

Report on the

**Programme managers meeting on
leishmaniasis control**

Sharm El Sheikh, Egypt
27–29 October 2009



**World Health
Organization**

Regional Office for the Eastern Mediterranean

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1. INTRODUCTION

A review meeting on cutaneous leishmaniasis control in the Eastern Mediterranean Region was organized by the World Health Organization (WHO) Regional Office for the Eastern Mediterranean (EMRO) in Sharm el Sheikh, Egypt, from 27 to 29 October 2009. The objectives of the meeting were to:

- review the progress of national leishmaniasis control programmes in 2009;
- discuss plans of action for 2010.

Dr Jose Antonio Ruiz, Medical Officer, Tropical Diseases and Zoonoses, WHO Regional Office for the Eastern Mediterranean, delivered the opening remarks of Dr Hussein A. Gezairy, WHO Regional Director for the Eastern Mediterranean. In his speech Dr Gezairy said that the convening of the meeting came at an appropriate moment when several countries and the Region at large were still facing alarming numbers of new cases of anthroponotic cutaneous leishmaniasis. He recognized further challenges and called for enhanced efforts to control the disease which still posed a major public health threat, traditional and classical methods of control and prevention were not yielding the expected results and they strongly needed to be revised.

Dr Gezairy also said that discussing strategies to control and prevent leishmaniasis in the Region and addressing operational issues commonly faced by national programme managers would contribute to consolidating a regional strategic plan which would stand as a priority for WHO and its partners.

Professor Richard W. Ashford (United Kingdom) was elected as Chairperson and Dr Afif Ben Salah (Tunisia) was elected as rapporteur. The programme and list of participants are included as Annexes 1 and 2, respectively. Annex 3 contains the outcomes of the working group on case management and Annex 4 contains the plan of action for the regional leishmaniasis programme in the Eastern Mediterranean Region 2010 (by months).

2. TECHNICAL PRESENTATIONS

2.1 WHO leishmaniasis control programme

Jorge Alvar

The WHO leishmaniasis control programme aims at supporting countries in the development and adaptation of their health policies based on their own profiles and analysing national leishmaniasis control plans of action as they relate to the implementation of control activities. Advocacy, including partnerships with a broad range of stakeholders and mobilizing financial resources with donors are also important components of the programme. WHO has established an agreement with Sanofi-Aventis which has provided funds for the period 2007–2011 for the Americas, the Maghreb and Middle East regions to reduce the burden of the disease.

For visceral leishmaniasis an elimination programme has been launched targeting the reduction of the annual incidence of the disease to less than 1 per 10 000 people by 2015 in South Asia. In the Horn of Africa, WHO is supporting visceral leishmaniasis programmes in North and South Sudan and in Ethiopia. Special attention is also being given to HIV-leishmaniasis co-infection and efforts are being made to make liposomal amphotericin more widely available for control programmes.

2.2 Current situation of leishmaniasis in the Eastern Mediterranean Region

Jose A. Ruiz Postigo

According to the data sent by different countries to WHO Regional Office a total of 66 482 cases of anthroponotic cutaneous leishmaniasis (ACL) and 30 721 cases of zoonotic cutaneous leishmaniasis (ZCL) were reported in 2008 in the Eastern Mediterranean Region. Those figures have to be interpreted with caution as some countries do not have a data collection system allowing a breakdown of figures for ACL and ZCL. WHO is currently working with programme managers in endemic countries and partners on the elaboration of a regional surveillance system and a series of trainings are planned to establish a harmonized system. The Leishmaniasis Mediterranean and Middle East Network (LemmNET) has a web site under construction which aims at bringing together all those interested and involved in leishmaniasis.

2.3 Pasteur Institute in Tunisia (WHO collaborating centre)

Afif Ben Salah

The Pasteur Institute in Tunis is involved in several aspects of leishmaniasis research and training. As regards entomology and mammology the Institute works on morphological identification of sandflies by dissecting them on binoculars and observing them under a microscope (e.g. extracting salivary glands, extracting the gut to incriminate the sandfly, determine the physiological age of sandfly). The clinical research programme is currently testing WR-279396, 15% paromomycin and 0.5% gentamicin, as topical formulation on zoonotic cutaneous leishmaniasis applied twice a day over 20 days in a phase III trial. Also, the Institute is preparing the first regional course on leishmaniasis epidemiology in collaboration with WHO.

