World Health Organization

EXECUTIVE BOARD
128th Session
Provisional agenda item 4.13

EB128/16
16 December 2010

Leprosy (Hansen disease)

Report by the Secretariat

1. At its 126th session in January 2010, the Executive Board requested the Director-General to convene the Expert Committee on Leprosy before its 128th session so that the Board could take up the subject again in January 2011.[1] Accordingly, the Expert Committee on Leprosy met for its eighth meeting (Geneva, 12–19 October 2010) in order to analyse the global leprosy situation; review current developments in other areas influencing leprosy, including treatment of leprosy and its various complications; consider the latest evidence and review existing indicators of progress so as to determine whether better indicators can be introduced; and advise on the technical and operational issues related to efforts aimed at further reducing the burden due to leprosy. This report presents the global leprosy situation and the outcome of the Committee's meeting.

2. The goal of eliminating leprosy as a public health problem, defined as a reduction of the prevalence to below one case per 10 000 population at the global level, was set by the Health Assembly in 1991 in resolution WHA44.9 and reiterated in 1998 in resolution WHA51.15; the original target date was 2000. These endorsements were highly successful in providing a focus for leprosy programmes and in securing political and financial commitment. Implementation of the resolutions resulted in a dramatic reduction in the prevalence of more than 90%, and the target was achieved at the global level at the end of the year 2000. By the beginning of 2010 all but four countries with a population of more than one million have reached prevalence levels of less than one case per 10 000 population. The strategic approach that had been taken had also resulted in significant improvements in work to prevent and control leprosy, such as simplification of diagnosis and multidrug therapy through provision of blister packs free to all new patients. This progress represented a major public health achievement.

3. Since 1985, more than 15 million patients have been cured through multidrug therapy. This success has been made possible by the strong commitment of countries where the disease is endemic, supported by the international community, including WHO, the Nippon Foundation and the Sasakawa Memorial Health Foundation; the pharmaceutical company Novartis and the Novartis Foundation for Sustainable Development; bilateral organizations; and national and international nongovernmental organizations, notably the International Federation of Anti-Leprosy Associations.

4. An important recommendation of the Expert Committee was to aim for a global goal of reducing the rate of occurrence of new cases with visible disability (WHO Grade 2 Disability) to a level below one case per million population at the global rather than the national level. This target is

[1] Document EB126/2010/REC/2, summary record of the twelfth meeting, section 1.

expected to maintain long-term commitment through partnerships with governments, the Secretariat, academia, industry, people affected by leprosy, communities, and nongovernmental organizations.

5. The uneven geographical distribution of leprosy provides an opportunity for countries to focus on areas of higher endemicity. The higher occurrence of leprosy among contacts of patients also provides an opportunity to detect cases early.

6. The number of new cases detected globally each year has declined steadily from the peak of more than 775 000 in 2001 to 245 000 in 2009. At the beginning of 2010, that figure had fallen further to 212 000 cases, corresponding to the number of patients on multidrug therapy at that time.

7. During 2009, only 16 countries reported more than 1000 new cases. These countries accounted for 93% of the new cases detected globally during 2009 and showed a decline of 71.7% between their peak levels of case detection and the year 2009.

8. The remarkable achievement of reducing the global burden of leprosy over the past quarter century is mainly the result of the application of the recommendations of the WHO Study Group on Chemotherapy of Leprosy on the use of multidrug therapy as the standard treatment, with a combination of three medicines for multibacillary leprosy (rifampicin, clofazimine and dapsone) and two for paucibacillary leprosy (rifampicin and dapsone).[1] Currently, multibacillary patients are treated for 12 months and paucibacillary patients for six months.

9. The current multidrug therapy regimens remain the mainstay of leprosy chemotherapy implemented in all countries where leprosy is endemic. The availability of second-line medicines and promising new drugs with high bactericidal activity provide an opportunity to carry out trials with new regimens. Preliminary results of an ongoing trial raise the prospect of reducing the duration of multidrug therapy currently recommended by WHO to six months for patients with multibacillary leprosy but it is still too early to draw final conclusions.

10. Relapse after multidrug therapy remains infrequent even after almost three decades of its widespread use, and retreatment with standard multidrug therapy is highly successful. The Expert Committee recommended surveillance for drug resistance, despite the paucity of reports on drug-resistant strains of *Mycobacterium leprae* after completion of multidrug therapy.

11. The Expert Committee concluded that most of the recent epidemiological, clinical and pathological studies of co-infection with HIV showed neither an increased prevalence of HIV in patients with leprosy nor an alteration in the clinical spectrum of leprosy among co-infected subjects.

12. Based on experimental studies reviewed by the Expert Committee, it is reasonable to conclude that, in public health terms, infectiousness becomes negligible after multidrug therapy is begun.

13. Leprosy often causes nerve function impairment as a result of various pathological and immunological processes in the peripheral nerves. The proportion of new cases with such impairment at diagnosis may be as high as 20%. Leprosy reactions are regarded as the leading cause for nerve function impairment, and occur in 30% to 50% of all multibacillary leprosy patients. The mainstay of treatment of reactions is corticosteroids. Several studies have demonstrated the usefulness of thalidomide in the treatment of acute erythema nodosum leprosum, but its use is restricted because of

[1] WHO Technical Report Series No. 847, 1994.

its teratogenic effects and ethical and legal considerations. It is important to educate all patients about the signs and symptoms of reactions and nerve function impairment and encourage them to return to health centres immediately when they experience such events. National leprosy programmes should continue to ensure that an efficient referral system exists within the general health services so that nerve function can be assessed in a timely manner and reactions, neuritis and related complications can be diagnosed and dealt with promptly.

