World Health Organization

SIXTY-SECOND WORLD HEALTH ASSEMBLY **A62/17**
Provisional agenda item 12.12 **20 March 2009**

Chagas disease: control and elimination

Report by the Secretariat

1. Chagas disease, also called American trypanosomiasis and first discovered a century ago by Dr Carlos Chagas in 1909, results from infection by the parasite *Trypanosoma cruzi*. Latest available estimates indicate that around 8 million people are infected by the parasite worldwide, with, in 2008, about 11 000 deaths. Chagas disease is locally transmitted in countries and areas such as Argentina, Belize, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, El Salvador, French Guyana, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname and Venezuela (Bolivarian Republic of). The number of diagnosed cases has been increasing in Australia, Canada, Europe, Japan and the United States of America, and this increase presents additional risks of transmission through blood transfusion, congenital infection and organ transplantation.

2. Triatomine bugs ("kissing" bugs) live in substandard housing from southern Argentina to southern United States of America; they find a favourable habitat in crevices in the walls and roofs of poorly constructed housing in rural areas and in peripheral urban slums. The bugs become infected after biting an animal or person already infected with the parasite. People can become infected with *T. cruzi* in several ways: they can touch their eyes, mouth or skin breaks after having been into contact with faeces of infected triatomine bugs; they can eat uncooked food contaminated with triatomine bug faeces; mothers can transmit *T. cruzi* to their infants during pregnancy or at birth; and the parasite can be transmitted through contaminated transfused blood or organ transplant.

3. The risk of infection with *T. cruzi* is directly related to poverty. The urban migration from rural areas that occurred in Latin America in the 1970s and 1980s changed the traditional epidemiological pattern of Chagas disease into an urban infection that can be transmitted by blood transfusion. Contamination rates in blood banks in some cities of the American continent vary from 3% to up to as much as 53%, indicating that the prevalence of *T. cruzi*-contaminated blood may exceed the prevalence of HIV and hepatitis B and C viruses in blood stocks.

4. There are two phases of the human disease: the acute phase, in which symptoms appear shortly after the infection; and the chronic phase, in which symptoms appear after a silent period that may last several years. During the chronic phase lesions affect internal organs of 30% of infected persons, namely the heart, oesophagus and colon and the autonomic nervous system. After several years of asymptomatic infection, 20% to 30% of those infected develop cardiac symptoms (which may lead to sudden death), 5% to 10% develop digestive damage (mainly megaviscera), and immunocompromised patients will present central nervous involvement.

5. The treatment of the disease in the acute phase is based on two drugs: nifurtimox and benznidazole. Treatment could be improved with safer and more efficacious medicines or formulations (e.g. paediatric formulations). Increasing evidence shows that treating patients after the acute phase could avoid morbidity and reduce the severity of symptoms.

ACHIEVEMENTS

6. Intergovernmental initiatives to improve Chagas disease control in Latin America, based on vector and transfusional control and case management, include: the Southern Cone Initiative, begun in 1991 (Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay); the Initiative of the Andean Countries, initiated in 1997 (Colombia, Ecuador, Peru and Venezuela (Bolivarian Republic of)); the Initiative of the Countries of Central America, created in 1997 (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama); the Initiative of the Amazon Countries for Surveillance and Control of Chagas Disease begun in 2004 (Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela (Bolivarian Republic of)) and Mexico in 2003.

7. Important achievements have been recorded in recent decades, but the situation differs greatly from one area to another. Significant reductions have been seen in the number of acute cases and the populations of intra-domiciliary triatomines in countries such as Brazil, Chile, Guatemala and Uruguay. Estimated annual deaths globally decreased from 45 000 in 1990 to around 11 000 in 2008. Estimated number of infections decreased from 30 million in 1990 to 8 million in 2006. Annual incidence during this 16-year period fell from 700 000 to 56 000. The burden of Chagas disease has been reduced from 2.8 million disability-adjusted life years to less than 500 000.

8. In 2005, Chagas disease was incorporated into WHO's classification of neglected tropical diseases in order to promote synergistic advocacy and control efforts with other similarly neglected diseases.