3. COUNTRY PRESENTATIONS

3.1 Afghanistan

Najibullah Safi

Leishmaniasis is one of the major public health problems in the country. Most of the cases in Afghanistan are cutaneous leishmaniasis both *L. tropica* and *L. major*. In addition, sporadic cases of visceral leishmaniasis have been reported. During the massive malaria DDT spraying campaigns between 1950 and 1970, leishmaniasis was effectively controlled and only sporadic cases occurred. During the past 30 years, control efforts have been limited and have made little impact on leishmaniasis transmission. Over the past 10 to 15 years, due to political instability, poor health infrastructure and absence of vector control measures the

number of cases has significantly increased. Mass migration of infected individuals has now spread the disease to previously non-endemic areas. A prevalence survey in Kabul in 2002 has shown that 2.7% of the surveyed population had leishmaniasis lesions and 22% of them had scars. The number of recorded cases in Kabul has grown from 31 in 1964 to 8500 in 1990 to 12 000 in 2008.

A national leishmaniasis control programme exists. However, diagnosis and treatment are integrated into the Basic Package of Health Services (BPHS). Reporting is yet not part of the routine health management information system. However, the incidence of cutaneous leishmaniasis is reported through a parallel system and an Excel database is used for data storage and analysis. A summary of the annual report has been published jointly with the annual malaria report since 2007.

As regards the vector, no new data have been compiled since 1976 on the composition of sandfly vectors in Afghanistan. To begin compiling data on the present composition of potential *Leishmania* vectors entomological surveys have been conducted in the last two years in six districts of Kabul city, in close collaboration with NAMRU-3. Nineteen different species of sandfly were identified, of which 10 are *Phlebotomus* species that include *P. papatasi*, *P. bergeroti*, *P. sergenti*, *P. alexandri* and *P. major*, which are confirmed vectors of cutaneous or visceral leishmaniasis. Diagnosis of cutaneous leishmaniasis is made clinically. Despite many control efforts, the programme was not able to convince partners to consider leishmaniasis a priority disease in Afghanistan. Limited resources (human and financial) are available for the control of this stigmatizing disease. Only WHO provides financial support to leishmaniasis control in Afghanistan.

Treatment is based on pentavalent antimonial drugs (sodium stibogluconate and meglumine antimoniate (glucantime[®]). Thermoherapy is available in limited health centres. Prevention includes free distribution of LLITNs for the control of malaria which has positive effects on leishmaniasis: more than 1.5 million LLITNs have been distributed in 10 high-risk malaria provinces during the last year. Insecticide residual spraying is done in those districts of Kabul city where leishmaniasis is most prevalent. Different means of information and education were used to increase the community's awareness of the mode of transmission and methods of prevention in high-risk areas.

The next steps for leishmaniasis control in Afghanistan will be based on the development of an evidence-based multi-year strategic plan for leishmaniasis control. Strong advocacy to enhance political commitment and mobilize additional resources should be maintained. In addition, strengthening coordination and collaboration with different stakeholders and seeking external aid and donor funding for the control of leishmaniasis in Afghanistan is a must. The programme is planning to seek technical support from WHO and partners to accomplish the planned activities.

3.2 Egypt

Samir Mahfouz

Cutaneous leishmaniasis is endemic in the Sinai and visceral leishmaniasis occurs in the northern part of the country. Diagnosis of cutaneous leishmaniasis is carried out through clinical manifestations and exclusion of other diseases and in endemic places it is taken for granted that ulcers are of leishmanial origin. A total of 471 cases out of 3823 people examined in North Sinai were found to have CL.

As for visceral leishmaniasis it is seldom diagnosed due to lack of medical orientation, although there is a protocol of cooperation with Shatbi university paediatric hospital to treat referred cases. Physicians at the primary health care level do not always consider leishmaniasis in the differential diagnosis of fever of unknown origin.

