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OUR COVER

Millions of houses have been sprayed with D.D.T. under the National Malaria Eradication Programme. Our cover picture shows a malaria worker, after spraying a house, telling the housewife that walls should not be plastered with cowdung. He tells her that residual insecticide on the walls is meant to kill the malaria-carrying mosquitoes and plastering it with cowdung renders the insecticide ineffective

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ANTIMICROBIAL THERAPY OF TUBERCULOSIS

It is now some fifteen years since the treatment of tuberculosis with streptomycin and PAS (p-aminosalicylic acid) began, and nine years since the highly specific antituberculous effect of isoniazid was discovered. These developments have revolutionized the treatment of tuberculosis by making it a "manageable" disease. In a recent number of the WHO Bulletin, Dr Walsh McDermott, Livingston Farrand Professor of Public Health, Cornell University Medical College, New York, considers the present situation of tuberculosis chemotherapy¹. Some of his conclusions are summarized below.

EXPERIENCE with the new antituberculous drugs shows that there may come a time when most tuberculous patients will be treated at home. This would solve an important public health problem in regions where the number of patients is considerably greater than the number of hospital beds available for them.

Hospital versus Domiciliary Treatment

While many patients can now be treated at home, it is held that it is preferable for some to be treated in hospital, particularly initially, since they are then isolated from their immediate household associates, who are liable to be infected, and the rest in bed is allegedly beneficial. However, two recent investigations—one by Hirsch *et al*² at the Rockefeller Centre, New York, and the other by the Tuberculosis Chemotherapy Centre, Madras, India (under the auspices of WHO, the Indian Council of Medical Research, the Government of the State of Madras and the Medical Research Council of Great Britain)³—suggest that bed rest is not as important as is usually believed as long as the patient is receiving carefully managed chemotherapy.

As for the other argument in favour of hospitalization, the isolation of infectious cases is still to be regarded as desirable, but it is often not carried out

even in the most developed countries; it is difficult, for example, to persuade asymptomatic patients that they can transmit bacilli and should, therefore, be isolated. When the patient is highly infectious—when the larynx is involved, for instance—it is generally held that he should be kept in hospital, if possible, until he is no longer infectious. But the patient who is bacteriologically positive and whose state is such that he would have to be kept in hospital to the end of his life—the patient with a chronic cavitary lesion, to take an example—should be allowed to remain at home if this does not represent too great a risk for his household associates.

When patients are treated exclusively at home, three to six months must be allowed in most cases before the bacilli disappear from the sputum. In practice, therefore, there is little danger for contacts of a case treated at home from the start, for, on the one hand, treatment rapidly decreases his infectiousness, and, on the other, his household associates can be kept under observation and protected.

Choice of Chemotherapy for previously untreated Patients

The most suitable drugs or combinations of drugs for patients both in hospital and at home, are,

¹ McDermott, W. (1960) *Bull. Wld. Hlth. Org.*, 23, 427

² Hirsch, J. G. *et al* (1957) *Amer. Rev. Tuberc.*, 75, 359

³ See *WHO Chronicle* 1959, 13, 400; 1960, 14, 280

in order of effectiveness:

- isoniazid with streptomycin daily;
- isoniazid with PAS daily;
- isoniazid alone;
- isoniazid with streptomycin injections two or three times weekly.

There is also another combination of drugs, pyrazinamide and isoniazid, which is probably the most effective against the tubercle bacillus, but is much too toxic for general use, because of the pyrazinamide.

It is generally agreed that, if circumstances are favourable, it is preferable to employ more than one drug. Whatever the scheme of treatment, isoniazid is acknowledged to be the most active anti-tuberculous drug. The use of streptomycin daily is rarely practicable on an out-patient basis.

Isoniazid resistance is encountered, not only when the drug is used alone, but also when patients are receiving PAS at the same time. PAS is most needed when the tuberculous cavities in the lung are more than two cm in diameter. Since the major part of the incapacitating action of anti-tuberculous drugs against the tubercle bacillus probably takes place during the first weeks of treatment, it would seem preferable to begin with a combination of drugs—isoniazid-streptomycin or isoniazid-PAS—and to continue with isoniazid alone when the cavity has closed and the patient is no longer infectious.

Administration of isoniazid alone is still of value for prophylaxis and as treatment for tuberculosis without cavitation. It may be employed initially for cavitary pulmonary tuberculosis in special circumstances, *e.g.*, in tuberculosis programmes where the use of PAS would involve additional expense and so restrict their scope, or when PAS is poorly tolerated and daily administration of streptomycin is not a feasible alternative.

If a patient with moderately or far advanced pulmonary tuberculosis is treated with any of the four alternative drugs or combinations of drugs listed above, the course of the disease follows one of three patterns:

- (a) in most cases there is a considerable regression in infiltration, with closure of the cavities and disappearance of infectiousness;
- (b) in perhaps 15-20 per cent. of cases there is an extensive regression of infiltration, but the cavities fail to close; nevertheless, infectiousness disappears, giving rise to the so-called "open negative" syndrome;
- (c) in about 15 per cent. of cases there is a greater or lesser regression of infiltration, but no considerable reduction in cavity size, and tubercle bacilli continue to be discharged in the sputum. If this happens, the treatment has failed.

Management of Cases when Chemotherapy has been Unsatisfactory

Failure to respond to chemotherapy usually becomes obvious by the end of six months of treatment. The development of resistance by the bacilli may be a result as well as a cause of persistent cavitation, for the walls of the cavity form an excellent medium for multiplication of the bacilli, thus favouring the appearance of resistant strains. Other drugs are available to deal with this situation but unfortunately, because of their toxicity, they can be administered only for some three or four months. Thus, it might become advisable to carry out collapse therapy or excision; in any event, hospitalization is highly desirable. Whatever new drugs are given, the continued administration of isoniazid has been found worthwhile, even though *in vitro* resistance to it has been shown to occur.

The other drugs that might be used in these resistant cases are: cycloserine, pyrazinamide, α -ethyl-thioamide, and viomycin.

Cycloserine, administered in a dose of 250 mg. twice daily, is very effective in combination with isoniazid. It may, however, cause epileptiform seizures, and, as the margin of safety is low, it is preferable to reserve it for hospital use. Pyridoxine is said to neutralize the neurotoxicity of cycloserine, but it is not known whether it also decreases its efficacy against the tubercle bacillus.

Alpha-ethyl-thioamide is effective and has given good results with isoniazid, but it causes severe nausea and vomiting, and there is also some

evidence of a cumulative effect with isoniazid in the production of peripheral neuritis. The combination of α -ethyl-thioamide with cycloserine might be quite an effective short-term treatment if the patient tolerates the drugs.

Pyrazinamide is of only limited value alone, but is very effective in association with isoniazid and provides perhaps the best combination. Its toxicity must be borne in mind, since it causes hepatitis with jaundice in about three per cent. of patients, with a fatal outcome in about one third of those who develop jaundice; consequently, its use is restricted to cases where the danger from the disease exceeds that from the toxicity of the drug. Mention should be made of the effectiveness of pyrazinamide in combination with streptomycin. As a result of one study it was held that this combination of drugs should be given to patients with advanced cavitary disease as primary treatment, and to most patients with pulmonary tuberculosis who had failed to respond to isoniazid with PAS.

These secondary drugs should, in general, be prescribed only when treatment has clearly failed, and not merely because bacilli cultured from the patient's sputum are resistant to isoniazid *in vitro*. Needless to say, they can be given only in hospital.

A standard form of treatment for pulmonary tuberculosis might be as follows: Isoniazid-PAS daily during six months, or at least until there is clear evidence of therapeutic failure. Then, if there is failure, excision or collapse therapy with administration of streptomycin plus cycloserine, α -ethyl-thioamide or pyrazinamide, in that order of preference, in addition to isoniazid. What of the patient severely ill with extensive acute tuberculous pneumonia? Here, isoniazid plus daily streptomycin should be given until there is an improvement and infectiousness disappears; this treatment calls for four to eight months' hospitalization. Subsequently, isoniazid alone may be prescribed, provided that there are no cavities of two cm or more in diameter. If streptomycin has already been given for three or four months before therapeutic failure becomes clear, the best procedure is to employ two of the three secondary drugs together for as long as possible, bearing in mind their toxicity.

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The toxicity of *viomycin* prevents its use except for serious forms of the disease, *e.g.*, laryngeal tuberculosis, and then only for a limited period and in very special circumstances. It may cause deafness and nephritis. *Neomycin* is too toxic systemically and is used only locally; so too is *kanamycin*, which also causes deafness. The use of these last two drugs is not advisable.

Treatment of patients with the "open negative syndrome"

This treatment is difficult to standardize, for each case must be considered on its merits, as in the majority of cases the disease must still be regarded as active. Surgery might be advisable in some cases—say, in a young physician or dentist, even though his sputum continues to be non-infectious with continued treatment. In the case of middle aged or older patients or those without much contact with young subjects, chemotherapy might well suffice.

Duration and Dosage of Chemotherapy

In pulmonary tuberculosis it has become common practice to continue treatment for 18-24 months, but it is probable that the principal therapeutic action occurs during the early weeks, the drugs exerting only a protective or suppressive action thereafter. In most cases, it is wise to continue chemotherapy till well past the period during which most of the healing takes place.

