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Leprosy-2

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I have come across your publication **Swasth Hind** and found it very useful for research work as well as in keeping touch with developments in this field.

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I am regularly reading your highly esteemed journal and I have been impressed with the papers published in the journal.

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SOCIAL ASPECTS OF LEPROSY

DR R. H. THANGARAJ
and
DR (SMT.) E. S. THANGARAJ

The human problems of a person affected by leprosy will depend on the direct and the indirect interaction with others in the society. His normal or abnormal behaviour will be the result of biological, social and psychological forces. Self-respect, recognition, ambition and future plans—all play a vital role in his remaining as a member of the society.

A pale patch is often the common early symptom in leprosy. When a person sees this patch he is not usually perturbed by it. But the moment the diagnosis *leprosy* is told to him, it is no more *just a patch*. But all the information he had learnt about leprosy, and the leprosy patients he had seen flash through his mind—that leprosy is a very infectious disease which comes as a curse from God; it is chronic in nature and it cannot be cured. He feels that one day it will make him ugly, repulsive and that his family, friends and co-workers (*the primary group*) will reject him. He will probably be confined to live in a horrible place for the rest of his life. There he will be physically and mentally crippled and die as an *outcast of society*.

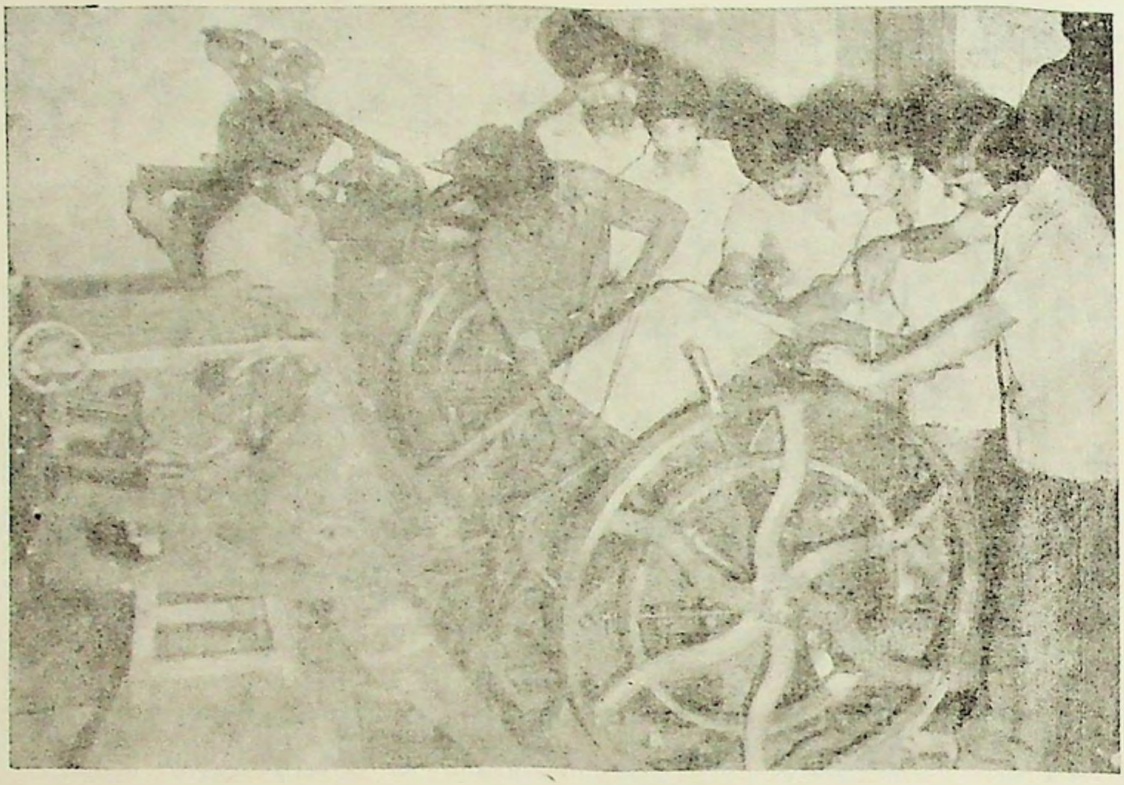
In fact, leprosy is not as contagious as people think. Most patients do not spread the bacilli. Nearly 98 per cent of the population have natural immunity and will not get leprosy. Leprosy is curable.

The affected person dreads that he might be abandoned by his family; at the same time he is afraid of staying with the family. He foresees the possibility of the whole family suffering from the consequences of social stigma. His first reaction is to guard himself from such a situation. So he does not want to accept the diagnosis. He tries to flee from reality. He tends to go from person to person (may be doctor, *vaid*, traditional healer) hoping it could be something other than leprosy.

Historical and religious beliefs about leprosy have hardly changed and so he may develop a guilt complex that he is a sinner and he is cursed. Due to this, he begins to hate himself, shuns society (*the secondary group*). He may develop a negative attitude and become aggressive.

The reaction of the primary group will depend on various factors as socio-economic status of his family, on his status whether he is the bread winner or a dependent, whether the life of other family members will be affected by his presence, and so on.

In the present day there is more emphasis on total care of the patient. The physical, social and



Treated leprosy patients and their children are being trained in printing

psychological aspects must be fully understood by the medical team. The role of the social scientist working with the team will be of great importance.

Patients, family and community

The members of the medical team have to prepare the patient to accept the diagnosis. The team must exercise great care in revealing the diagnosis. They must warn him about result of neglect; at the same time they should not frighten him. It is important to educate the patient. the family and the community and see that the patient is not dislocated from the family. Hospitalization, when necessary, must be for a short time only.

Medical world

Leprosy should not be considered as a special disease. For instance people working in this field are looked upon as persons doing great sacrifice. This very attitude reflects the prejudice and stigma deep rooted in the people in general. Accepting this disease as one of major public health problems by all those in the medical world is of prime importance.

Patients and employment

(i) It is difficult for the patients to get employed, if identified.

(ii) It is difficult for them to retain the job.

(iii) In some cases there is disability and they are unable to do certain types of work.

(iv) Some types of work may cause damage to limbs without sensation but they carry on their work as there is no alternative, till there is irreversible damage.

Patients and industrialist

Industrialists must have orientation about leprosy and its problems. They must include leprosy as part of the general health care programme for the employees. Early case detection and treatment will prevent disability and deformity in those affected and protect co-workers from risk of probable infection. Alternative job arrangements for the infected employees may be arranged whenever possible to prevent damage from work hazardous to them.

There is high percentage of leprosy patients among the migrant labour from endemic areas to cities. Most of them end up in slums. Every community health programme should include case detection and management of uncomplicated cases.

Resettlement colonies

Every day there is increase in the number of self-settlement colonies. The patient tends to migrate for many reasons:

(i) He attempts to flee from primary group and mask identity.

(ii) He hopes to get job.

(iii) He wants to save his family from social ostracism.

(iv) Affected children abandoned by the parents in order to protect other children end up in these colonies.

(v) Women who do not have economic independence when rejected by their family may seek refuge in such colonies.

(vi) The patient wants to save other members from being affected by leprosy.

(vii) Some families may migrate as a whole.

(viii) Some patients get married to other patients and settle down in these colonies.

The fact we ignore very often is that there are many healthy children in these colonies. Leprosy is *not hereditary*. These children are brought up under very poor socio-economic conditions and in an environment unsuited for their normal physical and mental growth. They are labelled as 'Children from leprosy colony' forever. Such children face a number of problems when they grow up:

(i) Difficulty in getting admission to schools, (ii) Rejection by other students, (iii) Difficulty in procuring job due to the leprosy background, (iv) Inferiority complex, (v) Maladjustment, (vi) Fear of losing job and friends once identity is disclosed and (vii) Difficulty in getting married.

These children must be educated, given vocational training and placed back in society. Left without help there is every possibility of some of these children becoming anti-social elements. The children lifted to a better social level will no longer be a burden on the society but will be independent and happily integrated into society.

Special privileges

Extreme caution must be exercised to make leprosy patients eligible for special privileges. By giving privileges we create a situation where a person not really disabled (*e.g.* having only few patches) when ostracised by society will be tempted to choose to live on these privileges. He will stop making any effort to overcome obstacles, resign himself to fate and may even resort to begging. It is very difficult to restore him back, though not impossible. Badly crippled patients will need support and this must be assessed individually.

Self reliance

Basically the patient does not need pity. He is not just to be tolerated but he must feel wanted. He, like anyone else, has skills, ambitions and above all basic desire to live as a useful citizen with self-respect. We must be able to look at the leprosy patient as a person and aim at a total care and restoration.

Socio-economic and medical programme in resettlement colonies must run side by side. The role of social scientists is very important. They have to assess the needs, identify problems, overcome barriers in communication and motivate the inmates. Once motivated, they can turn out work to the best of their abilities. Extreme care should be taken not to make the group totally dependent on the working team. Once the group becomes self-reliant the team can move on to the next group needing help and continue to give advice and guidance.

Any sick person needs support. The need is much more for a victim of a crippling disease. Is the leprosy patient within the fold or outside, when we talk about *"Health for all by* 2000 *A.D."*. When our Government is aiming at this, are we giving the full support to the leprosy patient we ought to?

The health education of the community should not stop at the stage of creation of awareness but should continue till the expected behavioural changes are achieved. This will fail if there is lack of community participation.

LEGAL ASPECTS OF LEPROSY

DR V. V. DONGRE

Social reforms cannot be successful by legislation alone. It is much more true in a disease like leprosy having a medical and social aspect. Leprosy is everyones' concern. Therefore, active participation of every segment of the society is necessary for the control and final eradication of the disease.

LEPROSY is a disease which is shrouded in the midst of ignorance and misconceptions and has perhaps no rival in dislocating and dehabilitating a person from his social, marital and economical spheres, except a mental disease.

When the question of control of leprosy is posed to a lay person, the usual reply given is, "isolate the leprosy patients and pass a legislation to that effect." It is time to oppose this line of thinking, in the light of modern concepts of leprosy as a disease.

It is not a crime to contact leprosy.

There is legislation pertaining to the marital, schooling, accommodation, transport and occupational aspects of leprosy patients.

Indian Lepers' Act of 1898

This Act provides for—

(1) The segregation of beggars with leprosy, and

(2) The control of leprosy patient, following certain occupations or doing certain acts such as preparation for sale or the sale of food, drink, drugs or clothing, taking drinking water from or bathing and washing clothes in the public wells and tanks, and the use of public vehicles.

It is a permissive act which can be put into force in whole or in part by notification by any State Government. The special committee of the Government of India has expressed unanimously that it is not desirable to maintain a special status for Leprosy and it should be dealt with like any other public health problem and the provisions made in the said Act could no longer be considered valid in the light of modern concepts of the disease. The existence of such an act perpetuates and enhances the social stigma. The Ministry of Law has opined that the respective State Government may abolish this outdated Act. Eighty per cent of the normal population has natural resistance against the disease and only 20 per cent leprosy patients are open cases. There is no conclusive evidence to prove that leprosy spreads through food or water. At present this Act is clamped in Bombay, Amravati in Maharashtra State and some parts of Andhra Pradesh. If the Act is annulled it will make 500 beds available for voluntary leprosy patients who need temporary hospitalization in Bombay.

Marriage Acts

Hindu Marriage Act of 1956, *Muslim Marriage Act of* 1939, *and the Indian Christian Marriage Act of* 1872 provide for divorce on the ground of leprosy.

Surprisingly, statistical data on the number of such divorces in the Court of Law is not available as in actual practice, the leprosy affected spouse is just abandoned. It should be noted that leprosy should not be a ground for divorce, as

(i) All the types of leprosy are not infectious.