Treatment is carried out basically by sodium stibogluconate as 8.5 ml for adults IM or 20mg/kg body weight with a maximum of 850 mg daily until relief of the disease or for 20 days to be repeated after 10 days. This stands for the visceral type and multiple cutaneous lesions or for facial lesions. For the cutaneous type 2 ml given intradermally at the site of the lesion once or twice weekly although some medical personnel are practising facial injection to spare the patient unwanted side-effects on the liver and other organs. Other types of treatments have been tried and then abandoned, such as cryotherapy. The native nomads used to and still are extinguishing cigarettes on the lesions with success. Some others tried applying bleaching powder or vinegar on the lesions but without success.

A number of activities are proposed to improve leishmaniasis control and prevention in Egypt, such as: i) to increase the awareness of the medical community in regard to associating leishmaniasis with tuberculosis and AIDS; ii) to develop a new data collection system and follow-up specially in vulnerable communities and endemic places; iii) to develop a task force that has the capabilities to examine cases and medical surveys all across the country and activate epidemiological and entomological surveys and rapid diagnosis of cases in endemic areas; iv) to evaluate the probability of establishing a reference laboratory in the Region or setting a protocol to follow up cases through other reference laboratories with the auspices of WHO; and v) to carry out some studies on the present situation of the disease, the vector and the reservoir host and their distribution across the country as some reports postulate the presence of more than one strain.

3.3 Islamic Republic of Iran

Mohammed Reza Shirzadi

Islamic Republic of Iran is an endemic country for cutaneous leishmaniasis. The disease is prevalent in many provinces and 70% of CL cases are zoonotic. Visceral leishmaniasis is endemic in the northeast and south of the country and only sporadic cases are reported in other parts of the country. Leishmaniasis have been notifiable diseases for many years in the Islamic Republic of Iran. Recently, the treatment, the reporting system and control strategies were standardized, leading to a decrease in the number of ACL cases in Bam and ZCL cases in Isfahan. In this district, strategies based on rodent control reduced the incident

cases by 40% to 60%. For visceral leishmaniasis, integration of early diagnostic tools, such as DAT, in peripheral laboratories, permitted the detection of cases with few clinical signs and reduced to 0% the case-fatality rate.

3.4 Iraq

Dr Abdul W. Al-Khafaji

Leishmaniasis control is based on: i) case detection (epidemiological survey); ii) sandfly detection to know the density of the insect in the affected areas; and iii) spraying activities (residual insecticide) and fogging. There are two round of spraying, one between April and June and the second between August and October (about 45 days each one). The spraying campaigns include spraying of residual insecticide inside houses and outside on the root of the plants, as well as spraying the animals' houses by using sprayer machines. Rodenticide is used in burrows inside and outside houses. Fogging with tifa or agiba machines is carried out by car during the summer (May to October) every year.

Laboratory diagnosis of visceral leishmaniasis is made by using: i) rK39 rapid test; ii) IFAT; and iii) bone marrow smear and culture. Treatment is based on Pentostam®. In 2007 and 2008, 836 and 1041 cases of VL were respectively reported. For the same period 655 and 1250 cases of CL were respectively reported. Improving surveillance and control measures under the current security situation in Iraq represents a major challenge.

3.5 Libyan Arab Jamahiriya

Badereddin Annajar

Leishmaniasis has been endemic in the Libyan Arab Jamahiriya for about a century. ZCL due to *L. major* (MON-25) is highly endemic in most areas of the northwest region of the country. Its epidemiological pattern is manifested by eruption of epidemics at a 10-year interval. More than 55 000 cases have been recorded since 1971 with an estimated 2.6 million people at risk. Chronic cutaneous leishmaniasis (CCL) due to *L. killicki* (MON 8) has recently been confirmed, however, its epidemiology is still not clear. Reinfections have been notified in many areas.

VL due to *L. infantum* (MON-1) has been reported sporadically from the northeast parts of the country and new foci have also been recently discovered in the southern region. About 133 cases were recorded in the last four decades with three fatalities. Recent serological study using IFAT on specimens collected from the northeast region indicates a sero-prevalence of 13.9% (108) in dogs and 0% (367) in humans. Epidemiology of the desert foci of VL has never been investigated.