9. Faced with the spread and globalization of the disease, WHO established a Global Network for Chagas Disease Elimination in July 2007 in order to expand a mostly Latin American concern into a global perspective. One of the first initiatives to result from this Network was the Non-Endemic Countries Initiative, designed to complement the existing Latin American intergovernmental initiatives. In Europe, Belgium, France, Italy, Spain, Switzerland and the United Kingdom of Great Britain and Northern Ireland are participating in this new initiative, as well as Japan and the United States of America.

10. In 2007, WHO received a donation of 2.5 million tablets of nifurtimox over a five-year period, which will help to alleviate the limited availability and accessibility of this medicine.

NEW CHALLENGES

11. **Dissemination.** The past decade has seen the expansion of Chagas disease into areas previously considered non-endemic for the disease – such as the United States of America and several European and Western Pacific countries – owing to increasing population mobility between Latin America and the rest of the world. As a result cases of Chagas disease may occur in countries where knowledge or experience of the disease is limited and surveillance and control measures are insufficient, especially in blood banks and obstetric services.

12. **Sustainability.** All concerned parties must strive to avoid complacency and reduction of political interest and resources in order to ensure that the achievements in Chagas disease control are maintained and consolidated, including in areas of low endemicity. Expanded surveillance and control activities are required to face the new epidemiological challenges.

13. **Emergence.** Chagas disease has emerged in regions previously considered to be free of the disease, such as the Amazon basin, where mainly sylvatic rather than domestic vectors transmit the parasite and local micro-epidemics of orally-transmitted disease have been observed.

14. **Re-emergence.** Chagas disease has re-emerged where control had once been successful, in regions such as the Chaco region of Argentina and Bolivia. In addition to a decrease in control activities in these areas, efforts to contain the disease are further complicated by the existence of extensive extradomestic populations of the main vectors and the emergence of some resistance to insecticides.

15. **Diagnosis and treatment.** Even with a substantial reduction in transmission, millions of people remain infected, indicating a need for increased access to adequate diagnosis and treatment. This requirement will continue in disease-endemic and non-endemic areas because of expected future levels of active or accidental transmission, particularly given the high burden of medical complications.

PROSPECTS FOR ELIMINATION OF CHAGAS DISEASE

16. The commitment to elimination of Chagas disease has to be taken not only by countries where it is endemic but also by those where it is not, always prioritizing the endemic areas. A major challenge is to provide more support and reinforce national and regional capacities to reach the goal of eliminating Chagas disease as a public health problem.

17. The Pan American Sanitary Bureau is in a position to provide coordinated and global support to controlling and eliminating Chagas disease. PAHO is expanding on framework concepts contained in the Millennium Development Goals and other internationally agreed goals for neglected diseases. Additionally, PAHO's programmes for sustainable control of communicable diseases are being expanded.

18. There is a need for a common, harmonized and coordinated surveillance system, in order to monitor the elimination of Chagas disease. In this context, countries in which the disease is endemic urgently need coordinated PAHO support for their subregional initiatives for prevention and control, and non-endemic areas also need support for their national and regional programmes, focusing on:

- epidemiological surveillance of, and health-information systems that cover vectors, case numbers, and other factors relevant to transmission, all at community level;

- strengthening implementation of vector-control activities in order to achieve interruption of transmission and to promote research to improve or develop new prevention strategies;

- prevention of transmission of *T. cruzi* due to blood transfusion and organ transplantation in endemic and non-endemic areas;

- promoting the development and use of diagnostic tests for screening and diagnosis of *T. cruzi* infection and new medicines to improve treatment;

- prevention and control of congenital transmission, and case management of congenital and noncongenital infections, including strategies for case-finding, diagnosis and treatment at different health-care levels (for instance, through primary health-care integration,

communities and other appropriate mechanisms), that can be applied in endemic and non-endemic countries;

- research on Chagas disease control.

19. An earlier version of this report was considered by the Executive Board at its 124th session,[1] and the Board adopted resolution EB124.R7.

ACTION BY THE HEALTH ASSEMBLY

20. The Health Assembly is invited to consider the draft resolution contained in resolution EB124.R7.

= = =

[1] See document EB124/2009/REC/2, summary record of the tenth meeting.