(ii) Leprosy is curable with modern drugs.

(iii) Leprosy is neither hereditary nor congenital. Therefore, marriage acts should be amended suitably without delay. A person suffering from a disease with social stigma requires more compassion from the spouse.

Children suffering from leprosy and children of leprosy patients

A decade ago children with leprosy were not allowed to attend schools. Children with "close" (non-infectious) type of leprosy are allowed to attend school now-a-days as a result to the efforts of leprosy workers. The same thing holds good for the children afflicted with non-infectious tye of leprosy in the Juvenile Remand Homes. But the problem of smears —positive children (infectious) cannot be solved in a satisfactory way. A handful of them are admitted in the schools run by leprosy hospitals but they get ostracized when they produce their School Leaving Certificates before getting any employment. The children of leprosy patients staying in a leprosy patients' colony also get ostracized and do not get admission in the schools if they give the true address of their residence.

Transport and leprosy patients

Indian Railways Act of 1890 prohibits all types of leprosy patients from travelling by train along with other passengers. However, this attitude has changed considerably in the last decade and the leprosy patients get concession for the purpose of journey to and from leprosy hospitals for treatment.

Some State Road Corporations give similar concession. However, the patients have to produce a certificate that the disease is not easily recognizable. This is an impediment to patients with deformities who are actually non-infectious.

Motor Vehicle Act of 1939

Under this Act the leprosy patient is disqualified to get licence to drive any vehicle. This needs rectification as all the leprosy patients do not have sensory loss of the limbs.

SHRI PARTHASARATHY RETIRES

Shri T. K. Parthasarathy relinquished the charge as Editor, Central Health Education Bureau, at the time of his retirement on 31 December, 1982, after a meritorious service of a quarter century almost right from the establishment of the Bureau. Shri Parthasarathy has contributed a lot to strengthen the Bureau and in developing its multifarious activities. It was during his period that **Swasth Hind** has become what it is today.

Shri Parthasarathy's interest in media and communication research and training has helped immensely in the development of health communication as a vital discipline in promoting public health programmes through health education.

We hope that his continued association would be available to the journal and the Bureau in its various functions.

Life Insurance Rules

Premia rates are higher for leprosy patients. This should not be as leprosy *per se* does not shorten the life of a patient.

Military Service Rules

It is not understood that why a smear negative leprosy patient (close or non-infectious) is not readily reinstated in his work as a civilian in an ammunition or Ordnance Depot.

Leprosy patients as voters

Leprosy patients can exercise their franchise but it is not understood why there should be a separate booth for leprosy patients alone in their settlement. Not only this but it is observed that the Election Officers on such booths are also Leprosy Workers. This procedure enhances social stigma and should be abolished.

Rejection of the patient from a family, dislocation from the society due to dehabilitation from the job, ultimately makes a leprosy patient a destitute. Mere law against begging will not break this chain of events. Education and motivation of the society only can prevent dehabilitation of the would-be beggars.

Tenancy

The Tenancy Acts do not favour leprosy patients for accommodation. Complaints by the neighbours regarding the tenancy of leprosy patients are common in cities.

Leprosy patients staying in villages at times suffer from social boycott and the non-infectivity certificates of patients sometimes are not respected by the village leaders.

This attitude should be discouraged.

Prevention of Begging Act 1959

Beggars are arrested under this act and are referred to certified institutions. If a beggar is found to have leprosy he is sent to a leprosy hospital. He stays there till he is cured, even though his term of detention under the Act, expires earlier. The genesis of leprosy beggars is due to the social stigma and ostracism. Rejection of the patient from a family, dislocation from the society, due to dehabilitation from the job, ultimately makes a leprosy patient a destitute. Mere Law against begging will not break this chain of events. Motivation of the society only can prevent dehabilitation of the would-be beggars.

Ignorance and apathy on the part of community is seen in some of the procedures that are still prevailing in some areas. Leprosy patients are cremated in separate crematoria. This gives wrong idea to the public mind regarding the infectivity of leprosy.

Leprosy beggars who are arrested under the Beggars' Act are carried in a separate vehicle meant for "lepers".

Leprosy patients are not easily entertained and admitted in general hospitals.

Unwanted corners are given for Leprosy Treatment Centres in the General Hospitals and Dispensaries. Community leaders ask for shifting of leprosy hospitals or settlements of leprosy patients for the fear of catching the disease.

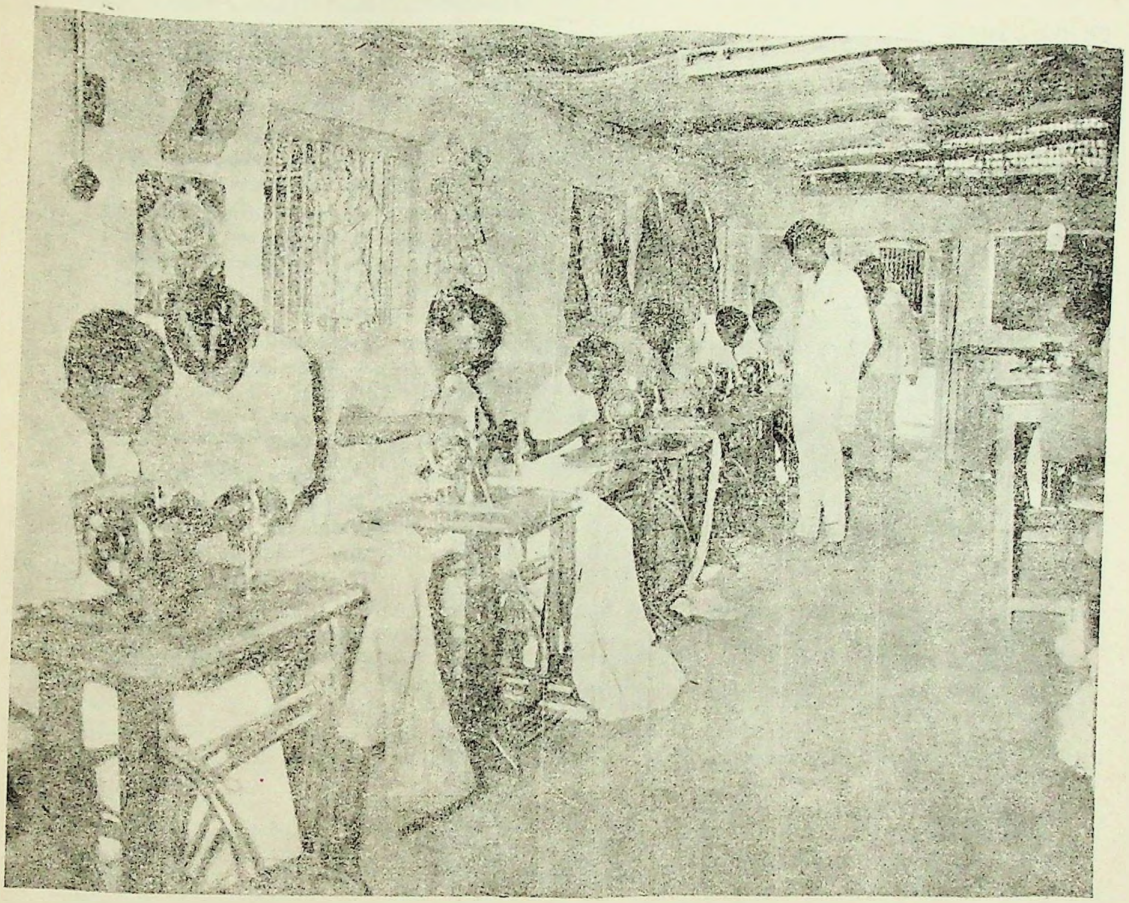
Employment Rules

There are no uniform employment rules for leprosy patients employed in private and public sectors. The Government Employee is better placed in this situation than his counterpart in the private sector. The smears negative (non-infectious) patients are reinstated in their jobs from the beginning. However, an open case (infectious) has to struggle a great deal for the job. Alternate isolated job, employment to a family member of such a case, extended sickness benefit, provision for costly modern drugs could be some satisfactory solutions.

In some States, one per cent vacancies for the orthopaedically handicapped in class 3 or 4 services are reserved. However, leprosy patients with deformities are not included in such list of handicapped persons, which needs rectification. On occasions it is essential to change the attitude of the co-workers and the employers for the smooth reinstatement of the leprosy patients in his original job which can be achieved by effective health education. It is felt that those who are away from their jobs for a long period, on account of their infectivity, should be given special consideration and "Intensive Care Units" should be established for such patients to tackle their social, economical and employment problems. This will ensure regularity of treatment and reduction in the drop-out rate from treatment, thereby reducing quantum of infection and break in the chain of transmission of the disease in the community.

Social reforms cannot be successful by legislation alone. It is much more true in a disease like leprosy having a medical and social aspect. Leprosy is everyones' concern. Therefore, active partipation of every element of the society is necessary for the control and final eradication of the disease.

In consonance with the recommendations of the experts' opinion on legislation, all derogatory provisions in legislative Acts, adversely affecting the fundamental rights of leprosy patients as citizens of India should be forthwith repealed or annulled. △



REHABILITATION IN LEPROSY

DR J. M. MEHTA

This article restricts to socio-economic rehabilitation but it must be remembered that medical and physical rehabilitation by physiotherapy, reconstructive and plastic surgery, protective footwear for plantar ulcers and other such measures form a major aspect of any rehabilitation programme.

LEPROSY from the medical and social stand points is a highly misunderstood disease causing avoidable human suffering and leading to the major problem of rehabilitation. Proper medical treatment along with the care of the hands, feet and eyes would result in minimal deformity. But this is the ideal situation and we have upon our hands thousands of deformed leprosy patients who have been outcast from society and for whom something has to be done urgently. **It is impossible to measure the cost of suffering avoided**

Prevent dehabilitation

It is our initial duty to see that the leprosy patient does not undergo a process of 'dehabilitation' which can be prevented by early diagnosis and proper treatment. Notwithstanding this ideal situation the word 'leprosy' strikes terror not only in the mind of the patient but also in the public, and this fear can be treated only through aggresive health education.

The stigma brings about an unsympathetic public and even official attitude. Though the present policy of government is to assist the leprosy patient, this does not work in practice due to lack of personnel and lack of motivation on the part of the latter.

The National Leprosy Control Programme (NLCP) of the Government of India did not consider rehabilitation as a part of the programme in the initial stages. Now, after almost 25 years it has been realized that if we are to control the disease, rehabilitation will have to form an important aspect of the total strategy.

Correct understanding needed

To quote an example of the lack of understanding, I would like to mention the case of one of our very esteemed and highly educated patients who was recommended for the National Award for the most efficient physically handicapped employee. This well-rehabilitated patient who had in turn brought about the rehabilitation of many other patients felt very dejected when the National Award was not given to him by excluding him from the category of the "orthopaedically handicapped". It was the stigma that came in his way. Perseverance at last brought about success and the said gentleman—a life that had benefited so many others—was given the award in 1979, to the best of our knowledge the first of its kind in the country, and, for the first time to an ex-leprosy patient.

Medical certification

Another factor that interferes is the medical certification of fitness in the case of lepromatous leprosy patients. Such patients show the presence of lepra bacilli in their skin smears for several years though with adequate chemotherapy they become almost non-infectious within 9—12 months. But the government directive is that he cannot be made fit till all his skin smears are negative on repeated examination. As it is impossible to achieve this, the man loses his job adding to the problem further.

