for going to Government doctor was free treatment (75.4%). Only 15.0% felt that the treatment by Government doctor was good compared to 81.2% who considered that treatment by private doctor was good. Amonq various facilities available within 3 kms, 29.7% of households utilised the services of doctor of modern medicine, 26.1% of homeopath and 13.2% vaidya. Among those who had availed services at Government hospitals or PHC, 63.0% and 68.7% respectively had no difficulty. The more frequent difficulty mentioned was "long waiting time". During the two months prior to the survey, 53.5% of the households were visited by female health workers. More households were visited in South Arcot and among SC/ST. Family Planning: About one third of the births were attended by relative or friend, 19.4% by untrained Dai, 17.4% by doctor. Amonq currently pregnant women, only 32.2% had registered for ante-natal care. About 60% were not given any dose of tetanus toxoid, while 15.4% got one dose and 10.7% two doses. Less than half of currently pregnant women had received iron and folic acid. About two thirds of the deliveries were conducted at home (73.9% in South Arcot compared to 56.5% in Salem and 77.3% among SC/ST against 62.2% among "others"). About one fourth of the mothers were assisted by doctors at the time of delivery, 27.0% by Dais, 9% by Female Health Workers and 35.7% by others. Help by Dais was more common in South Arcot. Currently married women of age 15-49 years (eligible women) were 161 per 1000 population. Nearly three fourths of them were illiterate (82.4% among SC/ST compared to 69.3% among "others"). About one fifth of the eligible women had tried to prevent pregnancy, the vast majority by using family planning methods. Though efforts to prevent pregnancy were comparatively more among literates, the difference was guite small. Those with 3 or 4 children more often tried to prevent pregnancy. This is not likely to have much impact on curbing of population growth. About 65% of those sterilised were below 30 years of age and the mean age of sterilisation was 27.9 years (27.3 years in Salem compared to 28.7 years in South Arcot). About half of the sterilisations were done soon after delivery, percentage of sterilised steadily decreased with increasing age of youngest child. More than three fourths felt that there was no advantage or disadvantage in having a large family. While 10.5% felt that large family led to more income, 8.5% felt that it was a Among the **family planning methods**, male and female burden. sterilisation were known to 94.0% and 95.8% respectively. Nearly half of the eligible women stated that they have not seen the red triangle in PHC/SHC. Those who have seen and understood the message formed only a small proportion. About two thirds of the

eligible women did not know that abortion can be done at Government hospitals and 71% did not know that it can be had free of cost.

KEY WORDS: HOUSEHOLD SURVEY, DEMOGRAPHIC SITUATION, SOCIOECONOMIC ASPECTS, MORBIDITY, HEALTH SERVICES, FAMILY WELFARE SERVICES.

185 National Tuberculosis Institute, Bangalore: ROLE AND FUNCTIONS OF HEALTH PERSONNEL IN RURAL HEALTH CARE Report on the Baseline Survey Danida Health Care Project Tamil Nadu, 1988, NTI, Bangalore, Vol.2, 1-23.

A comprehensive baseline survey was undertaken in two contiguous districts of Salem and South Arcot of Tamil Nadu for strengthening the health and family welfare services with the assistance of the Danish International Development Agency (DANIDA). The main objectives of the study were to obtain data on the prevailing **health status** of population, the village organisations and leadership in health matters and important aspects of the **health system** of the area, such as Primary Health Centre (PHC), Medical Officer (MO) and para medical personnel identified as field health workers.