14. Disability in new patients and people who have completed treatment remains a challenge. Although prevention and management of disability falls within the broad scope of public health, it requires support from social services, the community and the voluntary sector. Currently, good information is lacking on the extent of disability due to leprosy in terms of the numbers of people affected at global and country levels. It is important to estimate the total prevalence of visible disability (Grade 2 disability) in the population in order to undertake the planning and implementation of rehabilitation services. It will therefore be useful to include in all national programmes a new indicator of the total prevalence of Grade 2 disability in the population. WHO's three-stage disability grading system (0, 1 and 2) has been in use for several years and has proven to be a good basis for measuring the magnitude of the problem. Prevention of disabilities begins with early diagnosis of leprosy, recognizing and treating complications such as neuritis and reactions, identifying patients at risk of developing secondary disability, and intervening in time.

15. Management of disabilities should be part of routine treatment services at the clinic level and also include cured persons. Services available should include provision of aids and appliances, specialist medical care, surgical reconstruction and rehabilitation. Self-care and self-help through counselling of persons in need as well as their family and community members should receive greater emphasis. The strategy of community-based rehabilitation should be applied with local resources to support the rehabilitation of people with disabilities.

16. In recent years there has been a change in attitude towards leprosy, with less stigmatization in many countries. People affected by leprosy now more often remain within their families and communities. As a result, involving the family and community members is now seen as a key strategy to empower people affected so as to increase inclusion of persons affected by leprosy in different community systems including health, housing, education and decision-making, as well as in socioeconomic settings. Persons affected by leprosy have a major role to play in leprosy services, especially in areas of advocacy, awareness, rehabilitation and case finding. Persons newly diagnosed with leprosy should not be admitted to institutions for long-term care. Timely case-finding and multidrug therapy have prevented disabilities due to leprosy among an estimated two million individuals. There is now a perceptibly higher level of awareness and political commitment in countries where leprosy is endemic, with a renewed emphasis on human rights issues related to stigmatization and discrimination.

17. An important way to bring about major reductions in the burden due to leprosy would be to focus the approach, taking advantage of the very uneven distribution of the disease within countries and among population groups. Such an approach, which would combine detailed mapping of cases with intensive and innovative efforts towards case detection, is likely to reduce greatly the disease burden. Focusing on areas where the disease is highly endemic should not mean that population groups in other geographical areas will be completely neglected. It is also important to reach persons affected by leprosy living in hard-to-access areas and in underserved and marginalized population groups. In urban populations, the major focus should be on improving the services for people living in the slums. Contacts of known cases are easily identifiable as individuals at high risk, and may be targeted for specific preventive measures, through either vaccination with BCG or chemoprophylaxis.

18. Principles of equity and sustainability are the basis for integration of leprosy within general health services. However, integration does not mean that specialized components of leprosy-treatment services should be abolished. The central issue is how to improve the performance of the integrated programme, which should aim at raising community awareness, building capacity, and ensuring regular supervision, technical support, adequate referral, and the availability of multidrug therapy.

19. Progress in further reducing the disease burden may be measured broadly by (i) main indicators requiring minimum amounts of data, (ii) other indicators (some requiring only limited amounts of data and others providing important insights and requiring more detailed information), and (iii) indicators for evaluating the quality of services. The main indicators are:

(a) number and rate of new cases detected per 100 000 population per year

(b) number and rate of new cases with Grade 2 disability detected per million population per year

(c) treatment completion and/or cure rate for multibacillary and paucibacillary cases.

Use of the Grade 2 disability index in newly detected cases as a rate per million population will assist in monitoring both case detection and disability (including burden and prevalence). The goal proposed by the Expert Committee (see paragraph 4 above) is to reduce the number of new leprosy cases diagnosed with Grade 2 disability to less than one per million population by 2020. A milestone will be to reduce by 35% the rate of new cases diagnosed with Grade 2 disability per million population between 2011 and 2015.

20. The Expert Committee emphasized the importance of collecting information on the extent of disabilities due to leprosy in terms of total prevalence of Grade 2 disability in the population; the data should cover Grade 2 disability in new cases as well as in people who have completed multidrug therapy. This information is needed for planning rehabilitation services.

21. The Expert Committee also recommended increased focus on equity, social justice and human rights, stigmatization and gender issues, and greater contribution of people affected by leprosy in decision-making processes.

22. The Expert Committee stressed the need for molecular biological research in order for instance to improve diagnostics, research into new treatments and subclinical infection, and clinical trials of prevention and treatment of leprosy reactions. It identified some research priorities: developing molecular tools for assessing the emergence of drug resistance; understanding the basis of transmission in order to develop and improve diagnostic tests; finding species-specific antigens that could be used in immunodiagnostic tests; and improving multidrug therapy with better medicines in terms of efficacy and duration of treatment. More research is needed in the area of nerve function impairment and reactions, and on chemoprophylaxis and immunoprophylaxis. It is also important to promote operational, epidemiological and implementation research in order to improve the sustainability and quality of leprosy services.

ACTION BY THE EXECUTIVE BOARD

23. The Board is invited to note this report.

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