LEISHMANIASIS

CUTANEOUS LEISHMANIASIS

CONTROL IN SELECTED COUNTRIES OF THE WHO EASTERN MEDITERRANEAN AND AFRICAN REGIONS

REPORT OF AN INTERREGIONAL NETWORK MEETING
CASABLANCA, MOROCCO
23–24 JUNE 2014

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Cutaneous leishmaniasis: control in selected countries of the WHO Eastern Mediterranean and African Regions

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1. Introduction

An interregional network meeting on the control of cutaneous leishmaniasis in selected countries of the African Region and the Eastern Mediterranean Region of the World Health Organization (WHO) was organized by WHO headquarters in Casablanca, Morocco, on 23–24 June 2014.

The objectives of the meeting were:

- to provide an update on the control of cutaneous leishmaniasis at the country level;
- to discuss the progress of and challenges to implementation of the *Framework for action on cutaneous leishmaniasis in the Eastern Mediterranean Region 2014–2018*[1] and the *Manual for case management of cutaneous leishmaniasis in the WHO Eastern Mediterranean Region*[2] in the period February–June 2014;
- to discuss how to accelerate implementation of the Regional Framework, including issues related to the regional leishmaniasis surveillance web-based tool, training and updating of country profiles.

In his opening remarks, Dr Jean Jannin, Coordinator, Innovative and Intensified Disease Management unit, WHO Department of Control of Neglected Tropical Diseases, stated that the meeting was convened with the aim of revitalizing the regional cutaneous leishmaniasis control programme. Despite the challenges faced in highly endemic countries such as Afghanistan and the Syrian Arab Republic owing to the current armed conflicts, other countries could still implement control activities. Given the epidemiological similarities between countries from the different WHO Regions in the Mediterranean Basin, representatives from the WHO Regional Office for Europe and the Ministry of Health of Algeria also attended the meeting. The meeting provided a forum for programme managers to discuss and promote the reinforcement of a regional approach to tackling the disease by creating a network of countries committed to leading the process.

Dr Abderrahmane Laamrani El Idrissi (Morocco) was elected as the Chairperson of the meeting and Dr Mourad Mokni (Tunisia) as its Rapporteur. The Agenda is included as Annex 1 and the List of participants as Annex 2. This report was prepared by Dr Mourad Mokni and Dr José Antonio Ruiz Postigo from the WHO Secretariat.

[1] Framework for action on cutaneous leishmaniasis in the Eastern Mediterranean Region 2014–2018. Cairo: World Health Organization Regional Office for the Eastern Mediterranean; 2014 (http://applications.emro.who.int/dsaf/EMROPUB_2013_EN_1591.pdf).

[2] Manual for case management of cutaneous leishmaniasis in the WHO Eastern Mediterranean Region. Cairo: World Health Organization Regional Office for the Eastern Mediterranean; 2014 (http://applications.emro.who.int/dsaf/EMROPUB_2013_EN_1590.pdf).

2. Country presentations on control of cutaneous leishmaniasis, 2012–2013

2.1 Afghanistan

Muhammad Sami Nazhat
Naimullah Safi

The national leishmaniasis programme depends on external financial support including for the procurement of medicines. Very few donors are interested in supporting control activities. In the period 2008–2012, financial support from donors permitted the establishment of a successful programme in six provinces. Since then, unfortunately, support has dwindled and the health-care delivery system has collapsed. Most health facilities have no antileishmanial medicines and patients do not seek medical care. As a result, passive case detection has decreased dramatically, not because fewer cases are detected but because patients cannot access adequate treatment. Irregular access to treatment and patients who default from treatment may increase the rate of resistance.

During questions, the main topics discussed were: (i) the role of traditional medicine; (ii) how to obtain accurate information on parasite species; (iii) alternatives to the lack of sufficient financial support; and; (iv) understanding the behaviour of *Phlebotomus sergenti* in order to identify innovative control measures for anthroponotic cutaneous leishmaniasis.

The answers highlighted that: (i) traditional medicine does not seem to affect the national leishmaniasis programme; (ii) there are no up-to-date accurate data and the two forms of the disease are mainly differentiated by clinical features; (iii) given the high cost of procuring pentavalent antimonials for the Kabul region only – estimated at US$ 400 000 annually – WHO has suggested introducing other therapeutic means such as thermotherapy. In response to a suggestion that patients be asked to contribute towards the reduced price (US$ 1.2 per vial), it was noted that the Afghan constitution mandates the provision of medicines free of charge to patients. Unfortunately, when the public health sector does not provide medicines, patients eventually pay a much higher price for them in the private sector; and, (iv) investment in research is needed to determine whether anthroponotic cutaneous leishmaniasis is transmitted only through skin lesions so that covering them could prevent transmission. The challenge is the difficulty of testing the hypothesis through good clinical practice in the current Afghan context. Observations from the Syrian Arab Republic showed that patients were not adhering to this option.