Administrators' lead: Thus a radical change is needed immediately in our thinking and attitude and especially for those who would become administrators in government. Every administrator should know about leprosy and should look at it in the correct perspective. Any amount of legislation is not going to rectify the situation. But if public officers give a proper demonstration, by showing the correct way, it will help greatly in changing the present public attitude to leprosy. It must be remembered that we are dealing with a human problem and, therefore, though we may not be absolutely scientific in our approach, compassion is of importance and would form a major factor in the success of such welfare schemes. Otherwise, most of the projects which look very good on the face of it would remain merely as schemes on paper.

Integrated approach for rehabilitation

I feel that the integrated approach for bringing about substantial rehabilitation and for breaking the stigma should be implemented. In such a programme cured leprosy patients with or without deformity should be given vocational training, with the ultimate aim of rehabilitation, along with the orthopaedically handicapped, other handicapped persons like those with loss of vision, and the socio-economically dis-advantaged but able-bodied individuals in an integrated manner. Such a programme is in its experimental stages in our institution and we hope to produce some interesting results in the next few years.

Self-employment and sheltered workshops : At present it is well-nigh impossible to get leprosy patients employed in open industry which means that after their training they may have to be re-settled in self-employment or for certain cases in sheltered workshops. Schemes of self-employment have indeed proved successful but after a lot of spade work because at every step the leprosy stigma interferes. Social welfare facilities like bank loans for the poor section of society are denied to leprosy patients on the premise, 'how will a leprosy patient earn in order to repay the loan?' This we have overcome and many patients have received bank loans and have repaid them with a much less defaulter rate than among non-leprosy cases. Even then all these facilities are marginal and much more requires to be done for the leprosy handicapped.

Cost benefit ratio is favourable

I am confident that the cost-benefit ratio of rehabilitation schemes is very favourable. The results of available research studies do not appear to demonstrate any conflict between the humanitarian basis for rehabilitation service provision, and the basic princi-

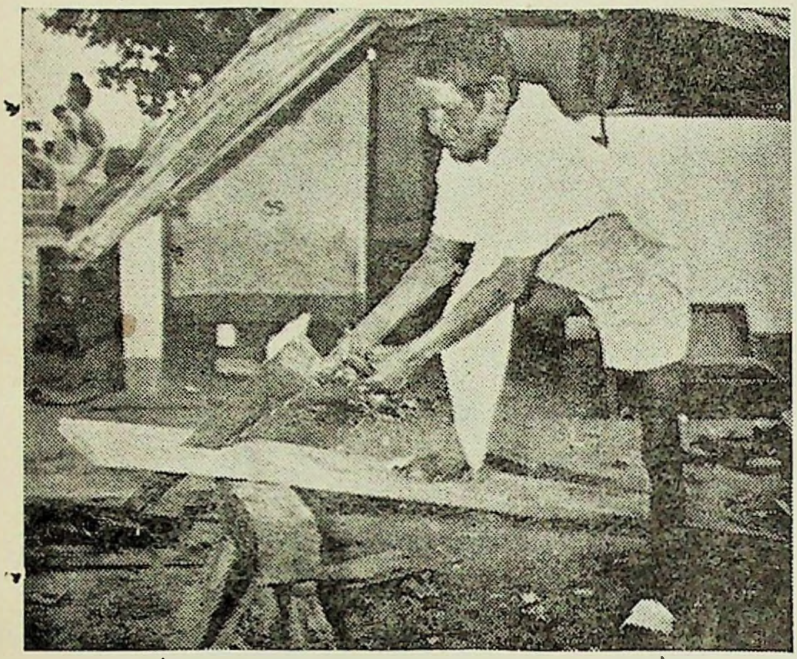
At present it is difficult to get the leprosy patients employed in open industry, therefore, self-employment is an important means of rehabilitation.

ples of socio-economic planning. Disability will create a cost to society regardless of whether or not rehabilitation services exist. Nor can the cost-benefit model indicate the value placed by disabled people on the services they receive. In our planning we have only been asking questions to different experts. Have we cared to ask a leprosy patient what rehabilitation means to him? Even the smallest service done to him may have changed his entire life, and it must be remembered that there is no scale by which human values and happiness can be measured.

Rehabilitation in society

"Inside the Society" and "Outside the Society": To begin with and as long as the stigma against leprosy is strong the relevance of rehabilitation inside or outside the society may not be taken as of great significance. As long as the patient is socio-economically well rehabilitated he gets assimilated into the community—and this is an encouraging feature. Full integration "into the society" is an ideal situation, striving for which, we should not lose our pragmatic approach to the general question of leprosy rehabilitation.

Four thousand years ago on a stone tablet is shown a disabled Egyptian carrying out certain rituals in which his family is helping him. No signs of social stigma are apparent and the disabled man is allowed to take part in all the religious rites in the temple along with the other members of society. How and when and at what period of time in the development and evolution of the human race did stigma for the disabled come about?, consideration of the question would be an interesting exercise for a social scientist.



Leprosy patients should be given vocational training such as carpentry with the ultimate aim of rehabilitation.

Points for education

At every stage the stigma comes in our way and in conclusion the following points may be recapitulated:

(1) Leprosy is a mildly contagious disease.

(2) It is not hereditary.

(3) It is curable.

(4) Infectious cases become rapidly almost non-infectious when kept on adequate modern chemotherapy.

(5) The degree of deformity is not a measure of infectivity. As a matter of fact, many of the highly deformed patients are of the non-lepromatous variety and completely non-infectious.

(6) Rehabilitation is possible through vocational training centres.

(7) Self-employment is an important means of re-settlement.

(8) Sheltered workshops would be required for a certain percentage of cases.

(9) Leprosy stigma is the one single interfering factor in implementation of rehabilitation schemes.

(10) To break the stigma an integrated approach is feasible and seems useful.

(11) In rehabilitation programmes one should not forget the female leprosy patients who require support as many of them after getting the disease are abandoned by their husbands and are required to become self-reliant.

(12) Family planning should be vigorously pursued so that the rehabilitated patient is not burdened by additional socio-economic problmes.

(13) Government departments and government officials must give the lead in leprosy programmes showing thereby conquest over stigma. This can be achieved not only through scientific understanding but in a great measure by the application of compassion and dedication:

(14) Compassion above all.

Will leprosy spread?

Lastly, are there any chances that by taking the above measures we would be increasing the spread of leprosy? The answer to our above questions is an emphatic 'NO'. According to epidemiological studies prevalence rate of one patient per thousand population constitutes a health hazard. In India the general prevalence is five per thousand, and we are all exposed to a certain measure of danger which is not increased at all by the measures given above. As a matter of fact, with the disease coming more into the open and with greater stress being paid to it and with greater number of patients under-going treatment the danger of spread should diminish.

There are several government schemes for the rehabilitation of handicapped persons. There are also directives that handicapped persons should be given job preference and even legislation is mooted to reserve a certain number of jobs for them. Leprosy is supposed to come under the orthopaedically handicapped group but this does not take place in practice. Any amount of social welfare legislation will not solve the proplem. Therefore, the job selection and other panels constituted by government should have on them a leprosy worker interested in the welfare of leprosy patients and having some experience of rehabilitation work and above all he must not himself suffer from the stigmatized attitude about the disease which is universally prevalent. Δ

CHILDHOOD LEPROSY

DR S. THEOPHILUS

The child is liable to be infected not only from a family member if there is a case in the house, but also from his schoolmates. The infection the child gets from the schoolmates surprises the family when a single child in a family is infected and the parents and the relatives are completely free from the disease.

AT the beginning it might be prudent to mention that the word "leprosy" is embarrassing to many people and so we will henceforth refer to this as "Hansen's disease" and avoid the use of the word "leprosy", especially "leper".

Leprosy, also called Hansen's disease after the discovery of leprosy bacillus by Dr A. Hansen, in children presents some characteristics which make it different from the disease seen in grown-ups. By children we shall consider the whole age group from school-going age to around 15 years. During this time the child has already been weaned from the mother and started going through kindergarten to primary and middle schools. The child is liable to be infected not only from a family member if there is a case in the house, but also from his schoolmates. The infection the child gets from the schoolmates surprises the family when a single child in a family being infected when the parents and relatives are completely free from the disease. Sometimes this leads to despairing cry of the parents "we don't know how this child got the disease. Nobody in our family has ever had this".

The following points are important in case of childhood leprosy—

1. It must be remembered that the child does not remain as such for a long period and any useful treatment should be not only effective and safe, but also of relatively short duration to come within the childhood period.

2. A good portion of the child's time should be occupied with education and recreation, *i.e.*, intellectual and physical activities. So any useful therapy should guarantee freedom from physical pain and muscle weakness which could only be effected by long-term immuno-suppressive treatment.

3. The social and psychological aspects of the child's life, being of paramount importance, should be specially taken care of by creating a sense of security and if need be, by transferring him to a more congenial social milieu.

The disease in its simplest form shows a vague patch which is paler than the surrounding normal area. Usually these patches are single or a few only. They do not lead to any great discomfort and sometimes fade away spontaneously or after regular treatment, in a few years. However, if they are on exposed parts of the body they may cause embarrassment to the child because the child might be the target of derision or aversion from other children.

There is, however, a more dangerous variety which does not show itself so clearly by changes in the skin colour but involves the more deeper lying nerves. Initially, there might be slight weakness of the hand or foot muscles which is not considered significant enough to be shown to a doctor. The result is that the disease progresses in the body and becomes evident after some years in the form of paralysis of the hand or foot, and often also in contracture of the fingers and toes. Since sometimes these nerve damages are multiple, they lead to serious limitations in movement and work and also to unsightly and prominent deformities.

The most dangerous type, however, is where the disease has spread into the deeper organs and shows itself in widespread skin and nerve damage. Again because these changes initially are mild and insignificant treatment is not sought for by the sufferers till many years later. Sometimes this could be as long as 10 or 15 years. By this time the infection has spread widely throughout the body, needing sometimes almost a lifelong treatment. These types of cases which are classified as 'lepromatous type' of Hansen's disease are a further danger to the society because they can be highly infective and healthy persons who come in intimate contact might also acquire this disease.

Spread of infection throughout the body. Only face is shown here with nodules on the earlobes, cheeks, nose and chin.

It is, therefore, necessary that whenever a change in the skin colour or sensation is noticed, the child should be examined by competent medical personnel and treatment initiated at an early stage. Otherwise what would be a few years of simple treatment will have to be prolonged to many years with the need for a more careful medical supervision and greater co-operation of the patient. Finally, some who are not properly treated early enough may even need a life-long treatment.

One aspect has to be thought of very seriously with regard to Hansen's disease in children. The affected

A boy of eight years with single hypopigmented patch

children should be kept in such a state of health as to be able to attend to their school activities as completely as possible. This means that they not only have to study but also to actively participate in games and other physical activities. Most vital of all their capacity to normally integrate socially should not be

Multiple deformities in hands and feet in a boy of about 12 years.

impaired. So, treatment has to be carefully but vigorously monitored so that the physical pain and disabilities are minimized as much as possible. Added to this, there should be an orientation and motivation of the child. He should be able to realistically adjust to the idea of having the disease which is interwoven with prejudice and superstition. He should not be allowed to get depressed to that extent that he becomes estranged socially from the other children. This will demand not only counselling of the child but also of the parents and the group of people closely involved with the child in his daily activities like the supervisors and teachers. It is not a very great advantage to the child to have expert medical attention which looks after his physical problems, if his psychological and social background is neglected to that extent that he becomes maladjusted in the society. Obviously, therefore, treatment should be integrated by the help of a team which should consist of competent doctors, psychiatrists and social workers who could channelize and programme the total rehabilitation of the child. This will need also the help of the parents and teachers.