Streptomycin should be given at the rate of 20 mg/kg body-weight per day *i.e.*, an average of 1 g per average-size adult. More may be given, say, 30 or 40 mg/kg per day during short periods of two or three weeks, but there is a considerable risk of vestibular damage, especially in older age-groups. When given with streptomycin, as much as 20 g of PAS per day may be necessary. With isoniazid, the PAS dose depends on the isoniazid dose; for example, it seems suitable to give six to 10 g per day when the daily dose of isoniazid is 300 mg or more. The ideal dosage of isoniazid is the highest tolerated; this for most people lies between five and eight mg/kg per day. While the latter dose approaches the toxic range, it can be given in certain cases over a period of several weeks. Toxicity is manifested by the appearance of peripheral neuritis and encephalopathy, in the form of epileptiform seizures.

For preference, therefore, the dose of isoniazid should be 300-450 mg per day, depending to some extent on the patient's size.

The appearance of drug-resistant tubercle bacilli must be taken into consideration in the treatment of a patient who persistently excretes bacilli in the sputum after three or four months of isoniazid therapy.

At present, no laboratory tests are available, apart from bacteriological examination of the sputum or gastric fluid, that will give the information required for a rational initial choice of, or a change in chemotherapy. If the patient has not yet received treatment there is a very good chance that the bacilli will be susceptible to isoniazid, and after six to nine months' treatment there will be no more danger of resistance to this drug than to others. Resistance may finally appear, however, although its occurrence to a significant degree is less frequent than is generally thought. Hence, if the improvement in the X-rays is not sufficient and if bacteriological tests are positive after five or six months of isoniazid treatment, it is advisable to change the treatment and also to consider collapse therapy or excision. On the other hand, if, after five or six months of isoniazid treatment, the patient shows sufficient X-ray improvement including absence of cavitation, and the bacteriological tests are negative, the clinician may rest assured that isoniazid treatment will almost certainly retain its effectiveness in the future and that significantly resistant strains will not appear.

The "open negative" syndrome poses a special problem in short-term treatment, and from the long-term viewpoint no prognosis can be made.

Epidemiology

The essential point that must be remembered in connection with epidemiology is that isoniazid-resistant bacilli infecting new subjects will probably

cause a tuberculous infection that will itself be isoniazid-resistant. However, we are without reliable information on this point and must fall back on our general knowledge of the epidemiology of tuberculosis. It must be borne in mind that only a small number of those who develop tuberculous infection subsequently develop tuberculous disease.

It may also be taken that, since the introduction of isoniazid, far more people have died because they did not receive the drug than have been seriously affected by isoniazid-resistant tubercle bacilli.

Importance of Collapse Therapy

It is regrettable that pneumothorax has been virtually abandoned, for, since the persistence of cavities promotes bacillary resistance, anything that will help to eliminate them should be undertaken to prevent resistance from developing. For various reasons, it is not always desirable to remove the lesions surgically, and such operations are seldom indicated during the early months of antimicrobial therapy. Hence, it does not seem desirable to abandon the practice of pneumothorax, especially as it would appear that there is no reason nowadays to fear most of the serious complications that used to attend this procedure in the past. It could be carried out, in conjunction with chemotherapy, in many patients with cavities 2-4 cm in diameter and extensive pulmonary infiltration.

In this way, unsuccessful treatment might often be avoided, *e.g.*, in cases in which cavities remain open, giving rise to problems of resistance and therapeutic failure. Pneumothorax would be a highly satisfactory adjunct to chemotherapy in patients difficult to hospitalise or who, when hospitalization is possible cannot undergo operation, for it lends itself well to ambulatory treatment, requires only periodic supervision of the patients and permits reasonable physical activity on their part.

—WHO Chronicle



SMALLPOX ERADICATION PILOT PROJECT IN MADRAS STATE

Dr A.M. Francis
Assistant Director of Public Health Madras

A National Smallpox Eradication Programme was worked out by the Central Expert Committee jointly with the representatives of the State Expert Committee on Smallpox and Cholera. According to their recommendation it is proposed to successfully vaccinate the entire population of India as far as practicable within a period of three years, the first two years being devoted to the preliminary arrangements and the third year to the intensive mass vaccination campaign. For carrying out vaccination of the entire population of the Madras State, tentative proposals with a total outlay of Rs 46.62 lakhs were submitted to the Government of Madras under the Third Five Year Plan.

The Government of Madras sanctioned the establishment of a pilot project for smallpox eradication in Chingleput district which has a population of 20 lakhs. The staff sanctioned for the scheme includes an Assistant Director of Public Health at the headquarters for one year and at the district, one health officer for one year, 14 vaccinators for seven months and 28 health inspectors for six months. The estimated cost of the proposal is Rs 2,75,300.

Training of Vaccinators

To train vaccinators, about 200 candidates were chosen. They were given training on a purely voluntary basis for six weeks and to be appointed vaccinators in the pilot project. They were given regular theoretical instructions and practical field training under the direction and supervision of the Assistant Director of Public Health and the health officer.

Health Education

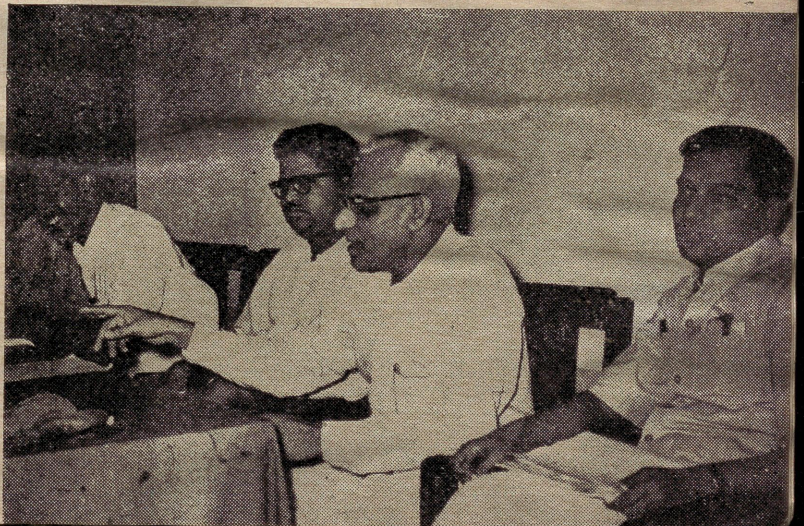
Health education formed an important aspect of the pilot project. The local public health staff

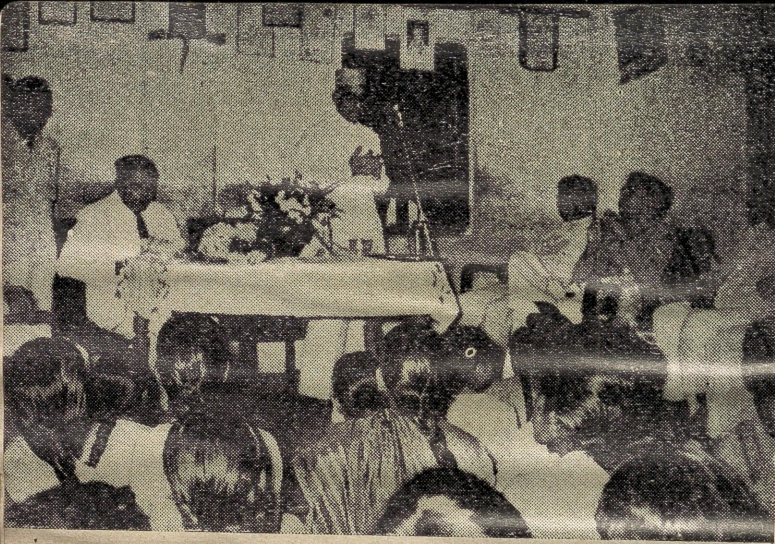
arranged meetings in various towns, panchayats and villages by enlisting the services of local leaders.

Films, leaflets, pamphlets, folders, posters and other media on smallpox and vaccination were distributed to the public at the end of a film show. An audio-visual van went around all the important villages for film shows and short talks on smallpox were delivered.

Health education on smallpox eradication and vaccination was conducted for the entire staff of the 18 community development blocks in the district in 18 different sessions. Each session was attended by the entire block staff and all the public health staff of the locality. Some sessions were also attended by the village leaders. The training session consisted of a panel discussion on smallpox and vaccination followed by questions from the audience and answers by the panel members. The block workers discussed among themselves in groups and finalised the programme as to how they were going to help

Panel discussion during a training session for the C.D. block staff on smallpox eradication





Shri M. A. Manickavelu, Madras Health Minister, who inaugurated the smallpox eradication pilot project

the vaccination staff during the mass vaccination campaign.

Mass Vaccination

The mass vaccination campaign was inaugurated by the State Minister for Public Health on September 1, 1960. The programme of vaccination was for six months ending on 28th February, 1961 and during this period it was planned to vaccinate the entire population of the district. For this purpose, the District was divided into eight zones, each zone representing a taluk of about 2 to 2½ lakh population. Each zone was divided further into two sub-zones. Each sub-zone (of about 1 to 1.5 lakh population) was again divided into four sub-centres. All the villages in each sub-zone were grouped around the four sub-centres, in such a way that these villages were not more than five to six miles from the nearest sub-centre. Each sub-zone was taken up for intensive work in turn. After the work was finished in one sub-zone, the whole staff would move to the next one.