About 22 species of sandfly have so far been identified based on morphological characteristics. Eleven of them belong to the genus *Phlebotomus* which includes *P. papatasi* and *P. bergeroti*, *P. sergenti*, *P. chabaudi*; *P. riouxi*; *P. alexandri* and *P. tobbi*, *P. perniciosus*; *P. longicuspis*; *P. langeroni* and one unidentified species *P. (Larroussius) sp.* The rest belong to the genus *Sergentomyia*.

The main vector for ZCL was established as *P. papatasi*. It is the most common and widespread species in the country. Vectors of VL and CCL have not been determined yet. Reservoir hosts for ZCL are complex. *Psammomys obesus* is a proven reservoir and has been strongly associated with eruption of epidemics. Factors influencing its population fluctuation are still uncertain. *Meriones libycus* and *Meriones shawi* were found infected with *L. major* but their role as reservoirs or liaison hosts still needs to be assessed.

In response to the latest ZCL epidemic, a national control programme was launched in 2006 with the main objective to prevent eruption of epidemics and to stop the spread of the disease to other non-endemic areas. A rational method to control *Psammomys obesus* was developed and implemented for the first time using poisonous gas and tracking powder. It proved to be very effective and eliminated 85% of the targeted population of rodents. A wide-scale campaign of vector control was also applied utilizing fogging and residual spraying of pyrethroids. The national control programme appears to be well structured and implemented, however, proper evaluation is urgently needed.

The number of cases has progressively decreased since the implementation of control activities from 7180 in 2006 to 1800 in 2008. Diagnosis and treatment of cases is available and is free-of-charge. There is a need to improve the surveillance system to avoid under-reporting of cutaneous leishmaniasis cases. Clear guidelines for treatment, vector and reservoir control (*Psammomys*) should be developed. Also, great attention should be paid for the need for capacity-building.

3.6 Morocco

Abderrahmane Laamrani

Anthroponotic cutaneous leishmaniasis (ACL) due to *Leishmania tropica* is transmitted by *Phlebotomus sergenti*. The infection is hypo-endemic in rural areas but epidemics can take place in urban and peri-urban zones. It is prevalent in the centre of the country on the Atlantic side of the Atlas Mountains.

Zoonotic cutaneous leishmaniasis (ZCL) is caused by *Leishmania major*. It remains endemic with epidemic peaks in pre-Saharan areas in the south and the southeast of the Atlas Mountains. The reservoir host is *Meriones shawi* and the vector is *Ph. papatasi*. Visceral leishmaniasis (VL) occurs in the north of the country on the Mediterranean coast and dogs are the reservoir hosts.

Since the start of the national programme in 1997, the incidence has fluctuated, with epidemic peaks interspersed between periods of an endemic steady state. In 2008, an epidemic of ZCL re-emerged in Errachidia and Zagora provinces. A total of 3431, 1697 and 163 cases of ZCL, ACL and VL were reported, respectively.

The national programme is based on a strategy that includes three main components: i) screening and treatment of cases; ii) vector and reservoir host control; and iii) health education. Three objectives were targeted by the programme; i) to stop the transmission of the parasite in active foci; ii) to prevent the spread of the epidemic to areas free from disease; and

iii) early detection and treatment of VL cases. The programme is managed by a central structure that ensures strategic planning. Control activities are decentralized and integrated in the peripheral health structures. The budget is provided by the Government and all services are freely offered to the people. Since 1995, the different forms of leishmaniasis have been compulsorily notifiable diseases in Morocco. Screening and treatment of CL cases is the responsibility of the Ministry of Health. Vector and rodent control are coordinated with the Ministries of Agriculture and the Interior.

3.7 Pakistan

Azam Jah Samdani

Cutaneous leishmaniasis has shown a tremendous spread in the last decade in Pakistan, a country of 130 million people. One study showed 20 000 cases reported in Sind Province. The total number of affected cases may be between 100 000 and 200 000. CL is now endemic in many parts of Pakistan, predominantly in Baluchistan province and also many areas of Sind, Punjab and North West Frontier Province. Exact figures are difficult to obtain. There are multiple possible reasons for this spread: population movements due to militancy, law and order problems, mass migration of the population from endemic to non-endemic areas and vice-versa, including Afghan refugees coming from areas where leishmaniasis is highly endemic.