Treatment

So far as the treatment is concerned, the child should preferably be started with multi-drug therapy. Where it is thought that the commencement of the disease is of recent origin it might be safer to avoid Depsone because the greater possibility of resistance to this drug today than it was some years ago. The combination drugs should be Clofazamine plus Thiacetazone together with, when necessary, the more costly Rifampicin which should be judiciously and carefully employed. Physiotherapy for stiffness and deformities of the feet and hands should be started early so that there will be no interference in the day-to-day activities of the child like walking and writing. There should be a continuous and sustained treatment to keep the child free from pain, swellings and stiffness of joints, which might interfere with his normal active study and movements. A more vigorous but at the same time regular supervision during treatment with drugs like corticosteroids, thalidomide and analgesics is essential.

Finally emphasis must be given to the great need and importance of the day-to-day social counselling and periodically psychiatric reviewing of these cases. This will help to keep them in a normal social balance and prevent untoward after effects that lead to their slowly evolving into anti-social elements or worse still becoming social outcastes who find an asylum only in the slums of big cities and take to begging.

SWASTH HIND

INFORMATION FOR CONTRIBUTORS

Swash Hind is the official organ of the Union Ministry of Health and Family Welfare. Opinions expressed by the contributors are not necessarily those of the Government of India.

Articles on every aspect of public health are invited. They should be such as have not been published or accepted for publication elsewhere.

The articles should be written in simple and non-technical language so as to be understood by the layman.

Articles should not exceed 2,000 words in length.

The name, designation and all relevant details about the author should be clearly indicated in the beginning of the article itself.

Manuscripts should be typed on one side of the paper, double-spaced and sent in duplicate.

Good illustrations enhance the value of the articles and contributors are requested to submit photographs, drawings, charts, etc.

Photograhps should be in black and white on glossy paper and easily reproducible.

All photographs, charts, etc., should bear captions clearly on the back.

Lettering on charts, tables, etc., should be in black ink (Indian ink) and should be large enough to be read when reductd. Good quality white paper should be used.

While sending photographs, drawings, etc., contributors should take care to see that they are not damaged in transit. They should be placed between hard cardboards and never pinned to anything.

Each contributor whose article is published receives one complimentary copy of the issue and 25 reprints of his article.

IMPORTANCE OF SCHOOL AND MASS SURVEYS IN LEPROSY CONTROL

DR R. GANAPATI

This article sums up the experience of the author about school surveys carried out in the city of Bombay over a period of more than a decade. Figures collected over this period under urban field conditions also indicate the importance to be given to the school surveys in planning leprosy eradication programmes.

LEPROSY control programme in India is essentially based on the principle of survey, education and treatment (SET). In the absence of the availability of effective vaccine, and working under conditions where isolation of all infectious patients is impossible, it is but reasonable to lay great emphasis on surveys of whole population in order to unearth early cases and bring them under regular treatment with multiple drugs which are advocated widely today in order to reduce the quantum of infection. Surveys of whole population undertaken with great ease in villages by trained para-medical workers are not always easy to carry out in urban areas. In rural as well as urban areas school survey has been thought of as an important method of case detection, as the coverage of such captive population is much easier and inexpensive. Since the school-going population is relatively more in urban areas and because of the fact a very large number of school-going children can be subjected to screening in quick time, school surveys specially in urban areas have come to occupy a very high place of priority in leprosy control programme.

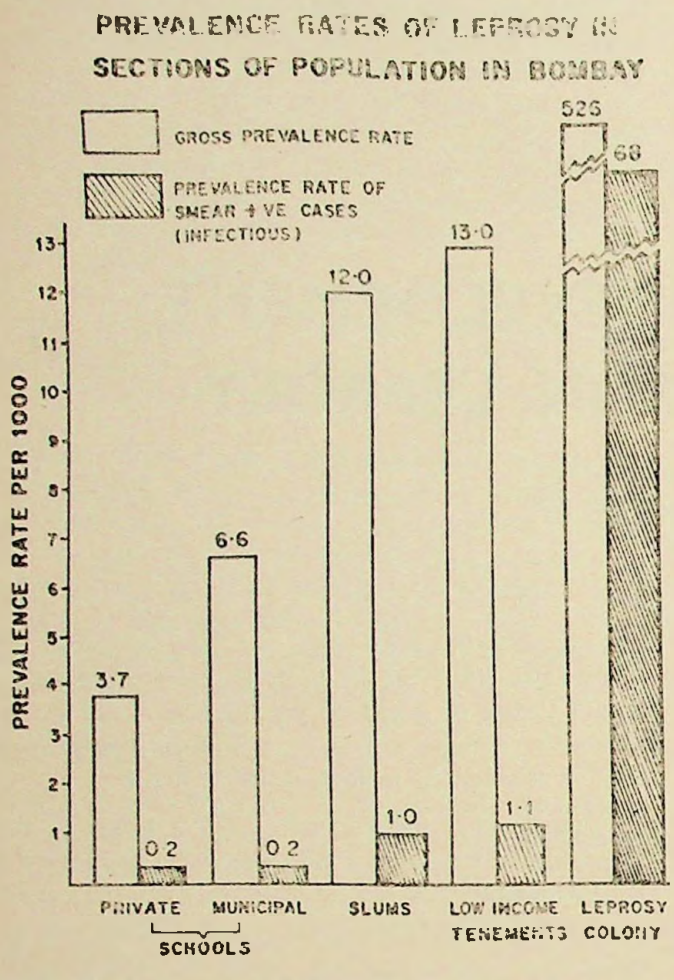
How are they important?

The high proportion of children in 6 to 14 year age-group suffering from leprosy and attending leprosy clinics in Bombay prompted massive school surveys in the early part of the last decade. While surveys of 10 per cent of child population attending randomly selected municipal schools revealed a general prevalence rate of 3 per 1000, there existed pockets of endemicity of the order of 10.8 per 1000, in some schools situated in the northern suburbs of the city. Even private schools catering to the not-so-poor sections of the community showed prevalence rates of over 6 per 1000, confirming the hyperendemicity of leprosy in Bombay city, with no socioeconomic or age-group immune from exposure.

Clinical observations on 1265 leprosy cases identified in the course of the above surveys covering a total population of nearly 1.8 lakh school children showed that 24.7 per cent of the cases had either the potential to develop into progressive forms of leprosy in view of the multiplicity of patches or were already in an advanced stage of the disease.

Poor substitutes to mass surveys

Analysis of 953 cases with single patches revealed greater frequency of distribution (58.4 per cent) of patches in parts of the body which are generally covered. It is striking that 26.4 per cent of the solitary patches were found on the buttocks and thighs emphasizing the need for thorough examination of these parts during surveys. However, it must be stressed that school surveys should not be looked upon as a separate entity and it should be considered in the larger context of total leprosy control programme whose aim is to successfully break the chain of transmission of the disease in the community. The question, therefore, arises as to how such a large number of



children gets infected and how to prevent this. It is also important to see whether by examining the household contacts of children detected through school surveys, we can identify the infectious sources in the community at large and thereby bring them under treatment. In order to get an answer to these problems, an epidemiological study was conducted in a large isolated slum in Bombay with a certain number of schools situated within the slum catering to the education of the children of the slum. The results of this study showed that although school and family contact examination was more economical as regards time, money and personnel involved, it does not result in the identification of significant number of cases in the community, either in numbers or in proportion of infectious cases. This observation implied that most children detected to have leprosy in the school were infected from sources outside their homes. So if our objective is to unearth infectious patients in the whole community and bring them under effective treatment, school surveys are poor substitutes for mass surveys.

If the experience in Bombay is any indication, the infectious patients are to be found in alarming numbers in the slums and in 8 to 10 leprosy colonies which are situated in and around the city and the infectious sources which act as reservoirs are generally the adults and not children. A look at the following diagram will indicate the relative pools of infection existing in various strata of the community in Bombay with 8.3 million population, 50 per cent of which lives under most insanitary conditions imaginable, namely slums, as opposed to situations where leprosy patients group together in self settled colonies.

Community problem

It is easy to imagine how leprosy spreads from such reservoirs to infect the child population at large. According to modern concepts of transmission of leprosy, it is believed that the leprosy germs can pollute the atmosphere in the same manner as those causing tuberculosis. Prolonged intimate contact with the persons suffering from the disease does not seem necessary. Only susceptible subjects exposed to infection develop the disease.

Repeated screening of child population in leprosy control programmes will be meaningless if reservoirs of infection are not tackled with proper chemotherapy with multiple drugs as now advocated by recognized world authorities. There is no doubt that it is because these sources are not properly managed, there is a continued chain of transmission placing the school children at large at high risk. It has to be concluded that if school surveys have to be meaningful, leprosy should be thought of as a problem in the whole community and not as one confined to schools alone. △

TRAINING AND DEVELOPMENT OF MANPOWER IN LEPROSY

DR CLAIRE VELLUT

A patient with early signs of leprosy consults usually either the medical officer of the Primary Health Centre or a general practitioner. A few examples, all seen by us personally, will show that the first need in training is, in fact, in medical colleges.

— a boy in high school, with a patch on the forearm is treated with ointment, ignoring the thickening of the ulnar nerve, till he develops a claw hand.

— a girl with a few patches on the skin, an ulcer on the sole of the foot, is treated with tonics and antibiotics.

— patients with severe erythema nodosum are treated in general medical wards and nursing homes, without the diagnosis of erythema nodosum leprosum being made.

— Facial palsy due to leprosy is treated as Bell's palsy and borderline leprosy is treated as urticaria.

These examples will make us understand the prime importance of adequate teaching in medical colleges, schools of nursing, training centres for multipurpose workers, health guides, general physiotherapists and laboratory technicians. As long as this is not done, leprosy will continue to be considered as a 'special disease' and the patients will not get the benefits of proper diagnosis and treatment.

The first need in the control of leprosy is the arrangement of adequate teaching in medical colleges, schools of nursing, training centres for multipurpose workers, health guides, general physiotherapists and laboratory technicians. As long as this is not done, leprosy will continue to be considered as a 'special disease' and the patients will not get the benefits of proper diagnosis and treatment.

Moreover the new approach in therapy of leprosy has to be made known not only in colleges but in all professional medical and para-medical associations.

Being given the high number of leprosy patients in India (about 40 lakhs) a special programme has been drawn since 1955. The National Leprosy Control Programme (NLCP) started in 1955 has been developed progressively during the years, covering 324.00 million population and treating 21.50 lakh patients. The NLCP has recently received a new priority as leprosy control has been included in the Prime Minister's 20 points programme.

The objective of the NLCP is to detect and treat all patients so that all are cured without deformity and the transmission of the disease is stopped.

About 25,000 medical and para-medical personnel are working, under NLCP, in leprosy control units and institutions all over the country. Their training is to be planned and organized so that each type of personnel is prepared to perform clearly definite activities and functions. Many voluntary organizations and international agencies are making an important contribution in the field of training.

Medical Officers

At any point of time, 1,500 doctors should be working full time in leprosy. There is a great difficulty in recruiting doctors in this field as many miss the professional interest of this challenging disease and fear financial loss. A separate and specialized cadre for medical officers in leprosy with sufficient promotional incentives, has been proposed.

About 400 medical officers should be trained every year. This orientation course should last for six weeks and should be given before their posting in leprosy units. The contents has to include the development of leadership and communication skills as well as the teaching of the clinical and therapeutical aspects of the disease.

Six centres have been recognized for giving this training and 15 others have been proposed.

Para-medical field staff

The basic workers are called para-medical workers, non-medical assistant leprosy technicians, leprosy inspectors etc. At present, there are 15,000 of them in the country, about 5,000 are not trained. It is difficult to understand how untrained staff can do justice to their work, namely,

(1) detection of cases (clinical and bacteriological examination);

(2) education of the public and the patients and encouraging community participation;

(3) distribution of drugs; and

(4) diagnosis of complications to be referred to the medical officer in the unit.