Vaccination programme was planned in advance by each health inspector by contacting the village headmen, block development officers, the Gram-sevaks, school teachers, etc. Posters were displayed and pamphlets, leaflets, folders, etc., distributed to the public.

Vaccination depots were set up in every street at a distance of every 10 houses in each row or at convenient places. Most of the vaccinators had to visit each and every house to carry out the vacci-

nation. A printed chit bearing the name of the head of the family and the number of members in the family, door number, etc., written on it, was issued to every house. As soon as people turned up, they were vaccinated and the date of vaccination entered in the family register kept for the purpose.

A health education van with films on smallpox toured around villages where vaccination was being carried out and cinema shows were arranged in as many villages as possible.

Both the Assistant Director of Public Health and the Special Health Officer in charge of the pilot project camped for four to five days in the week in the area of work and inspected the work of the staff as often as possible independently.

Achievements

Work in the Saidapet taluk of the Chingleput District was started on 5 September, 1960 and had to be stopped on 8 October, 1960 when the staff felt that they could not do any more work in the zone. The taluk recorded a population of 3,01,725 according to the 1951 census and it was 3,27,702 in 1960 as per enumeration in the family register. During the period of work, there were 24 working days out of a total of 34 days. Out of 140 vaccinators appointed, only 135 actually worked during this period. These vaccinators, during a period of 24 working days were able to vaccinate 1,95,833 persons covering 60 per cent. of the taluk's total population. This works out to 60 vaccinations per working day per vaccinator against the target of 100 vaccinations.

Based on the actual performance of the field staff on the above basis, it was feared that with the staff of 140 vaccinators, only about 16 lakhs out of the 20 lakhs of the population in the district could be covered by vaccination during the pilot project period of six months.

An additional population of 51,745 persons had already been vaccinated by the permanent public health staff of the locality from 1 April, 1960 up to the beginning of the mass vaccination programme both as a routine measure and during smallpox

infection in some of the villages. If these figures are also taken into account, it will be found that 76 per cent. of the 1960 population of the taluk have been protected by vaccination. Further, the permanent public health staff of the locality are now receiving vaccine lymph as per their usual routine programme and they are mopping up the unvaccinated cases left out by the pilot project staff. When these figures are also added to the very substantial vaccinations done by the project staff, it can be expected that about 85 per cent. of the actual population of the area would have been protected by vaccination.

The low percentage (60 per cent.) of coverage of vaccination by the special pilot project staff in this particular zone was due to the fact that this zone intimately surrounds the Madras city. There is one big municipality and there are many big panchayats in this zone and many people from these areas go to Madras city for work and were not available for vaccination. This zone also has several large factories and many fishermen colonies where vaccination work was rather poor.

It had been found that the coverage of the population in the mass vaccination in the next zone was over 50 per cent.

Primary Vaccination

One important observation made in this campaign was the very large number of primary vaccinations done by the pilot project staff in spite of the regular and routine primary vaccinations done by the

permanent public health staff. In a population of 3,27,702 about 11,582 primary vaccinations were done by the pilot project staff and 6,460 by the permanent staff. Among the primary vaccinations done by the special staff more than 60-70 per cent. were children above one or two years of age and many were much older. Even children of eight to 10 years of age were not found to have been vaccinated primarily. In all these cases only one insertion was given instead of the usual four insertions as a precaution against possible post-vaccinial encephalitis.

Verification of Results

Both primary and re-vaccinations were verified on the sixth day after vaccination and the results entered in the family register by the health inspector. Consistent with the work of the health inspector, like arranging vaccination work in the villages and supervision of the work of the vaccinators, about 31 per cent. of all primary vaccinations and 28 per cent. of all re-vaccinations were verified by them.

Vaccination Success-rate

In the case of primary vaccinations, the percentage of success in every one of the 28 units had been over 95 and the overall success-rate is 96 per cent. In the case of re-vaccinations, the percentage of success has varied from 25 to 40 in individual units, but the overall success has been 30 per cent. This high percentage of success is due to the use of fresh and potent lymph daily from the refrigerator and good vaccination techniques and proper supervision. (See table on page 172).

HINTS FOR SAFETY FROM HEAT

1. Avoid all unnecessary exertion when weather is hot.
2. Drink plenty of water or fruit juice.
3. Eat plenty of salt (8 to 10 tablets a day) or add it to drinking water (a heaping teaspoonful to 5 quarts of water). This is particularly important if perspiration is heavy. People with heart or kidney disease should consult their physician as to the advisability of taking extra salt.
4. Bathe and change clothes frequently.
5. Wear light-weight loose-fitting clothes, and when out of doors, wear a broad-brimmed hat for protection from the sun.
6. Industries which generate heat through their manufacturing processes should consider installing air-conditioning or other suitable cooling measures.

—*California's Health*, Vol. 19, No. 2, July 15, 1961.

Report of Vaccination in Saidapet Taluk

Vaccinations by Project staff	Verifications			Vaccinations by permanent staff	Total of vaccinations	Grand Total
	Primary Vaccination	Re-vaccination				
1951 population						
1960 population						
Primary vaccinations						
Re-vaccinations						
Total						
Percentage of population (1960) covered by vaccination						
No. verified	4,517					
No. successful	4,317					
Percentage of success	95.6					
No. verified	51,637					
No. successful	15,495					
Percentage of success	30					
Primary vaccinations	6,460					
Re-vaccinations	45,285					
Total	51,745					
Primary vaccinations	18,042					
Re-vaccinations	2,29,536					
Total	2,47,578					
Percentage of population (1960) covered by all vaccinations	75.5					
Percentage of primary vaccinations verified	30.9					
Percentage of re-vaccinations verified	28					

Pilot Project Vaccination Staff

Health inspectors 28
 Vaccinators 135
 Working days 24

Period of work is from 5 September, 1960 to 8 October, 1960. (The figures of vaccination done by the permanent public health staff pertain to the period, 1 April, 1960 to 31 August, 1960).

C.H.E.B. BUILDING INAUGURATED

THE Central Health Education Bureau has moved to its new building on Kotla Road in New Delhi. The two-storeyed building was formally inaugurated by the Union Finance Minister, Shri Morarji Desai, on 5th May 1961. Shri D.P. Karmarkar, Union Health Minister, presided over the function.

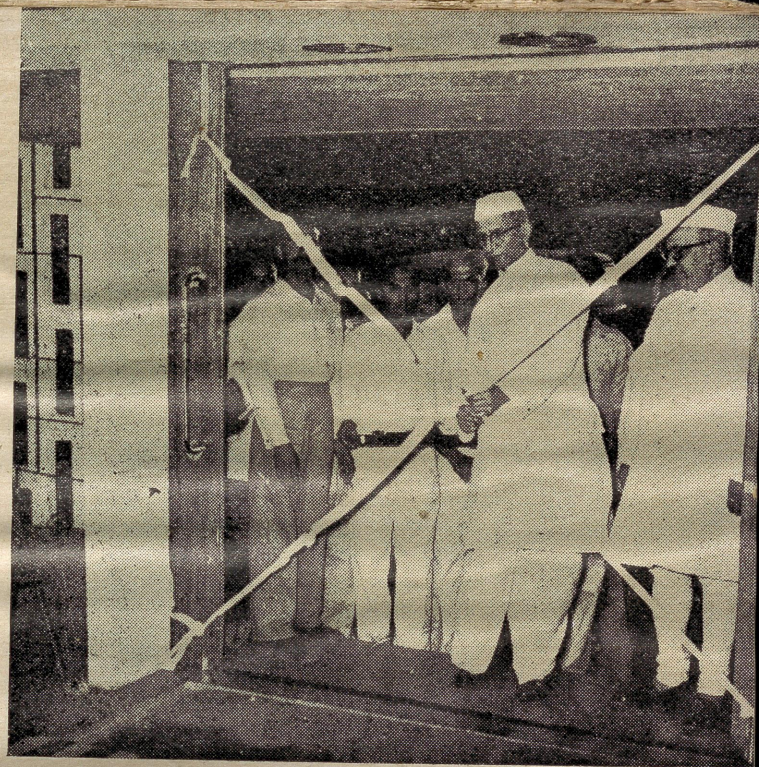
The Finance Minister, in his inaugural speech, outlined the paramount importance of health education for improving the health standards of the people. He said that health education bureaux were far more important than even hospitals. However, he added, it did not mean that hospitals were less necessary in the society where its members had not yet learnt how to attach importance to health and its maintenance in a simple manner.

In health education work, he called for simplicity so that the benefits could be reaped by the maximum number of people. There was a great need for publishing health education material in regional languages and not in English alone since only two per cent. of our people knew that language, he said.

Health for National Development

Emphasising the importance of health for the development of the nation, Shri Desai said: "One should attach the greatest importance to one's health and, therefore, all questions regarding health and all measures for preserving health are very important in all that we do in the development of this country. After all, whatever may be the material wealth and welfare created, if the people who have to enjoy the fruits of these are not in a fit condition to enjoy them, then whatever we give them will not bring in any happiness. On the contrary, it will create a greater disappointment that they are unable to take advantage of them. It is, therefore, very vital to my mind that we should do all that we can to maintain the health of the people."