a) Medical Officers: A questionnaire was canvassed by post mainly in June/July 1982 after briefing the Medical Officers at their monthly meetings at Health Unit Districts. Out of 221 posts of Medical Officers (MOs) in 72 Primary Health Centres (PHCs), 68 were vacant. Of the 153 MOs in position, replies were received from 119 (78%), 69 in Salem and 50 in South Arcot. Among these MOs, 87 were men and 31 women, and 71% were in the age group 30-39 years. Proportions of married were 87% in men and 71% in women. Of the 119 MOs, 111 were qualified in allopathic system of medicine. Though 52% stated that they had training in rural health services, only 26% mentioned that they were trained at Health & Family Welfare Training Centres (HFTC). About 50% of MOs had total work experience in Health Department of 1-4 years and 25% of 5-8 years. Of the average service of 4.62 years in this department, 3.09 years were in the PHCs where they were working at the time of the survey. The overall ranking of functions of MOs was 1) curative (60.5%), 2) Preventive (41.2%), 3) Promotive (23.5%), 4) **Supervision** (35.3%) and (5) & (6) Public relations (23.5% and 41.2% respectively). Administration had the highest percentage for 2nd and 4th rank. MOs trained in rural health, however, had given more importance to working with block officials as compared to other MOs. Though nearly 75% MOs had stated that they plan a weekly schedule of work, while giving the detailed schedule, a maximum of 48 MOs had included outpatient clinic on any day of the week and the position with regard to important managerial functions and rural services was much worse. About one third did not conduct any mobile clinic during the month prior to the survey; 28% did not answer the question and the remaining 40% had conducted 2 or more clinics. Most of them have provided curative treatment and not promotive or preventive services. About 43% stated that there were no voluntary organisations working in their area and more than 80% of MOs stated that private medical practitioners did not take any help from them. About 50% said that neither the private practitioners nor voluntary organisations participated in the health activities i.e., immunisation, health camps and family planning, conducted in the villages. About 22% stated that villagers did not participate in the health activities. While 23% had no difficulty in working at PHCs, 30% mentioned lack of facilities at PHC, 18% each stated personal problems, heavy work load/lack of staff and more administrative work and 16% transport problem. About 30% mentioned that there were no problems, 44% mentioned staff vacancies, 24% lack of cooperation from staff and 14% staff changes. While 47% found no advantage in working in a PHC, 27% mentioned about provision of better services to the rural areas, 18% about better understanding of basic health problems and 8% wider experience including management. About one third only gave the relevant suggestions for improvement of the centres. The MOs at PHCs can play a crucial role in the delivery of health services in rural areas. They are the leaders of the health team at the grass root level with adequate technical knowledge and a very high degree of acceptability. The findings of the present study are therefore, very valuable and the shortfalls and deficiencies listed below have to be given adequate attention: i) All posts of MOs and staff to be filled. ii) Provision of facilities to staff at PHC. iii) MOs should give more attention to public health activities. iv) Adequate supervision of work of MOs and special training to them in rural health.

b) Primary Health Centre: In the rural areas, Primary Health Centre (PHC) is the nerve centre of the health services both institutional and community oriented. It was planned to obtain some basic data on the organisational structure, area of responsibility and functioning of PHCs and utilisation by the people of the services provided by PHCs. All the 72 PHCs in the project area were studied through a questionnaire-cum-interview schedule. Further, data and clarifications were obtained through interviews from the Medical Officer In-charge of PHC and knowledgeable staff such as Health Inspector (General) and Block Extension Educator. The data were collected during June 1983 to January 1984. The area of coverage of 82% of PHCs was within 300 sq. kms., 194 sq.kms in Salem (District I) and 237 sq.kms in South Arcot (District II). Thus, PHCs in South Arcot generally covered more area and more villages and served larger populations. About half of the PHCs could not provide information on scheduled caste and scheduled tribe populations who are part of the target population under the project. Out of 1175 sub centres for which information was available, 72% were within 20 kms. of PHC. This was so for 84% of 548 sub centres in District I but only for 62% of 637 sub centres in District II. The average distance of sub centres from PHC was 12.3 kms. in District I, 18.4 kms (one and a

