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LEPROSY

1. Introduction

Leprosy is an ancient scourge in many countries in the Eastern Mediterranean Region and has been long known as one of the important public health problems. The disease retards the socio-economic progress of sufferers and their families and lowers their status in the community.

In recent years, the introduction of sulphone drugs for the treatment of leprosy has entirely changed its prognosis and brought about a better understanding of the situation of lepers from the psychological and social point of view. Welfare and public health services in countries with a rather high incidence of the disease have realized that it is their responsibility to see that lepers enjoy a normal life as far as this is possible without danger to the community.

2. Technical ConsiderationsMain Features of Sulphone Drugs

Prescribed in small, gradually increasing doses, the sulphone drugs constitute an effective and harmless method of treatment. Sulphones can be applied in various ways, permitting their regular use even in less developed areas or where the population is scattered.

Orally : Every day (max. dose : 100 to 200 mg); or twice a week (max. dose : 200 to 400 mg); or once a week (max. dose : 300 to 600 mg).

Intramuscularly : Fortnightly injections (max. dose : 625 mgm to 1 g) of diamine-diphenyl sulphone (DDS) in suspension of hydnocarpus (chaulmoogra oil ethyl ester) (ethyl ester chaulmoograte).

Thus domiciliary treatment is possible and, in most cases, treatment does not interfere with the patient's way of life. Home isolation could be practical where necessary and institutional isolation used only in infectious cases and when patients need special hospital attendance.

The effectiveness and toxicity of the different sulphones (diamino-diphenyl sulphone (DDS) and the mono-substituted and di-substituted sulphones) are almost identical, so the choice depends entirely on the cost. DDS is much cheaper than other derivatives. An adult patient can be treated orally for a year for US \$0.60 and by injection for US \$1.10. However, this covers the cost of drugs alone. When the other expenses of a mass campaign are taken into consideration, the use of injections may even be cheaper and certainly more effective, since it will allow less domiciliary supervision.

The effect of sulphone drugs often is seen after a few weeks' treatment. Cicatrization of the mucosal and cutaneous ulcerations are observed first, then the lesions improve and finally disappear. Slight cases of leprosy can be arrested after two years' treatment. Advanced cases show similar healing only at the end of four or five years. As a rule, however, the number of bacilli in the lesions decreases markedly by the second or third year.

Sulphones prevent malignant evolution of benign cases of leprosy and eventually reduce infectiousness of its malignant forms.

3. Implementation of anti-leprosy services

Regular treatment is essential. This can be carried out through a network of permanent dispensaries complemented by mobile units to serve the rural areas. The function of these units should depend on the local circumstances and should fit into the general administrative organization of the national and the local health services. The proportion of permanent and mobile units to serve an area depends on the distribution of the population and the degree of health consciousness of the people as well as the means of communication and transport. Whenever possible they should form a service and an integral part of the local health unit or centre.

The most important factors to be taken into consideration in implementing an anti-leprosy control service are :

3.1. Funds available

3.2. Availability of the right type of staff to conduct the programme. In this connection, it is important to note that sympathetic workers are likely to be successful in the relief and control of leprosy. Therefore, recruiting the right type of auxiliary personnel and their adequate training is a very important aspect of the programme.

3.3. Proper regulations for isolation. Compulsory isolation should be refrained from as far as possible because fear of compulsory segregation makes patients hide their condition as long as they can, precisely during the period when the disease would be most curable. As a matter of fact, many cases are infectious for years before they are diagnosed and isolated. Therefore, isolation alone has not given the results expected of it and has failed as a control measure even when applied rigorously and on an adequate scale.

Health education and proper information of patients and their contacts on the nature of leprosy and its infectivity usually succeeds in persuading patients to report for treatment in the early stage of the disease and with the more effective modern treatment, they have better chances of recovery and of an early cessation of infectivity and danger to community. This, therefore, calls for change of isolation regulations existing at present in certain countries of the region, which should include provision for discharging the patient as soon as his case becomes no more infectious and is thus of no danger if released. Arrangements must be made for continuation of treatment on ambulatory basis. Only open cases with high infectivity need be subjected to some form of isolation. It is very important to keep in mind that all cases whether open or closed, of high or low infectivity require treatment which should be continued for at least one year after the complete disappearance of the clinical and bacteriological evidence of active infection. Some scientific circles even hold the opinion that treatment of leprosy should continue indefinitely. This is encouraged by the low cost of sulphones and a complete absence of toxicity if it is given in small doses, known to be effective against relapses.

Taking all these points into consideration, domiciliary isolation ensuring that contact is avoided with relatives and others, particularly with the children, could in many cases replace compulsory isolation in institutions. This has the advantage that it does not break up the family and does not carry with it the fear of an indefinite stay in a leprosarium.

3.4.3. To ensure possibilities of discharge of the cured patients and their reintegration in the social life of the community through a planned programme to be fixed and carried out by an adequate organization which should co-operate with representatives of the public health services, welfare services and private local institutions. This organization should take care of the cured patients discharged, on medical advice, from the segregation institutes, so that vacancies may be available there to make possible the necessary temporary isolation of the infective new cases detected during the survey activities of anti-leprosy services.