July 1961



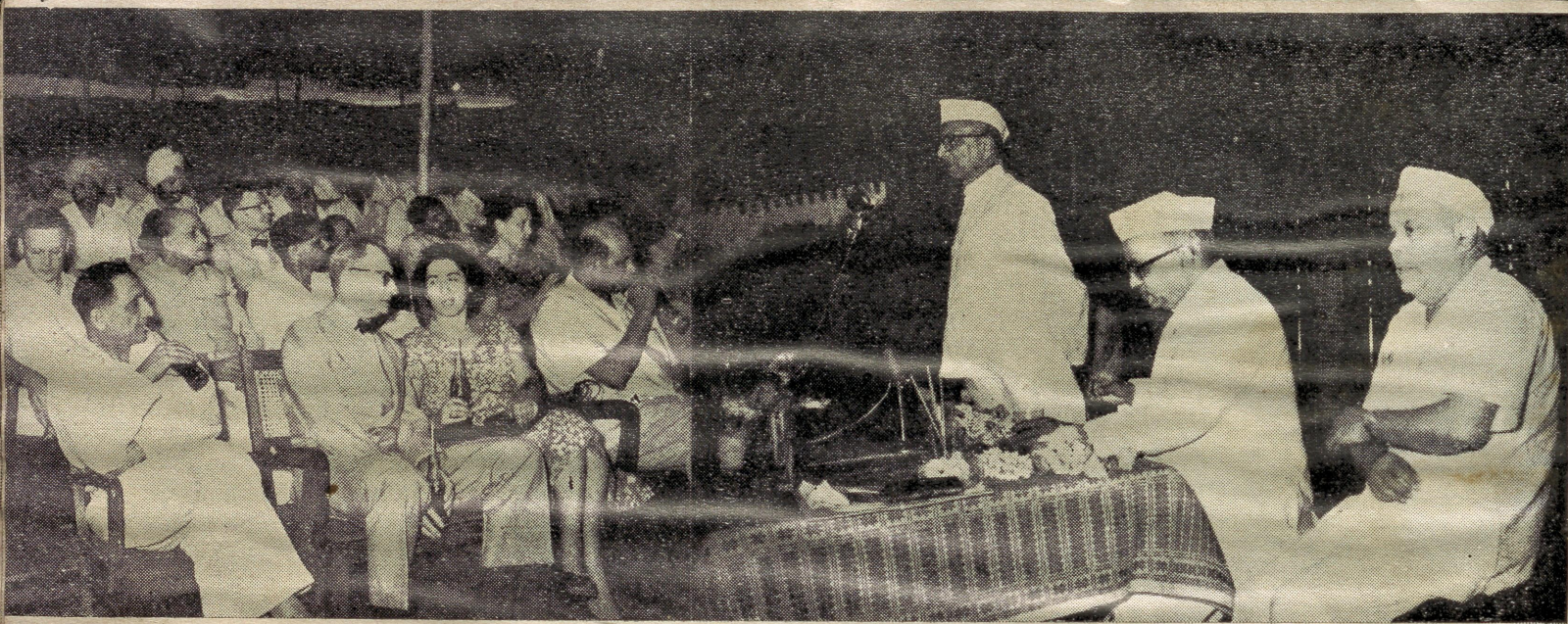
Shri Morarji Desai, Union Finance Minister, declares the CHEB building open

He was of the opinion that unless the people took interest in their own health, despite the efforts of the Government and the doctors, health could not be given to them by anyone else. It was in this context that health education bureaux were far more important than even hospitals.

Stating that there were various means of improving and maintaining health, the Finance Minister said that fanaticism in matters of health must be removed by the efforts of the Bureau so that anyone who has faith in a particular system of medicine should be enabled to use that system well with the result that everyone could take advantage of the means available to him in the proper manner possible.

He regretted that people cared for many things in life and devoted a lot of time to several things but hardly ten minutes to matters of health. That was the reason why, he felt, that people made mistakes about maintaining good health.

Health, he said, was not health of the body alone but that of the mind as well. He suggested that health education measures should not be confined merely to the improvement of the physical body but



The Finance Minister addresses the gathering. Shri Karmarkar, Health Minister, and Lt.-Col. V. Srinivasan, Director-General of Health Services, are also seen in the picture

also to that of the mind. He asked the Bureau to keep this factor in mind. That, he added, would help in providing far greater service to the people.

Functions of the Bureau

Earlier, Lt.-Col. V. Srinivasan, Director-General of Health Services, in his welcome address, traced the growth of the Bureau. He said that in starting the Bureau one important objective was kept clearly in view and that was that if public health was to be improved in the country, training in health education should be given to those who are responsible for the administration of public health, both in the Centre and in the States. Health education of the public, like any other education, required a certain amount of study of principles, methods and techniques and that all health workers were not in a position to undertake this task without such training. The Bureau's activities as listed by him were : undertaking the training of key health and community welfare workers in health education; evolving effective methodology and tools of training; guiding, conducting and coordinating research in health behaviour, health education process and aids. It also prepares and distributes 'type' health education material to the States and other agencies.

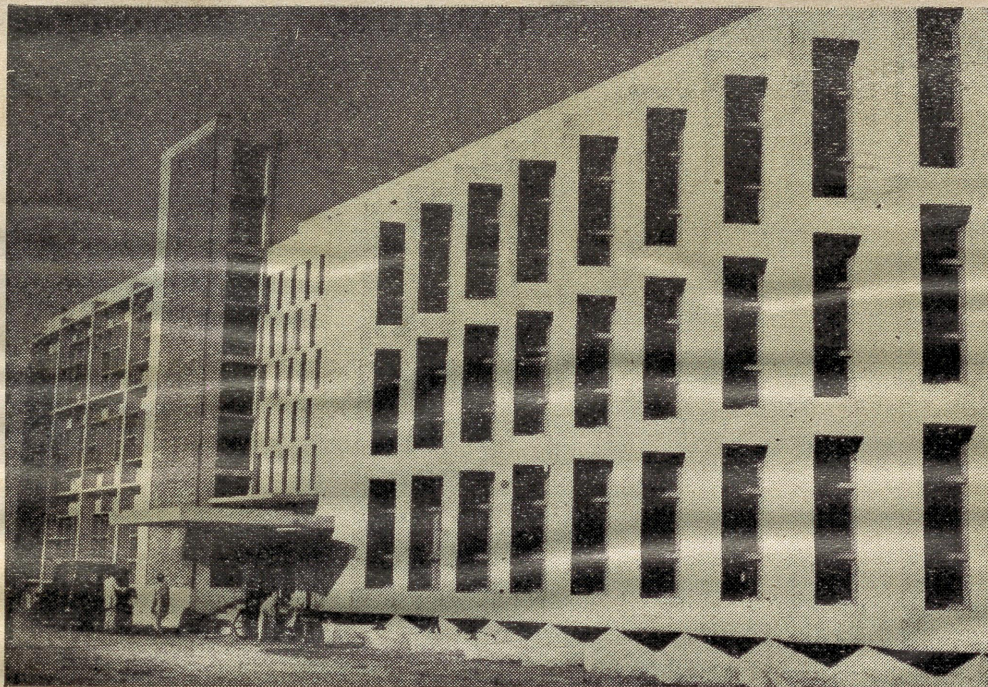
The Director-General said that it was only recently, with the advances in social sciences, that the important aspects of health education like group dynamics, human relationship, community organisa-

tion, leadership detection and training, and utilisation of local cultural patterns and value systems, are being made use of in health education work. In fact, only after the advent of independence and the initiation of community development projects and national extension blocks all over the country, that attempts were made by the development departments to take note of these socio-psychological factors and apply them effectively for promoting several social welfare programmes. It was one of the main functions of the Bureau to institute studies and research work in this field in different parts of the country with a view to find ways and means for conducting public health programmes tailored to the local resources and needs, he added.

Preventive Measures Emphasized

Shri Karmarkar, welcoming the Finance Minister, emphasized the need for preventive measures for achieving good health. He said that in the modern era of wonder drugs people did not worry about falling ill and so did not care to take preventive measures. The people had taken their faith away from natural methods, he said.

Speaking of the role of the Central Health Education Bureau, he said that hospitals were much more in the popular eye than health education bureaux. This was because people, when falling ill, thought of the hospital rather than the health education bureaux.



The new building of the Central Health Education Bureau, New Delhi.

Dealing with the health education material published by the Bureau, he referred to *Swasth Hind* and said that a good effort at health education was evident from its pages. He mentioned some special numbers of the journal, like the Leprosy Number, the Family Planning Numbers and the Children's Day Numbers in this connection. He made a special reference to the Souvenir issue of the journal brought out by the Bureau on the occasion of the XIV World Health Assembly held in New Delhi in February last. He was glad and proud that the Souvenir was well-appreciated. He also referred to the other publications like posters, pamphlets, etc. He was emphatic that for the popular appeal of the health education material they had to be made available in the regional languages. "It has been an effort of the Central

Health Education Bureau that whatever is produced in English should also appear in the national language—Hindi", he said, adding that the States took care of their translation into the regional languages.

Lt-Col. M. S. Chadha, Deputy Director-General of Health Services, who proposed a vote of thanks, briefly traced the growth of the Bureau and said that health education bureaux were being established in the various States. He thanked the international organizations like the World Health Organization, USTCM, UNICEF and the Ford Foundation for their help to the Bureau by way of finance, equipment and deputing specialists. He hoped that health education would continue to make headway in India.