half times) in District II and 15.7 kms at project level. Organisation: The average number of villages per sub centre was almost the same in both districts (3.3 and 3.4). A sub centre covered an average population of 4,800. All but two PHCs were in standard building and all were electrified. Nearly half of the PHCs were located outside the village after which it was named. No other medical facility was available within one kilometer reach in 40% of PHCs in District I and 70% in PHCs in District II. Vacant posts were more among Medical Officers (37.6%) and Medical Officers (indigenous) (36.4) and less among para medicals (16% among supervisors and 10% among workers). While about one third of the PHCs did not have separate laboratory, about half did not have separate injection/dressing room and Minor OT. While most of the PHCs had refrigerator and microscope, 77% of the former and 93% of the latter were in working order. Functions: The main training activities of PHCs were Dais Training & Orientation Training Camps for which the average number of courses per PHC during the year prior to the survey were 3.1 and 2.6 respectively. Health education activities were mainly confined to group meetings and distribution of publicity material, with average annual performance of 70.3 and 53.8 respectively. Average outpatient attendance per PHC during the previous year was about 36,500 of which 19,600 were new outpatients. On an average, 98 patients were admitted in beds in a PHC (120 in District I and 71 in District II). For all the MCH activities except distribution of iron and folic acid to women and giving polio vaccine to children, District II had fared much better than District I. While for the other two activities mentioned above District I fared better. There was no uniformity between PHCs and districts in the number of tablets of iron and folic acid given per woman. Tuberculosis: The average percentage of persons with symptoms of TB was 1.8 (2.1 in District I and 1.5 in District II) as compared to the expected rate of 2.6% based on a study by the NTI. Identification of symptomatics from new out-patients is on the low side, particularly in District II. As against the expected positivity rate of 10% among sputum smears examined, the rate was 14.4% (8.1% in District I and 21.4% in District II). The reason for such differences need to be studied in depth. Leprosy: Since leprosy work is carried out by special teams, most of the PHCs are not aware of the work done in their areas. Malaria: The average rate of fever cases identified per 1000 population during the month prior to the survey were 8.1% and 15.7% respectively. The figures for blood smears made were almost the same. The average number of persons given anti-malarial drugs (mostly chloroquine) per 1000 population were 8.0 in District I and 20.7 in District II. Chlorination: In District I where a PHC covered an average of 51 villages, 84 wells were chlorinated during the month prior to the survey. The corresponding figures for District II were 111 villages and 89 wells chlorinated per PHC. Registration of births & deaths: The birth rate on the basis of births recorded by PHCs was 13.3 per 1000 which is less than half of the birth rate for Tamil Nadu for 1983. The recorded death rate was 8.3 per 1000 as

compared to an expected death rate of 11.5. Recording of births and deaths needs considerable improvement in almost all PHCs. Referral: Among 64 PHCs who gave information on referral of patients for tertiary care, 21 referred to one hospital, 34 to either of two hospitals and 9 to anyone of three hospitals. Records & Reports: Surprisingly, PHCs gave a wide range of answers about the records and reports they maintain. Though there is a general complaint that records and reports are too many, there were hardly any useful suggestions about which records and reports could be simplified and reduced. Targets: Another surprising finding is that there was no unanimity in the answers from PHCs about the units of period for achieving targets under national programmes. Supervision: With regard to supervision of non medical staff at PHC there was no uniform pattern. Medical Officers carry out field visits mainly for either control of epidemics or to pay surprise checks. Collaboration: Most of the PHCs did not seek collaboration of other Government departments, voluntary organisations or community leaders. The limited collaboration sought was mainly for Family Welfare Programme. Only about 60% of PHCs felt that the community can participate in Immunization, 52% in Family Welfare and 15% in Epidemic Control. Most frequent illness: Conditions affecting digestive and excretory systems were mentioned as the most frequent illness in their area by 38 out of 68 PHCs, followed by conditions affecting respiratory system by 32 PHCs, pyrexia of unknown origin by 20 PHCs, and skin diseases by 14 PHCs. Health problems: When asked about the health problems in villages, replies from PHCs dealt with diseases (illness) problems only.