1,700 have to be trained annually in the 42 existing recognized centres. The duration of the training is six months and includes field posting with trained staff.

Refresher courses have to be given to them regularly, specially at this juncture when therapy of leprosy undergoes drastic changes.

The supervisory staff's posts are to be filled by promotion of the basic workers. They are to be given a refreshers course of two to four months duration in leprosy and supervisory techniques.

There should be one supervisor for every 5/7 workers. About 2,000 non-medical supervisors are in service, but only 500 of them have been trained adequately. For the moment only four centres are recognized for training.

Health Educators, Physiotherapists, Laboratory technicians are employed directly by NLCP.

These categories of personnel trained in general centres are not sufficient in number and are not keen to work in the field of leprosy. Hence, the creation of specialized centres for the formation of "technicians" employed only in leprosy institutions. There is one centre for health educators, four for physiotherapist technicians, four for laboratory technicians. The number of these training centres is hopelessly inadequate and more centres are to be opened.

As bacteriological examinations of all cases is very important, it is proposed to have a cadre of "field laboratory assistants" to carry out routine skin smears and certain basic clinical tests only.

A full army of medical and para-medical workers can be mobilized, at high cost by the National Leprosy Control Programme, but the battle will be lost if the general medical and para-medical personnel do not deal in a competent manner, with leprosy patients, as with any other disease. △

HEALTH EDUCATION IN LEPROSY CONTROL

Dr B. C. Ghosal

and

T. K. Parthasarathy

The perceivable changes in the people's belief and attitude towards the disease and the patients, brought about by the modern scientific advancement, highlight the important role health education will have to play in bringing about the eradication of the disease.

The mention of the word 'leprosy' brings to one's mind the picture of patients with deformities in the hands and feet, begging at public places or seeking alms at places of worship. There are patients with depressed nose, blind eyes, nodules in the ear lobes, etc. All these deformities are more due to neglect of this disease for a long period and not the direct result of the disease itself. If the cases had been detected in the early stages and put on treatment and continued as long as medically advised, the deformities would not have set in. The delay in taking treatment is due to many factors. People consider that leprosy, which has been prevalent from time immemorial, is caused by divine curse for the sins committed in the previous birth and cannot be cured. This divine curse theory results in the patients not taking treatment even though drugs are available to cure the disease completely. It is also believed that the disease is hereditary, and consequently families with leprosy patients suffer social stigma. The disease is concealed to save the honour of the family and this concealment leads to the advance of disease with consequent deformities.

Though the discovery of leprosy bacillus as a causative organism by the Norwegian Scientist, Dr G.H.A. Hansen in 1893 had exploded the hereditary theory and superstitious beliefs. False notions and wrong beliefs still plague us even today. Mahatma Gandhi, who had deep concern for leprosy patients, had said: "Why should there be a stigma about leprosy any more than about any other illness."

Leprosy is not just a medical problem but a socio-economic one as well and had to be tackled on both the fronts.

The perceivable changes in the people's belief and attitude towards the disease and the patients, brought about by the modern scientific advancement, highlight the important role health education will have to play in bringing about the eradication of the disease.

There are nearly 3.2 million leprosy cases in India. Of these 15 to 20 per cent are of infectious type and 25 per cent with disability of varying degrees, It is poignant to note that 25 per cent of the cases are children. About 2.4 million cases have been detected and 2.2 million have been put under treatment. It is reported that in certain leprosy control unit areas there has been reduction in the number of cases. This is yet another pointer for intensifying the health education, which aims at bringing about changes in the beliefs, attitudes and practices of the people through a process of education. It should provide scientifically correct information on leprosy, its causation, mode of transmission, treatment and rehabilitation. This will enable people to go in for medical check-up on the appearance of signs and symptoms of the disease such as discoloured patch in the skin with and without loss of sensation.

Objectives of health education

1. Remove wrong notions about the disease and the patients.
2. Motivate people to go for medical examination on the appearance of signs and symptoms of the disease.
3. To motivate patients to take regular and complete treatment.
4. To help in rehabilitation of the cured patients.

Plan of health education

Health education has to identify the problems of different target groups and initiate a programme to remove these.

Health education plan has to be geared to the needs and aspirations of different identified target groups. These are general public, patients, patients' family and close friends; medical and para-medical personnel, employers and employees.

Message content also will vary according to the needs of different target groups.

A set of general information on leprosy can be used with all target groups.

(1) Leprosy is like any other disease and caused by an organism, known as lepra bacillus.

(2) Leprosy is not hereditary.

(3) Leprosy is preventable.

(4) Leprosy is curable.

(5) A depigmented patch on the skin with the loss of sensation may be leprosy. The person having such patch should go to the doctor for check-up.

(6) There are very powerful drugs to cure leprosy.

(7) Not all cases of leprosy get deformities.

(8) Most of the patients begging are not infectious.

(9) Regular and complete treatment with adequate drugs can cure the disease and prevent deformity.

(10) All patches are not leprosy.

These messages should be put out in different channels of mass communication media. Health education does not exclude any media of communication nor does it exclude any educational method. Therefore, the scope of health education is very wide as it encompasses all situations and all sections of the population although educational efforts should be directed towards specific groups according to the nature of the problem and the specific work to be done.

Mass media channels can be used to carry the general messages identified for the education of the community. The messages should be suitably modified to suit the different media but the spirit behind these messages should be respected. The mass media can create a general awareness about the problem and this sensitization should be properly cashed in by organizing work groups—professionals, public spirited persons, voluntary organizations, youth and women's organizations, etc..—to take up specific work to carry the messages further down.

Patient education

Patient education is best done by the treating doctor and the para-medical and health personnel. All that the patient needs is reassurance that he can be completely cured and that, he should cooperate with the medical team for regular and complete treatment. This can be effectively done by organizing group meetings of patients and discussing with them the why's and how's of the procedures to be followed during the total treatment period. The health team can be catalysts and the community should take up such programmes. Teaching aids as flip charts, flash cards, 2 × 2 slides, film strips, picture books, etc., can be very useful in group education. Some of these can be made locally at low cost. The workers should also be trained in the preparation and utilization of such communication media.

MESSAGE FOR PATIENTS

General Message plus :

* **Regular and adequate treatment can cure leprosy and prevent deformity.**
* **Even deformity can be corrected by surgery.**
* **Patient can live with his family while undergoing treatment.**
* **Patient need not get admitted to hospital for routine treatment.**
* **Regular and adequate treatment not only cures the patient but also helps in preventing disease spreading to family members.**

Family members

The next in the order of priority is the family of the patients including close friends. The family needs to be convinced that leprosy is the least communicable of all diseases: there is no need to segregate the patient; the all family members should get themselves examined at least once a year. The family should help the patient to take his medicine regularly and in adequate quantity and as long as the doctor has advised him to do so.

MESSAGE FOR PATIENT'S FAMILY

General Message plus :

* **Leprosy is the least communicable of all infectious diseases.**
* **There is no need of segregating the patient.**
* **Get all the family members examined once a year.**
* **Help the patient to take his medicine regularly, in adequate dosage as per the advice of doctor.**

Health workers

Health workers including para-medical workers should reassure the patients and the family about the possibility of complete cure. There is no necessity for any specialist's help to diagnose leprosy. They should keep themselves updated about latest information on leprosy.

MESSAGE FOR MEDICAL AND PARA-MEDICAL WORKERS

General Message plus :

* **Diagnosis and treatment of leprosy is like treating any other disease.**
* **There is no need for specialist's help in diagnosis and management of leprosy.**
* **Assure and re-assure the patient in a human way about the treatment and reduce his trauma.**
* **Encourage the patient's family members to get examined at least once a year.**
* **Keep him abreast of the latest scientific information on leprosy.**
* **Help voluntary agencies and public men in their assistance to leprosy work.**

School system

Nearly 25 per cent of the leprosy cases being children, health education should place higher stress on this group. The children should be brought for medical examination so that those who are found positive may be put on treatment immediately. Dr S.G. Browne, Director of the Leprosy Study Centre, London, in his introduction to the WHO booklet "Leprosy in Children" by Dr F.M. Noussitou says that a thorough inspection of the skin is all important. Dr Noussitou says that "coordinated health education activities should be carried out by the public health services in change of leprosy control activities, the school health officers, and private social organizations concerned with leprosy or with child health problems in the community".

Dr Noussitou emphasises the need for regular surveys where the general prevalence rate of leprosy is 5 per thousand or more. According to some published reports, among 50.697 school children, most of them in 5-16 years age group, examined in greater Bombay, 51 cases of leprosy were detected giving a rate of 2.97 per 1000. Another 2912 children, aged 5-16 years, in schools located in a hyperendemic locality, 33 leprosy cases were seen giving rate of 11.3 per 1000. Such findings in large urban community underline the importance of school surveys as a case detection method....., says Dr Noussitou. This highlights the importance of working with school system—the educational authorities, the school health services, teachers and parents—in health education. Teachers, parent-teacher Associations need to be given orientations in leprosy so that they can offer their cooperation to the leprosy control authorities. Booklets, folders, identification cards, etc., will be useful. Teaching aids such as 2×2 coloured slides, film strips picture books can be used in this area of work.

MESSAGE FOR TEACHERS

General Message plus:

* **Leprosy is the least communicable of all infectious diseases.**
* **Most of the child patients can continue to attend school.**
* **Ensure that the child patients take regular and adequate treatment.**
* **Get all the children in the school examined at least once a year.**
* **Help spread correct information about leprosy among school children and among people.**

Employers

The employees and the employers are the next important group to be reached. They are very important because the patient should be able to go back to his job once he is completely cured. These groups must be given correct information about the disease, its causation, treatment and how a completely cured patient can do normal work. Once declared negative, the patient is no more a danger to others. The initial investment in the employee is secured once he is taken back into service. Only in a very few cases change of jobs will be necessary.

MESSAGE FOR EMPLOYERS

General Message plus:

* **Get your employees medically checked up.**
* **Send the leprosy patients for prompt treatment.**
* **Encourage patient (employee) to take regular and complete treatment.**
* **Take back into employment cured leprosy patients. They do not spread the disease.**
* **Change jobs for cured leprosy patients wherever necessary.**

MESSAGE FOR EMPLOYEES

General Message plus:

* **Be understanding to your colleagues who might have suffered from leprosy.**
* **All leprosy cases are not infectious.**
* **Cured leprosy patients do not spread disease.**
* **Report to the medical authorities if any of your colleagues show signs and symptoms of leprosy.**
* **Do not despise a cured patient.**

The factory administration can be supplied literature on the subject. Newsletters regarding latest information about the leprosy can be regularly mailed. Bulletin Boards can be successfully employed in the factories/working places for general information.

All these activities have to be carried out invoking the general public. Where public participation is ensured, half the battle is won. People who can give time for public service, retired people who would like to serve public cause, can play a dynamic role in health education. They can explain the general message at public meetings, conferences, and also help in case detection, case holding, rehabilitation and treatment. They can ensure that the patients take drugs regularly and go through the complete course. The emphasis has to be laid on the prevention of dehabilitation. All such public spirited men and women should be supplied educational/publicity materials and helped whenever they needed assistance from programme experts. Voluntary organizations such as the Hind Kusht Nivaran Sangh, Rotary, Lions, etc., by their nature, are closer to the people. They should be assisted in their programme activities.