INTERNATIONAL SEMINAR ON ARTERIOSCLEROSIS

Bombay will be the venue for a three-day International Seminar on Arteriosclerosis beginning on 3 February, 1962, according to the Joint Organizing Secretary of the Seminar. There will be special sessions on: cardiovascular arteriosclerosis; neurological arteriosclerosis; peripheral vascular arteriosclerosis; and experimental arteriosclerosis.

There will also be a panel discussion on arteriosclerosis, which will specially interest general physicians.

The last date for registration of delegates and sending in of summaries of papers to be selected for reading at the Seminar is 1 December, 1961. For further particulars contact:

Joint Organizing Secretaries, International Seminar on Arteriosclerosis, K.E.M. Hospital, Bombay-12.

TRANSCONTINENTAL TELEPHONE TALK ON T.B.

A transcontinental telephone discussion on tuberculosis between specialists in U.K. and Bombay took place in Bombay on 23 April, 1961. This was the first of its kind to have taken place on the Asian Continent. Such transcontinental telephone discussions on medical subjects have taken place so far only between London and New York and between Scotland and Texas.

Maharashtra's Chief Minister, Shri Y.B. Chavan, inaugurated the discussion at the Bombay end, while Smt. Vijayalakshmi Pandit, Indian High Commissioner in U.K., inaugurated it at the London end.

The discussion covered both the preventive and curative aspects of the disease and touched on the BCG campaign ; the different types of tuberculosis, namely, the common one of the lungs and others of the bones ; different kinds of treatment in matters of hospitalisation, inclusive of surgical cases, facilities for stay in sanatoria, the importance of mass X-ray clinics, domiciliary treatment, the need for rehabilitation measures ; training health visitors in TB work, and the role of TB Associations and other voluntary organizations.

Maharashtra's team for the discussion included : Dr B.B. Yodh, (leader), Dr M.D. Deshmukh, Dr B.R. Billimoria, Dr George Coelho and Dr V.D. Aurora. The discussion was heard by a large gathering which included specialists.

Shri Y.B. Chavan, in his inaugural speech, described tuberculosis in this part of the world not only as a medical problem, but a socio-economic one, connected as it was with the conditions of living, food and so on. However, a great deal of consciousness for battling against this disease in spite of its large morbidity, had resulted atleast in

the rate of mortality falling in recent years. The growth of medical science and the wonders of antibiotics had no doubt reduced in recent years the great risk and sufferings which this disease involved. A great advantage of this modern advance in medical science in India had been taken and as a result, a large number of institutions for the control of tuberculosis had been set up.

However, in India, like in any other country where the incidence was high, hospitalisation could not be the ultimate solution to the problem. That was why domiciliary treatment was being given a wide encouragement. A stage had not yet been reached yet to claim an appreciable progress in that direction, but, at the same time, there was no doubt that a firm beginning had been made in various parts of Maharashtra as well as in other States of the country. With public participation from voluntary organisations, conscious of assisting Government in its programme and campaign against this disease, the response had been growing and the promise of the future was more encouraging than it was ever before, the Chief Minister said.

He hoped that as a result of the telephone discussion on such an important medical topic (tuberculosis), its success would lead to a succession of such deliberations in the future on various other subjects like control of leprosy, of cancer, and a few other such diseases which needed concentration and would meet with the same results as in the control of malaria or of plague or of cholera, etc.

Addressing the audience on the occasion, Shri Homi J. H. Taleyarkhan, the State Minister for Health, Savings and Tourism, said : "This is the first time in the history of the world that a panel discussion of this nature is taking place. There have been transcontinental programmes before on the

investigations of particular case, but never of a general nature like this one. Moreover, this is the first time that an audience like the hundreds we see in front of us, has been invited to hear it”.

He expressed his sincere appreciation for the arrangements made by Messrs Smith, Kline & French (India) Ltd., for the discussion.

Speaking of the tuberculosis problem, he said that best efforts were being made to combat this disease in India. It was not a very easy job and it required to be attacked on all fronts—on the preventive side through an intensive programme of BCG vaccination and on the curative side, by means of modern drugs, injections and surgery. It was also an uphill task when the challenge of malaria was undertaken some years ago and by today it had been nearly-eradicated from the country.

In the case of tuberculosis, it was a leading cause of death once even in the United States, but the death-rate had dropped 90 per cent. in 40 years. Even so, an estimated 400,000 active cases still exist-

ed in that country. In the United Kingdom, mass miniature radiography was extensively used for the purpose of early diagnosis of the disease and nearly a hundred units in England, Wales and Scotland examined about four million persons a year, particularly in affected areas. Other countries where T.B. control had made rapid progress in recent years, Shri Taleyarkhan said, were Puerto Rico, Chile, Japan, Singapore, Ireland and Finland.

The Minister said that mass chest X-ray in his State had started and in the country as well, but far more of it was required. He said that considerable headway was being made and already it was noticed that the death-rate from tuberculosis had gone down. Within the last decade, the number of institutions had increased by over 80 ; the beds for TB patients by over 16,000 ; the clinics by over 125 and a number of mobile mass X-ray units, while the introduction of 170 BCG mass vaccination teams since 1957 were doing vigorous work in both urban and rural areas. Over 150 million people had been tuberculin-tested and over 60 million vaccinated up-to-date.

FLORENCE NIGHTINGALE MEDAL FOR MISS KORAH

Miss Mariam Korah, Superintendent of the Lady Reading Health School, Delhi, has been awarded the Florence Nightingale Medal for 1960-61 by the International Committee of the Red Cross. The

Miss M. Korah



award comes to her as a recognition of many years of devoted service in the field.

Miss Korah is a graduate of the Christian Rainy Hospital, Madras. She holds the Diploma in Public Health of the School of Nursing, Toronto, Canada.

To mention only

a few of her accomplishments, she is a member of various Committees of the Trained Nurses' Associations of India, a member of the Nursing Service Committee of the International Council of Nurses; a member of the Health Committee of the Association for Moral and Social Hygiene in India and the District Superintendent (Nursing), St. John Ambulance Association of India.

She did pioneering work among women and children under the rural development scheme sponsored by the Rockefeller Foundation in Trivellore, South India, from 1932-1934. Between 1935-38, she was a lady magistrate at Kumbakonam in Madras State. She was the Honorary Secretary of the National Florence Nightingale Committee for India from 1947 to 1951. She served the Trained Nurses' Association of India as the President of its Delhi Branch in 1950-51. She has been guiding the Lady Reading Health School as its Superintendent since 1942.

GANDHI MEMORIAL LEPROSY FOUNDATION

AN APPRECIATION

Dr J. Gay Prieto, Chief, Leprosy Communicable Diseases, World Health Organization, Geneva, was in India for the 10-day meeting on Rehabilitation in Leprosy in November 1960, held at Vellore in Madras State. The meeting was sponsored by the WHO, Leonard Wood Memorial and the International Society for Rehabilitation of the Disabled. Dr Prieto visited the leprosy centres of the Gandhi Memorial Leprosy Foundation at Mararikulam and Wardha. In his report to the WHO on his Indian visit, he appreciated the work of the Foundation. Extracts from his report are reproduced below.

“AFTER the meeting, I went with Dr Wardekar to visit the Mararikulam pilot project. The school for para-medical workers is located in this area. I had the occasion to visit this school in which the first batch of para-medical workers was in their third month of training. I was surprised at the excellent knowledge gained by these young people. Certainly, the intelligence, devotion and potentialities of these para-medical workers in India are better than those in African countries, and I think that the Indian leprosy mass campaign will, in forthcoming years, prove to be one of the most important leprosy campaigns in the world.

“... The (Gandhi Memorial Leprosy) Foundation has established a research unit each in eight States of India, in order to assess the true prevalence of leprosy in the area covered by the unit, to demonstrate the house-to-house case-finding and treatment programme which can be undertaken by para-medical workers under medical supervision, and for epidemiological investigations. The total number of

detected cases in eight units was 4,720. Graphs show that in annual re-surveys of the whole population the number of infectious cases detected was reduced, because most of the lepromatous cases were detected in the first survey and in the subsequent surveys the majority of the indeterminate cases were prevented from evolving towards lepromatous type by early treatment. Many cases have now become bacteriologically negative. There is evidence that early detection and treatment can prevent deformities; out of the treated cases without deformities, only one per cent. eventually developed deformities.

“I believe that the work carried out by the Gandhi Memorial Leprosy Foundation during past six years has been a very important argument in convincing the Indian Government of the need to implement a leprosy mass campaign based on ambulatory treatment using para-medical workers as established in the plan of operation for the WHO- and UNICEF-assisted campaign.”



DANGER OF FOOD ADDITIVES

A number of natural and synthetic compounds used to preserve foods can be dangerous in the long run when taken in large quantities. They include such ordinary substances as citric and ascorbic acids, that have the added properties of improving flavour and food value of fruit juices.

The task of determining the amount of certain of these compounds that can be consumed daily without harmful effects has recently been completed by a Joint FAO/WHO Expert Committee on Food Additives, a highly technical study undertaken for the first time on an international basis.