The **main weakness** of the PHCs was observed with regard to management, inter-departmental collaboration and community involvement as reiterated below: At least 40% of PHCs did not have 1981 census figures for population. Further, about half of them did not have population figures for scheduled castes and scheduled Recording of births and deaths are far from complete. tribes. Further, there is considerable indifference towards maintenance of all records and reports. The Medical Officers In-charge, do not supervise the other Medical Officers of PHCs. Their knowledge about functions of para medical staff was inadequate. Under these circumstances neither could the Medical Officer In-charge ensure adequate and proper supervision by the para medical supervisors nor guide them in their work. Acute shortages of Vitamin "A" and general medicines were reported. So also for mass media equipments such as film projector and sound system. Collaboration with other departments and voluntary organisations was quite weak. Contacts with community leaders either to understand the health problems as conceived by them or to seek the co-operation of the community were also at a low ebb. IUD insertions which benefit the younger couples or those with small families were quite negligible and the stress was on sterilisation only which benefit mainly older couples or those with already large families. Health education activity of PHCs was at a very low ebb.

c) Field Health Worker: The field health workers who consists of Health Workers (HWs) and Health Supervisors (HSs) were identified as important para medical workers. They play the most crucial role as they have daily contact with the rural population in their homes. The main objectives were to obtain a profile of field workers, to ascertain the area of responsibility, health rendered by them, community responsibilities services and supervisory functions of the HSs. The information was collected through pretested interview schedule. Of the 326 HSs and 2349 HWs in position, 165 were interviewed. The majority of male HWs were of age 30-39 years, while female HWs were of age 20-29 years. All the HSs and all but one of the male HWs were married. Among female HWs, half were married and about 88% of female HSs were married. Vast majority of HWs and HSs had education upto secondary level. The pattern with respect to these profiles was similar in both the districts. Of the male HWs 65% and of the female 32% had training in multi purpose work. While 83% of male HSs and 45.5% of female HSs had multi purpose work training, supervisory training was received by only 1.8% of male HSs and 9.1% of female HSs. With regard to total experience in the health and family welfare department, male HWs had more experience than female HWs. The difference was even bigger in average years and experience between male and female HSs. On an average, 6 villages were allotted to male HW and 4 to female HS, a male HW had to cover an average of 2291 families as compared to 1014 for a female HW. On an average, HW had to travel 6.8 kms to cover the villages allotted. The male HWs approached the villages by cycle or walk while female HWs by walk and bus. Availability of trained dais in the villages was reported by 40.9% of HW(F)s as compared to 50% of HW(M)s. Similarly, according to them about half of the villages have community leaders. Contact of HWs with such bodies need improvement. To the question on number of patients attending SHC services, 80% did not give an answer. The average attendance by HW(F)s was 7. Services given by HWs in villages allotted were malaria, FP & HE. The services received lower priority were TB, environmental sanitation, school health and registration of births and deaths. While 76.3% of HW(F)s maintained that they have a weekly schedule, only 46% of HW(M)s have weekly schedule. On an average during a month HW(F)s worked for 22.4 hrs and HW(M)s for 23.0 hrs in the village. On an average, 12 households are covered per hour. About three fourths of HW(M)s stated that they carried paracetamol to the village, 19.2% sulpha guanidine and 15.4% chloroqine. Among HW(F)s, 76.3% carried anti anemic drugs, 68.4% multi vitamin tabs and 47.3% anti malaria drugs. No medicine was carried by 44.3% of HS(M)s, and 24.2% by HS(F)s. Only 54% of HW(M)s and 74% of HW(F)s mentioned that they provided family planning services in the villages. Supervision of FP work by HSs is also very poor. Few HWs and HSs carried nirodh, oral pills or FP register when they visited the villages. Complaints that the high target for FP hampered health activities appears to be a cover up only. About 45% to 69% of health workers and supervisors

said that TB work was not applicable to them. Similarly 42% to 50% also mentioned that nothing to be done for diagnosis of leprosy. Regarding the aspect of their work which are supervised by their supervisors, many did not reply and the others gave a variety of isolated answers. There is **urgent need** to give training to **medical officers and health supervisors** on how to carry regular **qualitative supervision**. The HWs make frequent visits to PHCs, some of them going once a week. This may interfere with the actual work in sub centres.