MESSAGE FOR PUBLIC MEN/OPINION LEADERS/RELIGIOUS LEADERS

General Message plus:

* **Spread correct knowledge about leprosy among the people.**
* **Take active part in the anti-leprosy programme.**
* **Help your community to detect cases and ensure that the patients take regular treatment and in the rehabilitation of cured patients. Set an example by participating in the National Leprosy Control Programme.**

Training of workers

Leprosy programme workers should be given sound training in health education and communication so that they can understand their role clearly and organize suitable educational programmes. This will help in case detection, case holding and prevention of dehabilitation.

A concerted attack on the problem with sustained educational programmes will go a long way to reach the goal of eradication within the next two decades. The programmes should be continued till the goal is reached. △

LEPROSY CONTROL

Contribution of Voluntary Institutions

Dr S. P. Tare

The voluntary institutions have a special role to play in leprosy field where there is so much to explore and great scope from innovation, experimentation, initiative and sympathy. Their contribution in the national leprosy work has to be qualitative in a manner which can be helpful for the Government to expand its work on a national scale.

Organized leprosy work in India was being done by voluntary institutions for about a hundred years before the government stepped in a real big way. Some of the State Governments were running a few leprosy clinics and managing a few leprosy colonies in the thirties and forties of the present century, but that was only a token work. Since 1954 the Government of India has accepted leprosy work as its responsibility and has taken it up with the objective of controlling it, leading to the final goal of eradicating the disease. The voluntary leprosy institutions who were pioneers in this field are still working, have multiplied to some extent and have expanded their work. Their contribution in quantitative terms is smaller when compared to the expansion of the Government work, in the last 21 years, but that contribution, as is accepted by all, is indeed valuable.

There will be no two views about the definite place for voluntary activity in any field of work, be it leprosy or social welfare or education. It is more so in case of leprosy work because of some of the characteristics of the leprosy problem. But it must also be admitted that all voluntary institutions together cannot fully tackle the problem in their respective field of activity without government's active participation on a large scale. Hence, when it comes to wide coverage or quantitative expansion, it has to be left to the Government. What we should expect from the Government is that it should cover all endemic areas by the control work and make the drug available to all patients through a very wide net-work of out-patient departments. Evidence of control of leprosy has to come from voluntary leprosy institutions which can work intensively and effectively in a comparatively smaller areas.

Voluntary leprosy institutions have the advantage of a band of committed workers, a smaller and compact area to cover, facilities of constant and closer supervisions and a flexibility in the approach where modifications or corrections can be quickly introduced. Taking these characteristics into account, the voluntary institutions can cooperate in the National Leprosy Control Programme NLCP in four spheres: 1) Demonstrative, 2) Exploratory, 3) Supplementary, and 4) Ameliorative.

Demonstrative work

Voluntary leprosy institutions can conduct model leprosy centres of various types (SET, Leprosy control Units, Urban Leprosy Centres, Referral Hospitals, etc.) where utility of such a centre can be established, and necessary modifications to the plan and methodology can be considered depending on changing circumstances. All these centres in more numbers will also be run by the Government and hence the centres run by voluntary institutions will serve as demonstrative models for the Government workers and also to try out or experiment with the changes necessary from time to time.

In order to help the private leprosy institutions to fulfil their role of doing demonstrative model work, the Government should give following assistance:

1. To encourage voluntary institutions, to establish any type of leprosy work if they have necessary trained personnel. For this, the Government should be prepared even to vacate from an already covered area in favour of a private institution.

2. To give freedom to these voluntary institutions for making modifications in the methodology of work provided they adhere to the objectives as laid down in the Operational Guide.

Exploratory work

The second field of activity which should be left largely to private leprosy institutions is exploratory work. This includes taking up of pilot studies or projects to find answers to various facets of leprosy problem. Such studies are immensely essential for the success of the leprosy control programme. For example, though our aim is to control leprosy, we have not yet been able to demonstrate it in any area in the country. There are some good institutions who have given ample demonstration that the intensity and complexity of the leprosy problem can be considerably reduced with control programme but there are numerous factors which hamper and hinder control of the disease. These and other epidemiological problems need to be studied in field. Such studies are urgently essential and voluntary institutions must devote themselves to this rather than duplicating the government leprosy work.

Supplementary work

There are some fields of activity which can be organized both by the Government and voluntary institutions, but where the Government has some limitations in doing it effectively, these activities can be entrusted to voluntary leprosy institutions, wherever they exist, as supplementary work to the Governmental efforts.

1. *Training centres*: This is an activity whose importance for success of the (NLCP) has unfortunately not been given due attention. In any training, what is important to impart to the trainee is not merely knowledge of the subject but also a sort of intellectual commitment to the subject. From this point of view, the training imparted by a few private institutions in the country is definitely better and the Government should encourage involvement of voluntary institution in training of personnel.

(ii) *Referral centres* : With a wide network of field leprosy centres manned mostly by paramedical personnel and with increasing number of private practitioners taking up diagnosis and training in leprosy there is greater need for centres where they can refer difficult, complicated or cases not responding to treatment for advise and treatment. There are some well developed private institutions with competent and experienced medical staff which can be recognised as referral centres. These centres, one in two or three endemic districts, can be useful to leprosy technicians of SET centres, medical officers of leprosy control units and private practitioners treating leprosy patients.

(iii) *Intensive health education work* : Even though health education is incorporated in the SET pattern of work since beginning, it has been observed more in default all along these years. No aids of any kind are available to most of the field workers. As a result, health education which is so essential for bringing out new cases and in holding cases for treatment till their cure, has been and is being totally neglected.

Voluntary leprosy institutions can be helpful in getting their workers trained in health education techniques which is now a speciality, and they can be entrusted with the responsibility of doing health education work not merely in their own area of work but also in the surrounding area or part of the district which is covered by the Government.

(iv) *Participation of Medical Practitioners and other social bodies* : It is accepted that active participation of all medical practitioners is absolutely necessary for success of leprosy control and for removal of stigma about the disease from the society. As long as the people feel that the attitude of the doctors towards leprosy patients is not the same as that towards the patients of tuberculosis or syphilis, they (people) will not believe that the leprosy is like any other disease. Those voluntary institutions who have experienced medical men with ability to address medical groups can take up this activity in their own areas.

Ameliorative work

Leprosy is a medical problem but with very serious social repercussions due to the chronic nature of the disease and the centuries old stigma prevalent in all societies. The National Leprosy Control Programme has restricted itself primarily to the medical side of it from strictly public health point of view. It cannot, however, be denied that the patient has not only the problem of having the disease but also more serious problem of social boycott. The biggest social problem, is that of rehabilitation of leprosy patients. The other allied problem is that of beggar leprosy patients. There is also the problem of married women patients who have been divorced or disowned by the hunbands. We cannot completely shut our eyes to the immense unjust suffering of lakhs of leprosy patients, whether they are women, cripples, beggars or other dehabilitated groups. Voluntary leprosy institutions can and should look after them. △

This paper considers the management of immunological complications (reactions). Reactions are episodic, inflammatory, excerbations of skin and mucous membrane lesions, occurrence of fresh lesions and aggravation of pre-existing lesions in nerves and/or other sites. These episodes are encountered in tuberculoid, borderline and lepromatous leprosy.

Management of Complications in Leprosy

DR G. RAMU

COMPLICATIONS are manifestations which do not form part of leprosy but interrupt the chronic course of the disease resulting in increased morbidity and sometimes mortality.

Complications can be divided into two important groups:

1. Immunological complications or reactions.
2. Complications arising out of nerve damage.

This paper considers the management of immunological complications (reactions) are considered. Reactions are episodic, inflammatory, excerbations of skin and mucous membrane lesions, occurrence of fresh lesions and aggravation of pre-existing lesions in nerves and or other sites. These episodes are encountered in tuberculoid, borderline and lepromatous leprosy. Essentially reactions are due to a sudden alteration in the existing relationship between *M. leprae* and the human host *i.e.*, immunological response.

	Lepra Reaction	*Tuberculoid Reaction*	*Borderline reaction*
Onset	Acute	Insidious	Acute, sometimes insidious.
Constitutional symptoms	Fever, malaise, prostration, headache, nausea, body aches, muscle & joint pains	Absent	Less intense than Lepra Reaction. Rarely severe.
Skin lesions:	Exudative exacerbation of nodules, plaques and infiltration, (EEL) erythema nodosum Leprosum, SCN or pemphigoid, pustulating and/or ulcerating lesions.	Pre existing plaques swollen, enlarged, and erythematous, tender, Oedema in and around lesions. Rarely ulceration of lesions.	Polymorphic lesions erythematous, violaceous circinate, Concentric, geographic or psoriasiform, oedema in lesions, ulceration of lesions. Rarely ENL and pustulation.
Extra cutaneous manifestation.	Neuritis, lymph adenopath, Iridocyclitis, orchitis, hepatosplenomegaly, arthritis nephristis oedema limbs, tendency to recurrence.	Neuritis of cutaneous and regional nerve trunk. Nerve Abscess. Rarely regional lymphadenopathy.	Neuritis, arthritis Lymphadenopathy, Oedema, Rarely systemic involvement.
Prognosis:	Increased morbidity and mortality. Paralytic and non paralytic deformities (from contractures resulting from deep seated inflammatory reaction in the hands & feet and arthrities of MP, PIP). Rarely nephropathy from amyloidosis.	Paralysis of muscle groups supplied by peripheral nerve trunk involved.	Tendency to assume 'L' forms. Multiple paralytic deformities, if change from BL or BB to BT.
Cause	Due to combination of antigen/antibody and complement (immune - complex) locally or due to precipitation of circulating immune complex.	Exquisite lymphocyte response	Combination of immune complex and lymphocyte response in varying proportion.

Certain factors have been recognized to provoke reaction namely injudicious antileprosy therapy and some commonly used drugs such as (1) potassium iodide, sulphanamides, hetrazan, etc., (2) physical, physiological or psychological stress; (3) concurrent infection, *e.g.*, malaria, filaria, streptococcal and viral infections, *e.g.*, sore throat, chickenpox; (4) T.A.B. vaccination and tuberculin testing; (5) excess of hot food (spiced) and alcohol. At the very beginning of treatment the provocative factors may be eliminated by taking appropriate measures.

Treatment of mild reaction

In patients with mild reaction, *i.e.*, a few ENL or excerbation of lesions (EEL) with temperature below 100°F the treatment is with simple analgesic drug, *e.g.*, aspirin 300 mg twice or thrice a day.

Treatment of moderate reaction

In patients with a rise of temperature between 100-102°F, ENL and EEL involving both extremeties and or face and trunk give analgesics (aspirin) for painful arthiritis, neuritis, etc. Chloroquine sulphate 150 mg of the base or chloroquine phosphate 250 mg of the base three times a day till fever subsides and later twice a day for two weeks. If no response is obtained within a week give potassium antimony tartarate (PAT) 0.02 gm for three injections and later 0.04 gm on alternate days for three more injections I.V. If PAT is not available sodium antimony gluconate (SAG) two cc is given intramuscularly or I.V.

Treatment of acute severe reaction

In very severe reactions with temperature rising above 102°F and ENL or EEL with pustuation, careful nursing and re-assurance are necessary. Use tranquilisers (diazepam) and aspirin and SAG or PAT I.V. on alternate days for six to ten injections. In very severe reactions not responding to antimony or in patients with severe anaemia and kidney involvement where antimony should not be given, give corticosteroids Prednisolone (Deltacrotril) 20 to 40 mg once a day. Reduce the dose gradually every six days. A corresponding dose of Betamethosone or Dexamethsone may be given.