Unfortunately, medicines are expensive for the poor and are not easily available in the market. Government hospitals have limited or no supply. Beyond passive case detection and treatment, there is no control programme. People and government are more concerned about other diseases in the area, such as: malaria, tuberculosis, diarrhoea and, more recently, dengue fever.

There is no national plan for the control of leishmaniasis; no guidelines or protocols are available; reporting is not obligatory; there is no monitoring or evaluation. Consequently, no annual report is produced.

A disease control centre and surveillance system need to be established. Leishmaniasis should be made notifiable. The current status of the disease should be assessed. A campaign is required through the media to increase awareness of the disease and of preventive measures. Also, advocacy is required among medical professionals working in affected areas. WHO support is needed for treatment, vector control, training and surveillance.

In the past little attempt has been made to develop effective topical preparation for treating cutaneous leishmaniasis in humans. Dr Atta-ur-Rahaman et al (1998) isolated and purified ajoene C₉H₁₄OS, a gel containing 25% active substance was produced and 0.5–1gm was applied topically twice daily on confirmed lesions. One nearby lesion was used as control with application of placebo. Patients were examined fortnightly for 10 weeks. A total of 57 patients out of 70 (81.42%) responded to treatment, while 13 (18.57%) did not respond. According to the investigators the results of their study are suggestive for the development of a cost-effective local therapy for the treatment of CL.

3.8 Saudi Arabia

Suleiman Al Saghayer

Cutaneous leishmaniasis is endemic mainly in the middle and eastern provinces in Saudi Arabia. The sandfly species *Phlebotomus papatasi* and the parasite *Leishmania major* are the proven vector and the causative organism. There are some cases of cutaneous leishmaniasis caused by *Leishmania tropica*. Suspected vector is *Phlebotomus sergenti* in the mountainous areas of the country. The rodent *Meriones libicus* is a proven reservoir host of *L. major* in the Riyadh region while *Psymommous obesus* is known to be the reservoir host of the parasite in the eastern province. In 2007, 3286 cases of CL were reported and the number of cases declined to 2321 cases in 2008. The highest endemic regions are Al Qassim, Al Hasa, Al Madinah, Al Riyadh and Haiel.

Visceral leishmaniasis (VL) is hypoendemic and most of the cases are reported from the Jazan region (29 cases out of 32 cases in 2008). *Phlebotomus orientalis* is probably the vector of VL. Dogs are known to be the reservoir. Saudi Arabia has adapted a new strategy of leishmaniasis control to tackle the problem in about three years starting from July 2009 (four stages of the plan of action) toward the elimination of leishmaniasis from the country. Control activities started in early 1985 in Al Hasa in the eastern region and then expanded to cover all regions (20 regions) concentrating on diagnosis and treatment with vector control. Reservoir control is limited and dependent on collaboration with the municipality and department of agriculture in each region.

3.9 Syrian Arab Republic

Lama Jalouk

Cutaneous leishmaniasis (CL) has been endemic in the Syrian Arab Republic for the last three centuries. Anthroponotic cutaneous leishmaniasis (ACL) is prevalent in Aleppo (*L. tropica*, *P. sergenti*). Transmission occurs from human to human. Zoonotic cutaneous leishmaniasis (ZCL) is prevalent near Damascus (*L. major*, *P. papatasi*) involving a reservoir (Rodent *P. obesus*). CL incidence declined after malaria campaign spraying of insecticides in the 1950s and started to increase sharply from 1985. It is one of the most important public health problems, particularly in Aleppo.

Diagnosis for CL relies on slit and smears performed on every patient with a skin lesion that lasts longer than three weeks free of charge in public health centres. Bone marrow aspiration is carried out on every patient suspected of having VL free of charge in public hospitals. A treatment protocol was issued in 2004 by the Ministry of Health and approved by WHO. Local and systemic treatment by antimonite drugs are available free of charge in public health centres in the endemic districts.