d) Trained Birth Attendant: In spite of the request to the PHC staff and village leaders to ensure that the trained dais of the selected villages were present, only 24 out of the 80 Dais were present during the survey. They were interviewed. About 54% of them belonged to families in which women attended to births by tradition. About 63% were illiterate, 29% had a monthly income of Rs.100/- or more. Fifteen belonged to backward classes seven to SC one each to ST & Christianity. Two thirds were trained before project started. Over 90% had experience of 5 years or more. Only two thirds of the trained dais have received the kits and less than half had received practical training in conducting deliveries. Different aspects of ante-natal care were mentioned as follows: 82% periodical check up, 59% tetanus toxoid and 46% iron and folic acid. The number of deliveries conducted by trained dais was the same as before and after training. Majority of dais do not report births to health personnel. About 75% of the trained dais had referred at least one woman for delivery to ANM or hospital during the previous month. Eleven of the 24 dais, had no difficulties in carrying out their work while an equal number mentioned inadequate regular income. Trained dais were mostly aware of ANMS but not of Basic Health Worker, Malaria Worker or Health Inspector. Neither educational status nor experience had any influence on the functioning and working pattern of the trained dais. There were equal number of untrained dais, it would be worthwhile to train them also. Dai is important liaison between PHC and village for child births, post-natal care, family planning and registration of birth. Some future thought had to be given about their regular income, providing of kits, the replenishment and supervision during frequent visits by Health Workers and Health Supervisors. This will go a long way in ensuring co-operation from trained dais and in boosting up the morale of these village level workers of low socio-economic standing which will make them useful participants in grass root level health activity.

e) Village Appraisal: Appraisal of the villages with their multi sectoral needs and activities would provide a third dimension to the survey. An appraisal of sample villages was conducted along with the household survey during June-November 1983. The method of group discussion was adopted to collect the data for village appraisal. Group discussions were held separately for SC & ST so that they could express their views freely

(Adi Dravida colonies). This report is based on the information collected through group discussions in 71 main villages and 35 Adi Dravida(AD) colonies. About 45% AD colonies did not generally avail of services at PHC and one fifth did not avail of any service from HWs. Most of the groups felt that allopathic doctors were accessible to them followed by homeopaths. Contrary to expectations accessibility to practitioners of Indian system was poor. ANMs were more accessible to main villages than AD colonies. More than three fourth of main villages and AD colonies stated accessibility of dais. Most of the general facilities were accessible to a large extent except community centre and library.

One of the main source of water was pucca well for three fourths of people. About 40% mentioned kutcha open well or river/canel. Latrines were few. Open field was generally used. Both manure pits and scattering was used for disposal of refuse to a large extent. Nearly all let out sullage to open places. About 50% of the villages mentioned that there was no developmental activity during last 12 month period prior to this appraisal. The activities mentioned more frequently were mid day meal scheme, water supply, school building, road construction and health centre. Most of the villages were not aware of who had taken the initiative for these activities. About 10% stated that there were no TB & leprosy cases among them while most of them mentioned DTC, general hospital or PHC as source of treatment of TB. Major problem of the villages were lack of water, transport and communication. Others mentioned were facilities for treatment and for education. Participation of women and younger generation in the group discussion was more in AD colonies than in main villages. According to villagers fever was the most common illness, followed by gastro-intestinal disorders, diseases of respiratory system and eye complaints. Main causes of ill health were lack of sanitation and protected water supply. The perceptions by villagers pointed out the need for not only improving the availability and accessibility of service facilities but also for educating the villagers about how these could be made use of. The bigger and most important gaps would appear to be the provision and/or utilisation of preventive and promotive services, in availing of treatment facilities at PHCs and in reporting of births and deaths. Community involvement in all development activities would lead to informed participation in all developmental activities.

KEY WORDS: SURVEY, HEALTH PERSONNEL, MEDICAL OFFICER, TRAINED BIRTH ATTENDANTS, PROFILE, RURAL COMMUNITY, HEALTH SERVICES. **186** Sudha S Murthy: INFORMATION ON HEALTH FOR LAY PERSONS, ITS AVAILABILITY, ACCESSIBILITY & ACCEPTABILITY AT THE GRASS-ROOT LEVEL

MLAI Bulletin 1990, 5, 53-60.