Earlier meetings of this Joint Committee, concerned with more general aspects of the problem, had stressed the need for an evaluation of the toxicological risks in the use of food additives. They recommended that a beginning be made on the biological properties of a number of substances used as anti-microbials and anti-oxidants—chosen because they are widely used to prevent wastage, especially in tropical countries where heat destroys the keeping qualities of many foods.

This meeting of the Committee prepared a monograph on each of the 35 anti-microbials and anti-oxidants under review, based on the information available from every possible source. These probably will be published in the WHO Technical Report Series and should prove to be especially useful in the developing countries to help officials

and technicians who are framing and applying laws and regulations for the protection of the public.

These monographs are, however, intended for guidance only. Throughout the eight days of the discussions, it was constantly stated that each country ultimately would have to find its own solution to the problem of any particular food additive because conditions of life, food habits and dietary patterns vary so greatly.

But about baby foods, the Committee believed that they should be prepared without food additives at all, if possible. The mature person is usually equipped with detoxicating mechanisms that are not yet fully developed in a baby, with the result that the risk of poisoning through the indiscriminate use of food preservatives is much greater.

The Committee also noted the serious lack of trained pathologists and toxicologists capable of carrying out the necessary investigations to ensure progress in this field, and recommended that FAO and WHO encourage the establishment of more adequate training facilities.

It also felt that work should continue in evaluating the risks involved in the use of emulsifiers, stabilizers and similar substances added to many foods and should be extended to include antibiotics, food colours, etc.

—WHO Press Release

HOOKWORM AND SHOES

“Insistence upon wearing shoes as a protective measure against hookworm infection is unrealistic. Shoes of such quality as would provide protection are beyond the means of those who need them for that purpose. There is essentially no hookworm transmission except in wet situations and expensive shoes are almost certain to be removed to avoid damage to the shoes and the discomfort of wet feet in them. The barefoot habit has such firm practical basis and is so strongly preferred in all situations which favour hookworm transmission that it is unrealistic and to some extent cruel (to children at least) to urge the purchase and habitual use of shoes.”

—From Beaver, P.C. (1961) *Control of soil-transmitted helminths*, WHO, Geneva, (*Public Health Papers*, No 10)

BOOK REVIEWS

INTERNATIONAL JOURNAL OF HEALTH EDUCATION

Published by International Union for Health Education, Geneva; Quarterly; Annual Subscription: \$ 3, £ 1 or equivalent in national currency.

The International Union for Health Education is bringing out a journal entitled "International Journal of Health Education" from 1958. This quarterly is issued in January, April, July and October of every year.

The journal has the laudable aim of being an international forum for the exchange of experience, ideas and professional material which can contribute to the development and promotion of health education throughout the world. It also seeks to be a close link between health educators of all countries and other persons interested in health education bringing them news on the progress of health education work around the world and practical information which they can utilise in their own activities.

The journal records what is being achieved; discusses the best methods of health education; indicates current international health problems and portrays latest developments in training methodology and research findings in educational techniques all over the world.

The journal seeks to serve the needs of all those who are interested or involved in the endeavour to reduce and prevent diseases and to promote positive health by helping the public to acquire and apply health knowledge.

The journal, published in English and French, carries articles in simple, lively and direct style. The journal maintains an international character by carrying in each issue articles from the different regions of the globe. It contains a fund of information about practical health education problems and

their solutions. The journal should be in the hands of all health and social welfare workers who are concerned with the promotion and maintenance of public health.

Subscriptions can be sent to: The International Journal of Health Education, 3, Rue Viollier, Geneva, (Switzerland).

Annual subscription rates:

\$ 3, £1 or the equivalent in national currency

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CHILDCARE IN INDIA AND NEIGHBOURING COUNTRIES

by Dr S.T. Achar, Director and Professor of Pediatrics, Institute of Pediatrics, Madras Medical College. (Macmillan & Co. 1959, pp. 164, Price: Rs. 3.00).

The book under review is an excellent guide to infant and childcare specially written for mothers and those interested in the welfare of children everywhere. Dr Achar writes with experience and expert knowledge in the field he has chosen to make his own. His valuable work in mother and child health centres in Madras and his constant touch with the everyday problems of mothers of all classes make his findings authoritative.

Although we are flooded with books on this subject from Western countries, they cannot be very helpful and can have but limited value for the average Indian mothers because the conditions obtaining in the West differ widely from those in our country. Viewed from this angle, Dr Achar's book fulfils a real need.

How to ensure successful breast-feeding for the small infant; under what circumstances should supplements to breast-feeding be started; when to suspect whooping cough or diphtheria, and what the parent should do to prevent his child getting them; how to deal with problems of bed-wetting,

temper tantrums, excessive shyness, etc., in the child; how to prevent accidents to children at home or outside—these and many other similar problems are discussed here and their solutions given.

The book is written in simple language and carries an appreciative foreword by Mrs Indira Gandhi. We recommend this publication to all those who have the interest of the child at heart.

★ ★ ★

NOTES ON LEPROSY

by Dr Dharmenda, Director, Central Leprosy Teaching and Research Institute, Chingleput, Madras, pp. 203, illustrated. Published by the Directorate General of Health Services, Ministry of Health, Government of India, 1960. Price : Rs. 8.00. Copies from author.

This book fulfils a long-felt need by medical men engaged in leprosy work to whom it is especially written by the author. It is intended to help them both in the course of their training and later during their work in the field. It is in the form of notes based on the material that the author had been using for teaching the D.T.M. and L.T.M. classes of the School of Tropical Medicine at Calcutta and the special training course in leprosy held at that school.

The publication has been well-received and highly spoken of by leprologists. Its value is enhanced by the inclusion of many illustrations. The printing and get-up are good. The book will also be of interest to the medical profession in general.

ANTI-LEPROSY DAY

Reports of wide celebrations of the Anti-Leprosy Day on 30 January last have been received from Andhra Pradesh, Gujarat, Maharashtra, Mysore, Orissa, Punjab, Uttar Pradesh, West Bengal, Himachal Pradesh, Pondicherry, Laccadive, Minicoy and Aminidivi Islands and Tripura. (Celebrations in other States were briefly reported in *Swasth Hind*, April, 1961, Vol. V, No. 4). Public meetings, distribution of pamphlets, leaflets, etc., on leprosy, exhibition of posters, group discussions, *prabhat pheries* and filmshows were the highlights of the observance. The need for public cooperation with the Government in eradicating the disease was stressed. Radio talks on leprosy was the additional feature in Andhra Pradesh and Maharashtra, while procession of school children carrying anti-leprosy placards in Orissa was the notable activity. Milk, clothes and fruits were distributed among leprosy patients in Punjab and Andhra Pradesh.

ANNUAL GENERAL MEETING OF HIND KUSHT NIVARAN SANGH

THE President, Dr Rajendra Prasad, paid tributes to leprosy workers in the different parts of the world for "this mission of mercy, stretching out the hand of fellowship to sufferers irrespective of country, race or creed." The President, who was addressing the Annual General Meeting of the Hind Kusht Nivaran Sangh on 15 April, 1961 at New Delhi, said that national and international endeavours in the leprosy field were inspired by a growing awareness of the tremendous possibilities of bringing a new life of health and happiness to millions of patients and of conquering "at no distant date" one of the oldest and most sorrowful of man's afflictions.

Role of Voluntary Bodies

Dr Prasad noted with gratification that there was increasing collaboration between Government and voluntary agencies in this field. He said that the State was coming to do increasingly what was formerly attempted either by charitable-minded individuals or institutions. The number and size of India's health and social problems were such that private philanthropy alone could not cope with them, though the need for voluntary effort would always be there. In fact, the need was all the greater in order that a vivid awareness of social need might be kept continually alive in Government as well as among the people. He appealed to philanthropists and citizens in general, to foster the growth of voluntary work in this field.

He complimented Rajkumari Amrit Kaur on her receiving the Rene Sand Memorial Award this year at the International Conference in Social Work in Rome for her outstanding work in the fields of public health and social service.

The Sangh's Activities

Presenting the Report of the Sangh for 1960, Rajkumari Amrit Kaur, its Chairman, gave a bird's

eye view of the leprosy work all over the world. She paid tributes to the work in this field of the World Health Organization; the UNICEF; the American Leprosy Foundation (the Leonard Wood Memorial); the Mission to Lepers, London; the American Leprosy Mission; the British Leprosy Relief Association; the Order of Charity, Paris; the Belgian Leprosy Foundation; the German Leprosy Foundation; the Ryder-Cheshire Foundation; the Government of India; the Mission to Lepers; the Gandhi Memorial Leprosy Foundation and others.

The Report, which dealt with the various aspects of the leprosy problem in India and abroad, mentioned two events of deep significance during 1960. One was the International Society for Rehabilitation of Disabled, which held its Eighth Congress at New York in August-September. The theme of the Congress was "Rehabilitation and world peace". The Congress dealt with rehabilitation in leprosy and among the participants was Dr Paul Brand. It was at this Congress that Dr Brand had the high honour of receiving the Albert Lasker Award for "outstanding achievement in the development of services for the physically disabled." The citation had described the physician as a "major originator, leading researcher and teacher of reconstructive hand surgery for victims of leprosy."