Control measures for ACL are based on: i) passive case detection (e.g. 45 health centres in the Aleppo governorate offer diagnosis and treatment free of charge); ii) active case detection (e.g. 99 745 primary school students were examined in the last educational year in the Aleppo governorate); and iii) indoor spraying (IRS) in the endemic areas (e.g. 64 urban and rural districts highly infected were applied in summer this year in Aleppo governorates). Health

education is conducted through active and passive case detection and IRS activities. For ZCL, control is based on treatment of cases and IRS only. For VL, control includes only treatment of full blown cases. Leishmaniasis diseases are not compulsory reported in the Syrian Arab Republic.

The main constraints faced by the programme are: i) lack of cooperation with other public sectors involved in control activities; ii) lack of epidemiological information on the national and international levels; iii) inadequate cooperation with the private sector; and iv) the need for urgent support for increasing CL incidence (e.g. there is a need for more trained health workers to diagnose and treat CL patients in health centres).

A new strategy has been proposed by WHO and it can be summarized as follows: i) to improve treatment coverage; ii) to withdraw the IRS gradually over five years; iii) make LLINs available in the local market at a low price; and iv) to improve health education tools.

WHO is requested to support leishmaniasis control activities by improving laboratory facilities, assisting capacity-building regarding entomological, epidemiological and laboratory activities and by establishing a network facilitating experience sharing easily at the national and international levels.

3.10 Tunisia

Bejaoui Mondher

ZCL is the main form of leishmaniasis occurring in Tunisia. A total of 2750 cases were reported to WHO in 2008. Control measures for ZCL include: i) identification of high-risk areas; ii) ecological surveillance (reservoir population and vegetation); iii) rodent control (*Psammomys* by deep ploughing and *Meriones* by poisoning); iv) health education; v) participation of the community; and vi) regional committees (intersectoral collaboration). Activities are monitored under the umbrella of the programme of social diseases control. There is obligatory reporting for both ZCL and VL. Data are entered and analysed using Data ease and Epi InfoTM.

3.11 Yemen

Yasin Al Qubati

The leishmaniases (ZCL, ACL and ZVL) are endemic in Yemen. Until now they have not been adequately reported and the real prevalence is unknown. However, patients, especially those with CL, are found in most areas of the country from coastal areas up to a height of 2300 metres above sea level. Most cases are found in Taiz, Ibb, Hajjah, Dalea, Hodiedah, Raymah and Lahj provinces.

Four *leishmania* species cause CL and VL: *L. major*; *L. tropica* and *L. donovani* for CL and *L. infantum* for VL. Researchers identified seven species of *Phlebotomus* and nine species of *Sergentomyia*. Among these, four are considered probable vectors: *P. orientalis* and probably *P. arabicus* for *L. infantum* and *L. donovani*, and *P. sergenti*, as well as *P. saevus* for

L. tropica. Diagnosis of leishmaniasis depends on clinical features or demonstration of parasites in bone marrow aspirates or skin scrapings stained by Giemsa.

Sodium stibogluconate is the only systemic drug used for the treatment of leishmaniasis. It is imported and sold by the private sector; sometimes it is smuggled from unsafe sources and one study showed that (23.7%) of VL cases were drug resistant. In addition to sodium stibogluconate, carbon dioxide snow is also used in the treatment of CL.

There is no leishmaniasis national programme. No guidelines or protocols are available in Yemen. Reporting is not mandatory. There is no national database so scientific analysis is not feasible. As there is no monitoring or evaluation, no annual report is submitted at any level.

To control leishmaniasis in Yemen a leishmaniasis control programme must be established. A strategic plan must be formulated which must include: eco-epidemiological studies to identify the vectors, reservoir hosts and the parasites, as well as methods to control them. The disease must be mapped.

4. GROUP WORK

4.1 Group work 1: Elaboration of a regional surveillance system

The aim of the regional surveillance system is to ensure monitoring of leishmaniasis trends in the Region to permit the detection of new emerging foci, to allow the monitoring of spatial dynamics of different forms of *Leishmania*, including visceral leishmaniasis, in order to better conduct preventive measures, utilise diagnostic and curative resources, increase awareness among policy-makers and to ensure safe land use. The regional surveillance system should be able to evaluate, review and exchange knowledge and experience between different systems already existing in the Region (strengths, weaknesses, failures and successes) and use a common language with standardized case definitions (suspected, probable, confirmed) and data collection forms. A harmonized regional statistical analysis plan and data management (including training on computing using Epi data, Epi InfoTM) is planned to be created.