Health is one of the basic rudiments for any activity in Efficiency in health care depends on its awareness among life. its users i.e., lay Persons,. While medical care, prophylaxis and prevention form one aspect of the disease, awareness of it among its users, their faith, belief and knowledge of the treatment given, are the other important factors which are often ignored. Even though 75% of the population in India are covered by health care and a significant contribution has been made in the last three to four decades in raising health status of the population, prevalence of communicable diseases and malnutrition still remain as major public health problems. This may be attributed to lack of health consciousness and health related factors such as social, economic, spiritual and environmental among lay persons, as important reasons in prevention of the disease. This paper briefly attempts to identify the lay persons by grouping them to literates/illiterates, determining their needs and wants, and its impact on health of the community. A review of the availability of health related information, their evaluation, selection and presentation using various communication media such as literature, press, audio-visuals, posters and graphics is made. Finally, its acceptability by the lay persons at the grass-root level has been discussed by presenting a case on the disease "Tuberculosis" and attempts made in this direction by the National Tuberculosis Institute, Bangalore.

KEY WORDS: HEALTH INFORMATION, GRASS ROOT LEVEL, FEASIBILITY, DISSEMINATION.

187 GVJ Baily: THE EFFICACY OF BCG VACCINATION - A BRIEF REPORT OF THE CHINGLEPUT BCG TRIAL NTI Newsletter 1980, 17, 108-18.

Even though BCG has been in use for last 60 years, it has always been the subject of controversy, as several scientific studies done all over the world showed the protective value of BCG varying from 0 percent to 80. Because of the controversy over its protective effect and its extensive use in India it was felt necessary to undertake further field trials, wherein all shortcomings of previous trials could be eliminated. The Government of India took the decision to undertake a BCG trial in In 1968, the study was carried out in Chingleput district India. in Tamil Nadu, where no BCG vaccination was previously offered. The objective of the study were to obtain i) precise estimate of the protective effect of BCG vaccination against tuberculosis in the non infected, ii) effect of BCG vaccination in persons already infected and iii) protective effect of different strains of BCG and iv) epidemiological data on tuberculosis in the community. The entire population of 3,60,000 persons were registered during a period of two and a half years of intake. All the persons aged one month and above were randomly divided into three main groups.

One group vaccinated with the Madras vaccine, the second with Paris vaccine and the third with Placebo. At the same time all persons were tested with tuberculin, those above 10 years and above were X-rayed and those having X-ray shadows were examined by direct smear and culture. The study population was systematically and intensively followed up by X-ray and sputum examinations to diagnose all the new cases occurring in the community. The protective effect of BCG vaccination is defined as the proportionate reduction in the occurrence of new cases among the vaccinated, initially tuberculin negatives as compared to a similar but unvaccinated group. The protective effect was studied among individuals who were not previously infected, who had no tuberculosis at the time of vaccination and who were either vaccinated or left unvaccinated. The results of 7½ years of follow up showed that the number of new cases that occurred among the group vaccinated by either of the vaccines or from the unvaccinated group were similar. This showed that BCG vaccination did not offer any protection against tuberculosis of the lung. The epidemiological characteristics of the population were high prevalence and incidence of tuberculosis infection and disease and high prevalence of non specific sensitivity. The risk of manifest disease for this recently infected was relatively small, as most of the new cases occurred among those who were tuberculin positive at the time of intake and not from those who were not infected **Implications:** Several expert committees appointed both by then. the authorities in India and by the WHO have examined all the procedures followed up in the study and came to the conclusion

that the study had been meticulously carried out and vaccine used in the trial were the best available ones. The implications of this study was 'should BCG vaccination be given up in India?' Yet another committee appointed jointly by ICMR and the WHO went into the epidemiological aspects of the causation of tuberculosis under Indian conditions and concluded that BCG may not protect against tuberculosis of lung which occurs mostly in adults; it **could provide substantial protection against childhood form of tuberculosis** such as tubercular meningitis, tuberculosis of bones & joints etc. The protective effect of BCG against these forms of tuberculosis was not studied in Chingleput Trial. In India BCG vaccination is recommended to be given at an early age preferably before the end of the first year after birth.

KEY WORDS: EFFICACY, BCG VACCINE, MADRAS VACCINE, FRENCH VACCINE, CHINGLEPUT BCG TRIAL.