Treatment of recurrent lepra reaction or chronic lepra reaction

In such cases and in cases who cannot be weaned off cortisteroids and who are in a state of smouldering reaction, clofazimine is given along with steroids in a dose of 100 mg three times a day because of its anti-inflammatory properties. The steroids can be taken off after four to six weeks in a gradual fashion. In some casesit may take eight weeks to withdraw steroids. The dose of clofazimine is reduced to 100 mg when reaction is controlled, *i.e.*, in six to eight weeks. A maintenance dose of clofazimine 100 mgm daily for six months to one year is found to be necessary.

Side effects of clofazimine

In the anti-inflammatory doses used, besides red and black pigmentation, and ichthyosis gastro-intestinal disturbances manifesting as griping pain or buring in the epigastrium, vomiting and/or diarrhoea may be encountered. Rarely symptoms may simulate acute abdomen.

The drug should be withdrawn at the first symptom of abdominal pain and INH 300 mgm given to mobilize clofazimine from the intestinal wall. The drug can be restarted after a week in a smaller dose—100 mgm daily. The symptoms are particularly severe in female patients in whom a smaller dose is indicated.

Thalidomide: Another very useful drug in steroid dependant recurrent lepra reactions in male patients is thalidomide. It is given in doses of 100 mgm thrice daily till the reaction is controlled. Two to four weeks later. 100 mgm daily (1 tablet) is given. A maintenance therapy of 50 mg of thalidomide may be required for well over a year or till the patient becomes negative since after stopping thalidomide a rebound phenomenon is frequently seen. Thalidomide is known to inhibit the formation of antibodies and does not have any action on lymphycyte response of T or BT reactions.

A combination of clofazimine and thalidomide in a dose of 100 mgm of each drug three times a day controls reactions in a very short time enabling withdrawal of steroids in a week, thalidomide can be withdrawn in the fourth week, clofazimine has to be continued for six to eight months in a dose of 100 mgm daily.

Treatment of certain manifestations

Acute Iritis:—One per cent atropine drops or atropine ointment daily is essential. Steroid ointment or drops can be usefully added. If eye ball tension is high Diamox 1 tablet a day is given.

Acute painful neuritis:—Give rest to the part with the nerve in the relaxed position. Alleviate pain by analgesics and tranquilisers. If a single nerve is involved give a perineural infiltration of novocain ½ ml. duva-

dilan (a vasodilator) two ml Prednisolone 12.5 mg. and Hyalase 1200 units. This injection can be repeated after two days. Prednisolone (Deltacortril) by mouth is indicated in multiple nerve involvement. In the acutely painful neuritis encountered in tuberculoid or borderline cases use non-steroid anti-inflammatory drugs, *e.g.*, capsules of Indomethacin or tablets of oxyphenbutazone or brufen twice a day. whatever may be the type of painful neuritis, clofazimine appears to be useful if given in adequate doses *e.g.*, 300 mg daily for a week.

Reaction hand:—In chronic reactions, deep seated inflammations of the dorsum of the hand results in a painful swollen hand. If not splinted properly, on subsidence it results in fibrosis causing non-paralytic deformity. Therefore, during the painful stage keep the hand elevated and in a functional position by using a proper splint. When the acute phase passes off, local corticosteroid injections with hyalase are of help in mobilizing the skin from the adhesions. Physiotherapy is essential in such cases after the acute phase has subsided.

Renal involvement:—When there is macroscopic or microscopic haematuria with albumin and casts in the urine, avoid antimony and give steroids. Fluid intake is guided by urine output withdrawn.

Arthritis and periosteitis.—In some cases in the beginning arthritis may be associated with inflammatory skin lesions. In others arthritis of multiple joints sometimes with effusion occurs in painful episodic attacks. This may involve the M.P. and I.P. joints resembling rheumatoid arthritis. Intravenous or intramuscular S.A.G., two ml daily or alternate days is very beneficial. Application of icthyol glycerine to the joints gives comfort. Thalidomide given alone does not give relief in this complication. A combination of thalidomide and clofazimine is rapid in action.

Orchitis: Painful orchitis should be treated with systemic steroids and with local application of ten percent icthyol glycerine. Recurrent orchitis results in destruction of the testes and in gynaecomastia.

Supre-renal involvement: Superarenal involvement may suddenly supervene over a reactional episode. particularly when the patient has been on long continued steroids. This is manifested by a sudden subnormal temperature, fall in blood pressure, hypoglycaemia and increased serum potassium levels. Adequate quantities (five per cent of total body weight) of glucose and saline with 100 mg of hydrocortisone succinate intravenously may be followed by I m injection of hydrocotisone 25 mgm every eight hours. Following recovery, oral cortico-steroid therapy and gradual withdrawal under thalidomide or clofazimine cover is indicated.

In the treatment of reactions in tuberculoid and borderline leprosy where acute painful neurities is a prominent symptom corticosteroids must be given in adequate doses to avoid paralysis. In tuberculoid and Borderline reaction including those of reversal reaction without neuritis SAG (sodium antimony gluconate) 2 ml on alternate days gives dramatic results.

Continuation of anti-leprosy therapy

Unlike in the past anti-leprosy therapy with dapsone is maintained in most cases. However, in cases who are gravely ill or in cases with severe anaemia it may be necessary to suspend antileprosy treatment with dapsone for a short period. △

CHANCHAL SINGH MEMORIAL PRIZE—1983

The Tuberculosis Association of India will award in 1983 a cash prize of Rs. 1000 to a tuberculosis worker, preferably below 45 years of age, for an original article not exceeding 30 double spaced foolscap typed pages (approximately 6000 words), excluding charts and diagrams, on a subject relating to Tuberculosis in which he or she is specializing or has worked and adjudged best by a Special Committee of this Association. The article sent in for this competition should be original and it should be certified that it has not been published elsewhere.

Article or paper already published will not be considered for this award.

Those interested may send their article to the Secretary-General, Tuberculosis Association of India, 3 Red Cross Road, New Delhi-110001, to reach him on or before 30 July, 1983.

SOCIO PSYCHOTHERAPY
an adjunct in the treatment of leprosy

DR N. S. CHAUHAN *and* DR UPINDER DHAR

Medical treatment alone is not sufficient for the chronic disease like leprosy, but the introduction of socio-psychotherapeutic programme is a must. This is one of the most important tools that can help us in alleviating the persistent tensions of our patients. Those tensions, which remain in them although in the absence of proper stimuli, can well be reduced by this procedure.

LEPROSY is a chromic infectious disease, affecting the peripheral nervous system, skin, mucosa of upper respiratory tract, reticuloendothelial system, eyes, bones and testes. It is caused by mycobacterium leprae, first discovered by Gerhard Armauer Hansen (1841-1921) a Norwegian Physician in the year 1873.

The disease is characterized by a long incubation period, of about 2 to 5 years, and a chronic course with the development of lesions in the skin and peripheral nerves. It appears particularly in areas where human contact is close and continuous in unhygienic conditions.

There are two types of the disease, the lepromatous and the tuberculoid, with every variety of intermediate development. Lepromatous leprosy developes in patients with little resistance to the organisms, which are able to multiply and disseminate freely in the tissues. But, the tuberculoid type of the disease occurs in patients with profound tissue reaction to the infection. Incidence of non-lepromatous cases is between 70 to 75 per cent among all the cases of leprosy.

Cardinal signs of leprosy are: (1) Loss of sensation (tactile, thermal or pain) in skin lesions, and (2) the thickening of nerves.

In advanced cases of leprosy, it is not difficult to arrive at diagnosis, but diagnosis is indeed difficult in early cases where clinical manifestations are not definite or evident.

Absence of itching is characteristic of leprosy, unless it is superimposed by such infections as scabies, ringworm, etc.

The certain diagnosis of leprosy depends on the demonstration of mycobacterium leprae in the lesions.

The most satisfactory drug is dapsone (diaminodiphenyl sulphone or D.D.S.). D.D.S. is given first in very small doses which is gradually increased over a period of months to a full dosage which continues for a very long period.

Leprosy is neglected, frequently overlooked, commonly misdiagnosed, often inadequately treated and is generally a much feared and dreaded disease. It is one of the most feared of all diseases, feared even by those who have not met anyone actually suffering from it. Hence, the psychological handling of a case of leprosy is of great importance especially when the case is seen in an area in which it is rare.

The chief factor that influences the prognosis in leprosy is the type of the disease. In the non-lepromatous types, the prognosis on the whole is good; in the lepromatous type it is usually grave. However there are some other factors, a consideration of which helps in making a prognosis. These are (i) the result of the lepromin test, (ii) the race of the patient, (iii) the age and sex of patient, (iv) the physical fitness and nutritional state of the patient.

It has been seen that the disease progresses more rapidly, producing crippling deformities and blindness in certain races than in others. In India, prognosis is more favourable in Indians than in Anglo-Indians and Europeans. Prognosis is also not very good in people of the Mongolian race.

Sufferers of leprosy, in whom the development of the disease has been arrested by the use of sulphones, elect to remain in seclusion when eligible to return to the general community.

Early detection

Rehabilitation, in the conventional sense, should ideally be not necessary, if every person suffering from leprosy is detected early and treated adequately. Thus, if society does not discriminate against the leprosy patient, the patient will never be in need of rehabilitation. He will not become psychologically disrupted or isolated, since the environment will not necessarily induce such an attitude; and he will not be socially dislocated, because he will continue to be accepted as member of the family, the community and the village.

However, where this ideal of early diagnosis and adequate treatment is not yet attained, the concept of rehabilitation must be introduced from the onset of treatment and every-thing should be done to instil the principle of prevention—not only the prevention of deformity but also the prevention of frustrated mental attitude.

The process of de-stigmatization of the disease should have priority in all parts of the world where it is necessary to combat it. So long as there is stigma, personal demoralization and social degradation, it will be impossible to expect co-operation from the patients.

One of the fundamental components of the stigma in Western countries is intimately related to the term 'Lepra' and no educational efforts may ever succeed in the presence of this 'tragic name'.

'Hanseniasis' is a new name suggested for the disease by certain societies because the label 'leprosy' is considered to be repulsive. Dr Rotberg, of the Division of Hansenology and Public Health dermatology in Sao Paulo, Brazil, has proposed that the term 'leprosy' be forgotten and that in recognition of the great merits of Gerhard Armauer Hansen, who described mycobacterium leprae, the disease be called hanseniosis or Hansen's disease. As per his saying, the words 'Leprosy' and 'Leper' have gained an unpleasant reputation and when mentioned, evoke fear and abhorrence. He believes that the name Hanseniosis would be psychologically more acceptable to paients afflicted with leprosy (Hanseniasis, Abstracts and News, 3 (1), 1972).

Leprosy is not a congenital disease. According to the age at detection, leprosy is more common in children and the young than adults. In children, the prevalence is almost equal in males and females. But with decreasing incidence of the disease, age group in certain countries has shifted to higher age groups, *e.g.*, in Japan and Norway. Lepromatous leprosy starts a little later in age than non-lepromatous type.

According to Cochrane, all depends on the opportunities of contact. Under similar circumstances, adults are as likely to become infected as children and females as likely as males.

Leprosy has a very wide distribution. It is prevalent in parts of the middle East, Asia, Africa, Central and South America and occurs in North Australia, some of the Pacific Islands and Southern Europe and the Mediterranean littoral.

In 1965, the leprosy cases in world were 10.8 million. It was regarded that in India there were 2.5 million cases but according to 1971 census, the estimate is 3.2 million.

JALMA Institute for leprosy at Agra, was established by the Japanese Leprosy Mission for Asia in the year 1963. On 1 April, 1976, the Centre was officially attached to the Indian Council of Medical Research, which was given the responsibility of administration, medical care and research.

The Institute offers treatment and service facilities to a very large number of leprosy patients in the northern region. All medicines are provided free of cost. The major departments of the Centre are: out-patients department, in-patients department, reconstructive surgery theatre, pathological laboratory, X-ray department, and physiotherapy department.