The second was the Scientific Meeting on Rehabilitation in Leprosy, organized by the WHO, the Leonard Wood Memorial and the International Society for Rehabilitation of the Disabled, which met in Vellore and Karigiri in November 1960. The meeting was attended by top-ranking medical scientists and orthopaedic and plastic surgeons from a number of countries including India, Japan, Mexico, Phillipines, U.K. and U.S.A. The programme

included "the examination of patients, demonstration of surgical and physical techniques for the prevention and correction of deformity and vocational rehabilitation." According to the Report, the scientists agreed that deformities in leprosy were to a large extent preventable and that, where they had already occurred, much could be achieved by corrective surgical treatment. They also urged, the Report said, that rehabilitation agencies in various fields should include leprosy in their programme since the experience of those agencies in combating prejudice concerning physical disability and in mobilizing professional and public understanding could be a great asset in developing the leprosy programme.

Rajkumari Amrit Kaur said that the Congress in New York and the Scientific Meeting at Vellore had both underlined the need to bring leprosy into the realm of modern medicine and to accept and treat leprosy patients like any other with a chronic but curable disease.

Referring to the Government of India's "steady progress" in leprosy control scheme, she said that a total of 118 leprosy control centres had been established in the various States of India, which included 33 control centres established during the First Plan and 85 subsidiary centres in the Second. These centres had covered a population of 128 lakhs and had registered for treatment approximately 1,59,000 leprosy cases of which approximately 93,000 had come under more or less regular treatment. Training courses for medical officers in charge of these centres were being run at the Medical College and Hospital, Nagpur and the Gandhi Memorial Leprosy Foundation Unit, Chilakalapalli. Grants-in-aid amounting to Rs 8,20,775 were made available by the Government of India during 1959-60 to various voluntary institutions engaged in anti-leprosy work. The activities of the Central Leprosy Teaching and Research Institute at Chingleput included treatment of in-patients and out-patients, research, teaching and welfare-cum-occupational activities for the in-patients.

Mission to Lepers

The Mission to Lepers, whose largest field of service was India, was owning or aiding over 50 centres in India, she said. Some 70,000 patients were treated each year in these centres. The total cost

of maintaining the work annually was approximately Rs 34 lakhs. About 25 per cent. of this money was received from Government grants. The Mission was also very actively engaged in out-patient work in rural areas. They had pioneered in reconstructive surgery at Karigiri and Vellore. The most noteworthy feature of the Mission's work was that it paid equal attention to the human as to the scientific aspects of the disease. Prevention of deformity, rehabilitation of healed leprosy patients, care of the healthy children of leprosy patients and hospitalisation of the acutely sick were finding their place side by side with early diagnosis, early treatment, reconstructive surgery and research, she said.

Research in Leprosy

The distressing fact, she continued, remained that though leprosy was one of the oldest of man's diseases, still offered many unsolved problems to medical research.

She was glad that the Indian Council of Medical Research had decided to take stock of the situation and to prepare a list of all unsolved problems, with a view to determine possible lines of investigation. She was happy that the research worker in leprosy was no longer the solo investigator that he was in the past, but that he was one of a team drawn from various fields of medical research. This coordinated approach had widened the horizon of leprosy research and the exploring thrust of science would sooner or later penetrate into the mystery of the *mycobacterium leprae*.

She referred to the various investigations in Calcutta, Bombay, Vellore, Chingleput and other places which covered a broad front and sought investigation into the nature of leprosy, its chemical constitution and biology, its effect on the human tissues, the factors involved in the transmission of the disease, clinical trials with anti-leprosy drugs and prevention and correction of deformities.

Dealing with the Hind Kusht Nivaran Sangh's activities during the year, she said that Shri Jagadisan, the Sangh's Organizing Secretary, who toured extensively in Bihar, Orissa, Andhra Pradesh and Mysore during the year had reported that many voluntary institutions were not only willing but eager to cooperate with government in their plans of

leprosy control. She also referred to the Sangh's Health Education Officer, Dr Sen's proposals for educating the public into active participation in leprosy control activities and also for awakening the medical profession to the challenge of leprosy work and also to his intensive study of the practical application of some of the modern aids of health education in obtaining better participation of the patients and the people for leprosy control.

She congratulated the Government of Madras on their "wise" policy in preserving the voluntary character of the Leprosy Centre at Polambakkam which they had taken over from the Belgian Leprosy Foundation at the end of their five years' meritorious service and for which they had assumed full financial responsibilities. In the administration of the Wallajah Leprosy Control Scheme which was run in association with the Scudder Memorial Hospital, Ranipet, the Madras Government had displayed a similar concern to preserve the voluntary spirit of the work even while making a cent. per cent. grant for the scheme.

The Report further said that the Sangh was deeply interested in the prevention of deformities and was privileged to associate itself with Dr Paul Brand, a pioneer in orthopaedic work for leprosy. It had contributed to the welfare of healed leprosy patients who seek physiotherapeutic and surgical treatment at the Christian Medical College and Hospital, Vellore, by buying a house in the vicinity of the Hospital, for their temporary stay during the period of pre-operative and post-operative treatment. In 1960, 192 patients had passed through this house, out of which 159 were treated for hand deformities, 28 for ulcers and five for correction of nasal deformity.

Training Courses

The Sangh had so far conducted five training courses for physiotherapy auxiliaries, three at the Christian Medical College and Hospital, Vellore, one at the Gandhi Memorial Leprosy Foundation Unit, Chilakapalli and one at the Kondhwa Leprosy Hospital, Poona. By the end of 1960, two more courses were in progress one at Vellore and the other at Purulia. When these courses finished, the number of those trained at the seven courses would be 55. She announced that the Sangh was trying to induce

various institutions to send their medical officers for a short refresher course in leprosy to be started at the Christian Medical College and Hospital, Vellore so that they might be in a position to help and supervise the work of the physiotherapy auxiliaries.

Concluding, she expressed great satisfaction that both WHO and UNICEF had come forward to render assistance to the Government of India in its leprosy control programme.

HEALTH MINISTER'S ADDRESS

Shri D.P. Karmarkar, Union Minister for Health, who participated in the meeting, remarked that the Leprosy Control Scheme inaugurated by Rajkumari Amrit Kaur, when she was the Health Minister, had come up very well. More and more medical workers were coming forward and State Governments were more alive to the problem. A little over 100 centres had been started in the country and more than a crore of population surveyed. He agreed that there were limitations of non-official organizations especially in regard to finances and consequently a welfare state had to bear the brunt of the financial requirements of the various health programmes. The Government of India had allotted sizeable amounts for helping voluntary agencies doing health work and he had no doubt that in leprosy work much could be done through the voluntary agencies many of whom were doing devoted work. He mentioned that the Leprosy Advisory Board of the Government of India was composed of non-officials. He appreciated the work of the Hind Kusht Nivaran Sangh and suggested that the Sangh should form branches in all districts so that the work done by Government might receive inspiration from the non-official organizations. He assured Government of India's full support for the work of such district branches.

Dr C.G. Pandit, Director, Indian Council of Medical Research, stated that the question of BCG and leprosy had been under consideration for a long time and had been discussed at a number of International Conferences but as yet there had not been any positive proof of the efficacy of BCG in the control of leprosy. The Indian Council of Medical Research had, however, now submitted a scheme for an intensive investigation into this problem.



News from States

KERALA

Yogic Method of Treatment

SHRI V.K. Velappan, Minister for Health, Kerala, said in Quilon on 28 May last that the State Government had approved the Yogic system as a method of treatment in Ayurveda (the *Swasthavritam*). The State Government was seriously considering the feasibility of promoting and supporting the Yogic system of treatment, he added. Shri Velappan, who was inaugurating the Second Anniversary of the Yogasana Centre, Quilon, said that for the treatment of tuberculosis and certain other diseases, a Yogic treatment centre would be started. He hoped that experts would come forward with suggestions for successfully carrying out such treatment. Stray cases of treatment by Yoga brought to his notice had convinced him about its efficacy in treatment, Shri Velappan said.

The President of the Kerala Physical Culture Association, Shri Subramonia Aiyar, who presided over the Conference, said that he had found Yogic treatment effective in curing some diseases.

MADRAS

M.Sc. Course in Nutrition

PROFESSOR Humayun Kabir, Union Minister for Scientific Research and Cultural Affairs, inaugurated the M.Sc. degree course in Food and Nutrition in the Shri Avinashalingam Home Science College in Coimbatore on 29 July, 1961. He said

that a good teacher is a backbone of education and he should be dedicated to work and be an integrated personality radiating goodwill. A teacher should be a source of dissemination of knowledge, he added.

Shrimati Rajammal P. Devadoss, Principal of the College, said six students had been admitted into this new course. She traced the growth of the Institution since its inception four years ago. The college, which started with 45 students in 1957, enrolled 450 students this year in the B.Sc. (Home science), M.Sc. (Home management) and M.Sc. (Food and nutrition) courses.

CARE Aid to School Mid-day Meal Scheme

A four-commodity feeding programme for elementary school children in Madras State sponsored by Co-operative for American Relief Everywhere will be introduced during the coming academic year to supplement the Mid-day Meal Scheme of the State Government.

Under the Programme, CARE has offered 31 million pounds of food commodities. This comprises rice, milk powder, enriched cornmeal and vegetable cooking oil.