Four steps were suggested as a work plan to implement this activity, they are to:

- conduct two technical working group meetings for programme and data managers, for the creation of standardized reporting forms, standardized regional indicators and basic statistical analysis plan.
- produce a control manual for leishmaniasis in the Region as a WHO document.
- develop monitoring and evaluation protocols for the Region.
- establish a regional group of leishmaniasis experts as requested by the WHA60.13.

4.2 Group work 2: Case management

This group addressed the standardization of case management for cutaneous leishmaniasis. Five main topics were discussed: case definition; population education;

orientation of private and public health staff and referral system; diagnosis (clinical, laboratory); and, treatment (local, systemic, dressing the lesion, follow-up) (see Annex 2).

5. CONCLUSIONS

Cutaneous leishmaniasis is currently a serious public health and social problem on the increase in different countries. It is globally estimated that 1.5 million cases of CL occur every year with an attributable disease burden estimated to be 0.77 million disability-adjusted life years. Countries in the Eastern Mediterranean Region contribute to approximately 60% of the total burden.

For many years, the public health impact of leishmaniasis in these countries has been grossly underestimated, mainly due to lack of awareness of its serious impact on health, and also because it is strongly linked to poverty affecting mainly the poorest. Over the last 10 years, endemic regions have been spreading further and there has been a rampant increase in the number of recorded cases of the disease.

Cutaneous leishmaniasis-related disabilities impose a great social burden, especially for women, impair economic productivity and greatly affect quality of life. On several occasions, epidemics have significantly affected large segments of populations thus becoming a disease which impedes socioeconomic development. Many aspects related to eco-epidemiology, case management and evidence-based therapy remain unclear complicating the establishment of proper control measures.

Acknowledging these constraints, and with the aim of reducing the morbidity and disability caused by leishmaniasis, the World Health Assembly in 2007 adopted Resolution WHA60.13 on "Control of leishmaniasis". This resolution encourages the drafting of guidelines on prevention and management of leishmaniasis, with a view to elaborating regional plans and fostering the establishment of regional groups of experts with currently available tools and encourages the promotion of research pertaining to leishmaniasis control.

Leishmaniasis programme managers requested the Regional Office and respective ministries of health to encourage and facilitate the process of reaching official consensus between countries in order to launch a regional leishmaniasis control programme. The meeting of programme managers on leishmaniasis control hosted by the Regional Office in Sharm-El-Sheikh, Egypt, from 27 to 29 October 2009, made the following recommendations to ministries of health and WHO Regional Office.

6. RECOMMENDATIONS

To Member States

1. Ensure the establishment of national control programmes for leishmaniasis in all endemic countries and strengthen already existing programmes according to needs (particularly human resources, comprehensive strategies and plans of action, financial resources).

2. Identify the best possible evidence-based treatment for ACL, ZCL and VL to facilitate access to treatment for all patients in the Region, coordinating efforts with the private sector.

To Member States and WHO

3. Encourage research to fill gaps in knowledge pertaining to leishmaniasis epidemiology, control and case management.
4. Create a standardized regional leishmaniasis surveillance system.

To WHO

5. Produce a manual on the control of leishmaniasis in the Region in order to harmonize the case management and the control measures related to the reservoir host and the vector.
6. Develop a comprehensive capacity-building strategy based on regional training workshops on leishmaniasis epidemiology, control and case management.
7. Establish a regional group of leishmaniasis experts as a consultative body for countries in the Region.