In addition to all this, research activities, too, are carried out in the Institute. New drugs expected to have action on leprosy are first tried on experimental animals to assess their effectiveness. Leprosy germs can be grown to a limited extent in the foot-pad of mice. A large mouse colony with over 2,500 mice is being maintained by the Institute. Various biochemical studies are undertaken on the blood and other body fluids in the leprosy patients of different types with an aim of understanding the physiopathology of the disease.

Proposed methods of assessment and treatment for psychopathology

There is an important and most needed department missing in the Institute. This department is that of the phychotherapy, which should be introduced for the well-being and preservation of mental health of the leprosy patients.

When the patient realizes that he is being discriminated against—he fosters the stereotypes of prejudice by accepting the social roles and inferior status;

in essence, he introjects and identifies the values put forward by the society. His self-concept gets de-valued and deteriorated. Prejudice and discrimination are based on learning. They are maintained because they are reinforced.

Psychological assessment has traditionally focussed on the individual while sociological assessment has focussed on the individual's life situation in a community or in a social environment. And in psycho-social assessment these two orientations are combined to provide a realistic picture of the individual in interaction with his environment.

Since a wide range of factors may play significant roles in causing and sustaining the maladaptive behaviour, assessment typically involves the co-ordinated use of medical, psycho-social and socio-cultural assessment procedures.

The clinical assessment data can commonly be used to:

(1) Detect pathological trends before a disorder becomes acute or to anticipate possible problems and help the person prevent them.

(2) Plan an appropriate treatment programme and make necessary modifications as therapy progresses.

(3) Evaluate given treatment procedures and outcomes.

(4) Identify the nature and severity of the individual's or group's maladaptive behaviour.

(5) Provide a basis for discussing the problem with the individual, his family or the group.

In many instances, clinical assessment data can also be used to increase self-understanding—for instance, helping the individual understand his motives, attitudes, feelings and maladaptive coping patterns. Psychological tests should also be launched for the assessment of intelligence as well as the personality structure of leprosy patients.

Socio-psychotherapy

Next comes the therapeutic part, where we can take up the two aspects:

(i) Psychotherapy

(ii) Sociotherapy

Both individual and group psychotherapy can be of great use. It should be directed at helping the patients discriminate between real and imagined dangers, learn more effective methods of coping, and modify conditions in their life situations that are serving to maintain the maladaptive behaviour. A patient is to be trained to tolerate the life stresses.

Individual psychotherapy

Taking cue from Wolpe's systematic desensitization, behaviour that is being negatively reinforced—reinforced by the successful avoidance of a painful situation—is harder to deal with. Since the individual becomes anxious and withdraws at the first sign of painful situation, he never gets a chance to find out whether the aversive consequences he fears are still in operation. His avoidance is anxiety reducing and hence is itself reinforced.

After assessing the details, time should be spent in constructing a hierarchy of the individual's anxieties. This anxiety hierarchy should be a list of related stimuli ranked in the descending order, according to the amount of anxiety they evoke in the patient.

While the patient or client will be relaxing completely in a comfortable chair with his eyes closed, the therapist would describe the series of scenes to him, directing him to imagine himself experiencing each situation. The first scene presented should be a neutral one. If the patient remains calm and relaxed the lowest scene on the hierarchy should be presented; then the therapist would more progressively step up the hierarchy until the patient or client indicates that he is experiencing anxiety and the scene will be terminated. Treatment should be continued until the patient is able to remain in a relaxed state while vividly imagining the scenes that formerly evoked the greatest anxiety.

The care is to be taken that the hierarchy should not be misleading or irrelevant. It should be made only after going through the personality structure and life situation of the patient, thoroughly. Further, the client should be asked to explore himself in reality to situations to which he has just been desensitized in imagination. This appears to accelerate the desensitization process and may be the best method for individuals who do not respond to imagined anxiety-eliciting situations in the same way they do to real life situations.

Assertive training, too, can be of great help to us in our psychotherapeutic programme. Assertive training has been used as a method of desensitization as well as a means of developing more effective coping techniques. It appears particularly useful in helping individuals who have difficulties in interpersonal situations because of conditioned anxiety responses that prevent them from 'speaking up' for what they consider to be appropriate and right. Such inhibition leads them to continual inner turmoil.

Social workers should be appointed for educating the public and removing all baseless beliefs about leprosy. People should express sympathy towards the patients instead of abuse and hatred.

The expression of assertive behaviour first by role playing in the therapy setting and then by practice in life situations—is to be guided by the therapist. Attention be focussed on developing more effective interpersonal skills.

Taking an idea from Rogerian client centred therapy —the primary objective is to resolve the incongruance, to help the client become able and willing to be balanced. A Psychological climate should be established in which the patient or client may feel unconditionally accepted, understood and valued as a person. It will free him to explore his real feelings and thoughts and to accept them as part of himself. As his self-concept becomes more congruant with his experiencing, he will become more self-accepting, more open to experience and a better integrated person. Therapist should reflect and clarify the patients' feelings and attitudes in such a way as to promote positive action on the part of the patient. Emphasis should be laid on the present and useful existence of the patient.

Group therapy

Group therapy can be carried out by delivering some formal lectures to the groups of the patients. In these lectures they should be made aware of the disease they are suffering from, as well as, the role they have to play in the society. From making them aware, I mean to acquaint them with full relevant details of the disease. Encouraging and informative films should be shown to them.

Sociotherapy

In the case of sociotherapy, we have to focus on the modification of circumstances in the individuals' life situation that tend to perpetuate his psychopathology. Often there are pathogenic family interactions that keep the patient in a continually 'sick situation'.

The foremost need is to improve faulty communication, interactions and relationships among family members and fostering of a family system that better meets the need of family members. This purpose can be fulfilled through family therapy. Therapy for the family group overlaps with the marital therapy, hence killing two birds with one stone.

Social workers should be appointed for educating the public and removing all baseless beliefs about the disease. People should express sympathy towards the patients instead of abuse and hatred.

Both psychotherapy and sociotherapy are concerned with the alleviation of culture-induced stresses that foster the production of psychopathology in the patients of leprosy. People should be made aware of the fact that a treated patient is non-infectious. It is true that the only reservoir of infection is a case of leprosy but the condition of openness is at a particular stage—medical treatment leaves the case closed—that is, it is made non-infectious. Whenever medical experts proclaim that a case is cured—it means he has become non-infectious. He should be accepted by the society as a member of the society. He should not be discriminated from the cured cases of other infectious diseases. He should be given a proper place in his family as well as in the society.

Society should provide means of livelihood to him. For communicating this message to the members of society, we can utilize the mass media, education and other social institutions to change established attitudes and to foster the view that leprosy is a disease caused by a bacterium, not by his sins in the previous birth. The patients need sympathy not hatred. Society should learn to eliminate and hate the disease not the patient.

Thus by adopting this therapeutic programme, of these two aspects, as an adjunct to the treatment of leprosy—patients can be expected to return to their families, communities and society, without any harm to their mental make up. They should not be admitted for longer lapses of time in the hospital—as their longer stay may degrade their position in the society. They should be allowed to be with their family members as soon as they are non-infectious.

Last of all, we would like to comment that only medical treatment is not sufficient for the chronic disease like leprosy, but the introduction of socio-psychotherapeutic programme is a must. The later is one of the most important tools that can help us in alleviating the persistent tensions of our patients. Those tensions, which remain in them although in the absence of proper stimuli, can well be reduced by the hinted procedures.

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SELECTED BIBLIOGRAPHY ON LEPROSY—II

Compiled by M. K. BHATT

We publish below the second part of the selected Bibliography on Leprosy compiled by the National Medical Leprosy (DGHS) as part of its activities aimed at providing Documentation Services to the health science community in the country. It covers selected contributions on leprosy in India published during 1980-1982. Entries follow a classified arrangement using main subject headings and sub-headings.

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BOOKS

Contemporary patterns of breast-feeding. Report of the WHO Collaborative Study on Breast-feeding, Geneva, World Health Organization, 1981. ISBN 92 4 156067 3. 211 pages. Price: Sw. fr. 24.-.

In recent years the importance of breast-feeding as a basis for healthy child development has become increasingly recognized. Evidence has accumulated on the unique nutritional and immunological properties of breast-milk, as well as on the effects of breast-feeding on reproductive function and mother/child bonding, and concern has been expressed about the possible adverse consequences of a decline in breast-feeding (and a simultaneous increase in the use of breast-milk substitutes) on the wellbeing of children, particularly in developing countries.

While efforts are being made to correct this situation (a particularly important effort in this regard has been the adoption of the International Code of Marketing of Breast-milk Substitutes by the Thirty-fourth World Health Assembly), it has become clear that the success of national and international programmes to promote better feeding of infants and young children, especially by breast-feeding, depends on adequate information on contemporary patterns of infant feeding among different socioeconomic and cultural groups. It was with this intention that the WHO Collaborative Study on Breast-feeding was launched.

First phase

This book is a report on the first phase of the study, which was conducted in nine countries of Africa, Latin America, South-East Asia, Europe and the Pacific and involved some 23,000 mothers and children. The aims of this phase were to describe:

— patterns of breast-feeding among specific social groups in selected areas of the world.

— relationships between patterns of breast-feeding, supplementary feeding, and various maternal, family, and socioeconomic characteristics;

Dr Candau is dead

Dr M. G. Candau, who served as the second Director-General of the World Health Organization (WHO) from 1953 to 1973, passed away in Geneva on 24 January, 1983.

Dr Candau joined the staff of the World Health Organization at Geneva in 1950 as Director of the Division of Organization of Health Services. Within a year, he was appointed Assistant Director-General in charge of Advisory Services. In 1952, he moved to Washington as Assistant Director of the Pan American Sanitary Bureau, which is also the Regional Office of the World Health Organization for the American. While occupying that position, he was elected by the World Health Assembly to become the second Director-General of the World Health Organization, to succeed Dr Brock Chisholm of Canada.

— the relationship between breast-feeding and reproduction, including the return of menstruation;

— the views of mothers on breast-feeding and its duration, their reasons for not breast-feeding or discontinuing breast-feeding, and their knowledge of commercial and other baby foods;

— ways in which health services were organized with reference to maternal and infant care and infant feeding, as well as the nature and extent of legislation as it might affect maternity leave and breast-feeding; and

— the ways and extent to which industrially processed infant foods were marketed in the areas studied.

The results indicate that, although there are considerable variations between countries with respect to the prevalence and duration of breast-feeding, some distinct patterns can be identified: urban middle-and upper-income groups are less likely to breast-feed than urban lower-income groups and, when they do, they do so for shorter periods of time; similarly, urban poor groups are less likely to breast-feed than rural traditional groups and again, when they do, they do so for shorter periods of time. The age and parity of mothers do not appear to influence breast-feeding behaviour; educational background and health care practices, on the other hand, appear to be associated with the decision to breast-feed or not to do so. At the time of the survey advertising and distribution of breast-milk substitutes was widespread in some of the countries studied and large proportions of mothers in all the socioeconomic groups knew brand products by name. The results of this study are already serving as a basis for planning national and regional action programmes in the nine countries studied and elsewhere.

After an introduction and description of the study design and the characteristics of the communities that participated, the findings are reported under the following headings: the prevalence and duration of breast-feeding; breast-feeding and reproduction; birth weight, weight gain in infancy, and mortality among previous children; the introduction of supplementary food; and the marketing and distribution of breast-milk substitutes. A summary of findings is given at the end of each chapter. The final chapter, which contains the conclusions, also includes comments on possible action that can be taken to improve breast-feeding. The questionnaires and data collection guides used in the study are reproduced in annexes.

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