Shri C. Subramaniam, State Minister for Education, announced this programme on June 8, 1961 at Madras Secretariat. He said that the scheme had got the concurrence of the Government of India. The idea originated at the School Improvement Conference held last year in Vellore, which was

opened by the President, Dr Rajendra Prasad, and the American Ambassador to India was one of those who attended the Conference.

Shri Subramaniam said that foreign assistance did not mean any relaxation in local contribution for the Mid-day Meal Scheme. "We should take steps to increase our own resources because we cannot eternally depend upon foreign assistance", he said. While the present programme for assistance was for one year, he indicated that it was possible that it might be extended for the Third Plan period.

The working of the School Improvement and the Mid-day Meal Scheme had necessitated the creation of a definite pattern of management. A special officer had been appointed to look after the arrangement for storage, distribution and other details connected with the implementation of the programme, Shri Subramaniam added.

MAHARASHTRA

T.B. Hospitals during Third Plan

THE Maharashtra Government proposes to expand its activities under the T.B. Control Programme. Accordingly, a T.B. hospital at Chanda in Vidarbha region will be expanded and two hospitals at Chanda and Amravati respectively will be strengthened. A fifty-bed ward each at these two above hospitals is proposed to be opened during the Third Plan period. This was stated by Shri M.V. Rajawade, Health Secretary to the Government of Maharashtra, at the third annual function of the T.B. Control and Training Centre at Nagpur on 24 June, 1961.

Dr V.N. Ambekar, Deputy Director of Medical Services, said that this Centre was one of the five such functioning in the country. The Government was spending Rs 7 lakhs per year on this.

Dr Mazumdar, Secretary of the Centre, in his report, said that during 1960, 24,903 persons were examined for T.B. and 4,758 persons were found suffering from the disease.

New Dog Prophylactic Vaccine for Rabies

Flury vaccine, a live virus vaccine for immunization of dogs against rabies, will shortly be market-

ed for the first time in India by the Haffkine Institute.

Flury vaccine has been used in several Western countries for some years and about three years ago was first prepared for research purposes at the Pasteur Institute, Coonoor, and at the Haffkine Institute, Bombay. The experiments, testing and production of this vaccine were carried out at the instance of the Indian Council of Medical Research. The vaccine has certain advantages over the killed vaccine at present in use, the Semple's vaccine. This is prepared from brains of infected sheep, thousands of which are sacrificed annually for this purpose. With this vaccine multiple injections are necessary, and the immunity produced lasts for about six months. Flury vaccine, on the other hand, is cultivated in fertile eggs, is effective with a single injection and the immunity produced lasts for two-to-three years.

Rabies is a terrible and invariably fatal disease, caused by the bite of a rabid animal, usually a dog. Preventive measures, fortunately, are not difficult, and can be applied by any community. These consist essentially, of compulsory vaccination and licensing of all pet dogs and destruction of all unlicensed dogs. To initiate such control measures, a mass vaccination of dogs is called for, and a canine vaccine which is simple to administer and gives prolonged immunity is a pre-requisite of such a programme. Hence, this vaccine, though not in itself used for human treatment, may enable us indirectly to eradicate human rabies from this country.

MYSORE

Blood Bank for Manipal

A blood bank was inaugurated at Manipal by Shri Jeenabhai Devidoss, former Mayor of Bangalore, on 31 May, 1961. The bank was sponsored by the Lions Club of Udipi and the Kasturba General Hospital, Manipal. Shri T. Chenniah, Chairman, Mysore State Electricity Board, presided and Shri T.A. Pai, President of the Lions Club, welcomed those present.

Dr T. Thomas, Professor of Thoracic Surgery and Superintendent, Kasturba General Hospital, proposed a vote of thanks.

The public of Udipi and Manipal have given an encouraging response to this call for service. More than 400 people have registered their names as voluntary donors and are coming forward whenever called for giving blood. Major operations, including those on heart and lungs, are being conducted due to this public co-operation. The Rotary Club of Udipi and Manipal has extended a helping hand in this work.

The Blood Bank is attached to the Kasturba General Hospital and Medical College. The General Hospital was inaugurated by Shri N. Sanjiva Reddy, Congress President, on 7 May, 1961.

These institutions are sponsored by the Academy of General Education, Manipal, which is managed under the co-operative principle. Dr T.M.A. Pai and other leading individuals established this Academy in 1942. At present, the Academy has under its control, a medical college, an engineering college, a law college, two arts and science colleges, a high school, a higher elementary school, two primary schools, one public library and a school of music and fine arts. More than 3,000 students are on the rolls of these various training institutions.

UTTAR PRADESH

Smallpox Eradication Programme

PREPARATIONS are afoot to launch a Statewide smallpox eradication programme from 1 April, 1962.

The Uttar Pradesh Government has sanctioned the appointment of an officer of the rank of

Assistant Director and necessary staff to study the data collected and experience gained from the pilot project that was started in Sultanpur district in October last and to undertake other preliminary steps in connection with the programme.

The project, which forms part of the National Smallpox Eradication Programme, envisages rooting out smallpox from the State by vaccinating the entire population within a period of three years.

Work on Antibiotics Plant starts

Work has started on the Rs 15-crore Antibiotics Factory being set up at Rishikesh with Russian aid. The project is scheduled to go into production in 1964 when it will produce a wide variety of antibiotics valued at about Rs 24 crores annually.

A plot of 700 acres has already been acquired for the factory and another 200 acres will be secured soon. Detailed project reports in 16 volumes have been received from the Russian experts. A team of Russian specialists was to reach the project-site towards the end of July.

Arrangements are under way to connect the factory with rail and road.

The Project Administrator and the Engineer have been appointed. A town planner for the factory, surveyor of works, executive engineer, chemical engineer and chief scientific officer are to join soon.



SMALLPOX AND CHOLERA

Morbidity and Mortality

SEVEN thousand nine hundred and seventy-seven cases of smallpox with 2151 deaths were reported throughout India during March 1961. The figures for April were 6398 cases and 1852 deaths.

During March, 648 cases of cholera with 214 deaths were reported, while the corresponding figures for April were 1032 and 294 respectively.

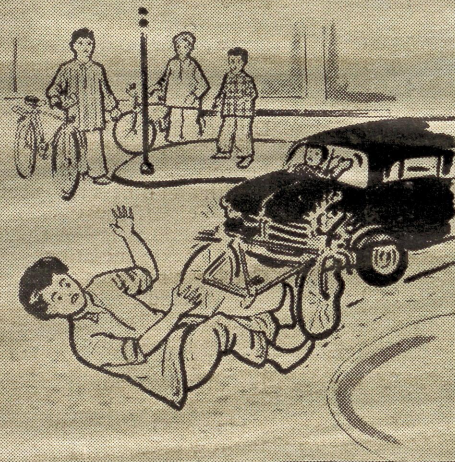
Twenty-four cases of plague with three deaths were reported during March. In April, five cases were reported and there was no death.

(Bracketed figures in the following table pertain to April)

STATE	CHOLERA		SMALLPOX		PLAGUE	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Andhra Pradesh	110 (160)	46 (51)	383 (433)	115 (98)	-- (—)	-- (—)
Assam	-- (—)	-- (—)	38 (59)	14 (12)	-- (—)	-- (—)
Bihar	-- (36)	-- (15)	-- (9)	-- (1)	-- (—)	-- (—)
Gujarat	-- (—)	-- (—)	1085 (795)	392 (299)	-- (—)	-- (—)
Jammu & Kashmir	* (*)	* (*)	* (*)	* (*)	* (*)	* (*)
Kerala	-- (—)	-- (—)	83 (20)	28 (4)	-- (—)	-- (—)
Madhya Pradesh	4 (—)	2 (—)	625 (792)	95 (148)	-- (—)	-- (—)
Madras	-- (—)	-- (—)	1121 (791)	279 (237)	-- (—)	-- (—)
Maharashtra	7 (—)	1 (—)	2009 (1429)	656 (374)	-- (—)	-- (—)
Mysore	12 (—)	10 (—)	609 (315)	158 (186)	24 (5)	3 (—)
Orissa	13 (16)	6 (11)	69 (37)	3 (1)	-- (—)	-- (—)
Punjab	-- (—)	-- (103)	175 (19)	30 (—)	-- (—)	-- (—)
Rajasthan	-- (—)	-- (—)	858 (612)	169 (136)	-- (—)	-- (—)
Uttar Pradesh	-- (—)	-- (—)	561 (659)	144 (229)	-- (—)	-- (—)
West Bengal	505 (820)	149 (217)	108 (65)	37 (25)	-- (—)	-- (—)
Delhi	-- (—)	-- (—)	117 (185)	25 (36)	-- (—)	-- (—)
Himachal Pradesh	-- (—)	-- (—)	5 (17)	3 (3)	-- (—)	-- (—)
Manipur	-- (—)	-- (—)	8 (10)	5 (4)	-- (—)	-- (—)
Tripura	* (—)	* (—)	* (10)	* (4)	* (—)	* (—)
Pondicherry	-- (—)	-- (—)	123 (57)	66 (38)	-- (—)	-- (—)
Total	648 (1032)	214 (294)	7977 (6398)	2151 (1852)	24 (5)	3 (—)

* Information not received.

विश्व स्वास्थ्य दिवस



सावधान
सुरक्षा
नियमों का
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कीजिये

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