Finally, leprosaria should also have an adequate water supply and an abundance of land for agriculture and horticulture.

3.5. Case Finding. Carefully planned surveys which should, where possible, involve a house to house canvassing for detection of early cases are most effective weapons in leprosy control.

In making such a survey, the confidence of patients should be easily won, first by dispensary treatment and then they could be followed up in their villages which will give a chance of examination of contacts at repeated intervals.

Examination of school children followed up by examination of home contacts of cases constitutes a useful complement to other survey methods. In endemic areas, special attention in surveying should be given to infants and children, since leprosy is more commonly acquired during infancy and childhood than at later ages.

3.6. Prophylaxis by means of BCG. There is a possibility that since BCG vaccination produces a positivity of the lepromin reaction it may induce an immunity to leprosy and since BCG vaccination could be introduced orally without fear of reaction in tuberculin positive cases, the method may prove an effective weapon in protecting children from leprosy, especially those particularly exposed in areas of high endemicity and where other measures cannot easily be applied.

4. Mass anti-leprosy campaigns

In limited areas with high incidence of endemic leprosy, the mass campaign method of control can be resorted to. These measures should include the following:

- (a) Intensive sulphone treatment of all known cases;

- (b) systematic survey of the population for detection of unknown cases;
- (c) attracting concealed cases by doing away with compulsory institutional segregation;
- (d) general improvement of the bodily resistance of the whole population through improvement of their nutrition status and the mass treatment of common infectious and parasitic diseases such as malaria, hookworm and intestinal parasites.

5. International assistance in leprosy control

UNICEF and WHO are at present interested in assisting anti-leprosy campaigns in this region and could help governments in this regard by :

- (a) supplying drugs;
- (b) equipping dispensaries for the treatment of the cases and their laboratory diagnosis;
- (c) assistance to improve the conditions existing in leprosaria as regards sanitation, accommodation, social life, education, occupational therapy, plastic surgery and general rehabilitation;
- (d) supplying transportation for nurses or dressers entrusted with domiciliary treatment of patients;
- (e) providing training facilities and fellowships to physicians and auxiliary personnel;
- (f) sending, when requested, necessary consultants to carry out surveys or to advise governments on organization of anti-leprosy services and to aid in the implementation of mass campaigns. They could be made available for longer periods up to two to three years, as required.

5.1. WHO assistance in leprosy control in the Eastern Mediterranean Region.

So far, WHO assistance in leprosy control has been provided only for a few countries and on a limited scale.

A WHO consultant visited Ethiopia in 1950 and on his recommendation, a second expert went there for one year, February 1952 - February 1953, during which time he carried out a survey in various parts of the country and advised the Government on the establishment of a leprosy centre in Addis Ababa.

In the latter part of 1955, a WHO short-term consultant visited Iraq, and another Iran, to study the problem and advise on the implementation of national leprosy programmes.

5.2. Future international assistance in leprosy control in the region.— The increasing awareness of the extent of the leprosy problem and the desire of governments to undertake control on a national scale widens the possibilities for international assistance.

UNICEF is sending to Ethiopia the necessary drugs and equipment for diagnosis and treatment of leprosy as well as equipment for the training of auxiliary personnel to carry out control work in the field recommended by WHO consultants in 1950 and 1952.

The WHO Regional Office has given technical advice on the expansion of the programme and this advice will be continued by the WHO public health adviser in Addis Ababa.

Pakistan also has requested UNICEF for assistance in providing anti-leprosy service. It is expected that Iran and Iraq will receive help for the expansion of leprosy control in the light of recommendations made by WHO consultants who visited the countries in the latter part of 1955.

To arouse interest in leprosy control and to encourage exchange of technical knowledge on its social, economic and public aspects, the Ninth World Health Assembly in May 1956 passed the following resolution :

"The Ninth World Health Assembly,

Having discussed the proposal advanced by the Government of Burma for convening a conference in South-East Asia regarding leprosy control, and

Considering the importance of leprosy problems and of national and international activities carried out in different parts of the world;

1. RECOGNIZES the advantage of convening a conference such as that proposed by the Government of Burma, for discussion of leprosy control in countries having similar epidemiological, social and administrative problems; and

2. REQUESTS the Director-General to study the feasibility of holding such a conference, as an inter-regional activity, in 1958."¹

¹ WHA9.45

6. Conclusions

- 6.1. The time is ripe to implement anti-leprosy programmes on a national scale in countries where leprosy is an important public health problem.
- 6.2. Surveys to study the leprosy problem should be done where its extent is not clearly known.
- 6.3. Countries in the region should make every effort to promote their anti-leprosy programmes and should seek material and technical international assistance for their implementation.

References

- Report of Expert Committee on Leprosy, First Report, WHO Technical Report Series 1953, 71
- Note by WHO to the Sixth Session of UNICEF/WHO Joint Committee on Health Policy (JC6/UNICEF - WHO/5 - 20 April 1953)
- Report on WHO Consultant on Leprosy Control in Ethiopia (EM/LEP/1, February 1951)
- Report on Leprosy in Iraq (EM/LEP/2, July 1955)
- Report on Leprosy Survey in Iran (EM/LEP/3, April 1956)