Annex 1

AGENDA

27 October 2009

08:30–09:00 Registration

09:00–10:00 **Opening session:**

Opening remarks

Objectives of the meeting

Introduction of participants

Election of Chairman and rapporteur

10:15–10:45 WHO Leishmaniasis Global Control Programme, *Dr. J. Alvar*

10:45–11:15 Current situation of leishmaniasis in the Region, *Dr. J. A. Ruiz*

Session 1: Country reports

11:15–11:30 Morocco

11:45–12:00 Tunisia

12:00–12:15 Libyan Arab Jamahiriya

12:15–12:30 Egypt

12:30–12:45 Saudi Arabia

12:45–13:00 Yemen

14:30–14:45 Syrian Arab Republic

14:4–15:00 Iraq

15:00–15:15 Islamic Republic of Iran

15:15–15:30 Afghanistan

15:30–15:45 Pakistan

16:15–17:30 Discussions: wrap up of Day 1

28 October 2009

Session 2: Group work on Eastern Mediterranean leishmaniasis regional programme

08:30–13:00 Elaboration of a regional leishmaniasis surveillance system: current situation, challenges and way forward

14:30–15:30 Leishmaniasis case management

15:30–16:00 Development of Plan of Action for the Eastern Mediterranean
Leishmaniasis regional programme

16:15–17:30 Discussions: wrap up of Day 2

29 October 2009

09:00–12:00 Discussion of Plan of Action and implementation issues

12:00–13:00 Conclusions and Recommendations

14:00–15:00 Closing remarks

Annex 2

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Annex 3**OUTCOME OF THE WORKING GROUP ON CASE MANAGEMENT****Case definitions**

- Suspected case of CL: patients coming from endemic areas with papule or cutaneous lesions compatible with the clinical description of leishmaniasis; mostly on exposed parts of the body (limbs and face), which persist for more than two weeks.
- Confirmed case of CL: suspected cases confirmed by laboratory.

Population education

- It should include the following aspects: self protection (repellants, long sleeve, protection from the vector, etc.); sanitary environment; LLITNs (impregnated curtains, chadors, etc.); education of school age groups; IEC (information, education, communication) materials (TV spots, radio, brochures, posters, etc.); sectoral and intersectoral collaboration.

Orientation of private and public health staff and referral system

- To develop training material and conduct training workshops for private and public health staff (clinicians, nursing, para/medics and laboratory technologists /microscopists)
- To establish standardized monitoring and evaluation, data collection and feedback and referral system.

Diagnosis*Clinical*

- Symptoms: Nodular or ulcerative lesion on naked parts of the body lasting for more than two weeks; single or multiple; painless and not responding to treatment.
- Signs: Indurate elevated nodule or ulcer on exposed skin lasting for two weeks. Person from or visiting endemic area.

Laboratory

- Direct smear examination with Giemsa.

Treatment

- Criteria for local and systemic treatment are:

* 1–5 lesions → local treatment

* More than 5 lesions → systemic treatment

* Below 3 cm diameter of each lesion → local treatment

Local

- The following medicines/techniques can be used alone or in combination: Glucantime[®]; Pentostam[®]/sodium stibogluconate; cryotherapy; and thermotherapy.
- Local management of the lesion for CL has to be with an antiseptic (Betadine[®], eosin, etc.) and sterile gauze has to be used for the dressing.

Systemic

- Zoonotic CL: antimonials, up to 20mg/Kg body weight daily for two weeks.
- Anthroponotic CL: antimonials, 20mg/Kg body weight daily for three weeks.

Evaluation of treatment (follow-up)

- First follow-up after 4 weeks (after completion of therapy)
- Monthly for next 3 months

Relapse cases

- Repeat the course of treatment (2–3 times)

Failure cases

- Try combination treatment
- Change the therapy

Recommendations

Research

- Testing existing drugs in proper design clinical trials and testing new alternatives, preferably topical therapy.
- New non-invasive diagnostic tools.
- New innovative control measures.

Policy/Essential medicines list

- New medicines tested in trials and found effective to be introduced for the leishmaniasis treatment (after approval from concerned authorities).

Advocacy

- Political commitment (national and regional level). Guidelines of this review meeting to be passed on to health ministries of concerned countries through programme managers to be used in the national guidelines.
- Intersectoral cooperation between concerned ministries.
- Intercountry support to local programme for border areas.

Monitoring

- Prepare follow-up checklists at all levels (national, provincial, district).

PLAN OF ACTION FOR THE REGIONAL LEISHMANIASIS PROGRAMME IN THE EASTERN MEDITERRANEAN REGION 2010 (BY MONTHS)

[illegible]