2.2 Algeria

Harrat Zoubir

Cutaneous leishmaniasis is a major public health problem in Algeria. It is endemic in 40 of the 48 provinces, with 10 million population at risk of the infection. Some 90% of patients are reported from 14 provinces. Treatment is provided free of charge and administered only in hospitals on the basis of parasitological confirmation.

In 2005, a total of 30 227 cases were reported. This situation led to the creation in 2006 of a national control programme with spraying of insecticide (deltamethrin). In 2007, only 6764 cases were reported, but in 2011 the number of cases exceeded 14 000. In 2013, 6428 cases were

reported. The extent to which this decrease arose from the natural history of the disease or from the control activities implemented is not known. Treatment failure has been documented in Algeria, where the Pasteur Institute tested 35 isolates from patients infected with *Leishmania major*, obtaining 40% in vitro resistance to pentavalent antimonials.

The main challenges to implementing control activities are the lack of legislation on vector control and insufficient intersectoral collaboration. In addition, the supervision of spraying operations is deficient and spraying techniques and equipment are inadequate.

During questions, the main topics discussed were: (i) the urgent need to set up data systems to monitor the disease in neighbouring countries; (ii) the probable link between the decrease in the number of cases and the decrease in the *Psammomys obesus* population; *Meriones shawi* is difficult to control because Algeria forbids the spraying of poisons near houses; and (iii) the lack of active case searches and post-treatment follow-up to assess the link between in vitro resistance and its impact on patients.

2.3 Islamic Republic of Iran

Mohammed Reza Shirzadi

Cutaneous leishmaniasis is highly prevalent in the Islamic Republic of Iran. In the period 2012–2013, a total of 37 001 cases were reported. This represents an incidence of 25/100 000 people in a country of some 77 million inhabitants where 72% of the population lived in endemic areas.

The national disease control strategy was revised in 2006 and it is now based on the national guidelines with standard case definitions and treatment protocols. There is an online standard recording and reporting system to support vector and reservoir control activities as well as evaluation.
Surveillance is based on health education for health workers, patients and the population, immediate case-finding and treatment in health facilities where diagnosis, treatment and wound-dressing are provided free of charge.

In 2011, the country was divided into three operational regions as regards cutaneous leishmaniasis control activities. In the period 2011–2013, two regional meetings were held each year, and 98 districts were supervised and evaluated at least twice.

Interestingly, from 1983 to 2004 the incidence rate and the number of cases increased every 5 years. However, from 2006 to 2013 the incidence steadily decreased from 35/100 000 to 22/100 000 and the number of cases fell from 24 000 to 16 000.

2.4 Morocco

Abderrahmane Laamrani El Idrissi

The number of cases of zoonotic cutaneous leishmaniasis due to *Leishmania major* decreased from 6444 in 2010 to 537 in 2013. The number of cases of anthroponotic cutaneous leishmaniasis due to *L. tropica* remained stable at around 2000 cases annually for the same period.

The objectives of the national strategic plan 2013–2016 are: (i) to halve the incidence of *L. tropica* by the end of 2016; (ii) to interrupt transmission of cutaneous leishmaniasis due to *L. major* in foci with active transmission; and (iii) to treat all diagnosed cases promptly.

The control strategy includes active screening in schools twice a year (March and December) and in endemic localities once a year (December for *L. major* foci and March for *L. tropica* foci).

In 2012, the rate of coverage with active screening was 89% in schools and 39% in localities. The rate of parasitological confirmation was 100% for *L. tropica*. Only 4.55% of patients received systemic treatment. No treatment centre reported any rupture of stock. Some 150 training sessions and 1783 health education sensitization sessions were conducted. Control activities protected 645 545 people against rodents and 10 109 people against vectors. Bednets were distributed to protect 11 897 people.

Challenges include: the spread of anthroponotic cutaneous leishmaniasis to periurban areas; insufficient laboratory personnel and training; high turnover of personnel; and insufficient intersectoral collaboration and implication of decision-makers.

2.5 Tunisia

Afif Ben Salah

Cutaneous leishmaniasis is a public health problem in Tunisia. The incidence is increasing, with 15 out of 24 governorates endemic for the disease. In 1983, only one governorate was endemic. Transmission is tending towards urbanization.

Data from 10 governorates show that 23% (884 328/3 783 683) of the population is at risk (census figures of 2010). In the period 1998–2007, a total of 57 591 cases were reported.

To prevent re-colonization by chenopods in areas in which they were previously removed by ploughing as a control strategy, there should be annual ploughing and cleaning.

3. Lessons learnt from other Regions

3.1 WHO European Region

Elkhan Gasimov

Leishmaniasis is a neglected and poorly reported disease, with an underestimated or undetermined burden in most countries of the WHO European Region. The regional incidence of visceral and cutaneous forms of the disease is estimated to be less than 2% of the global burden of leishmaniasis according to the latest WHO estimate of leishmaniasis incidence.

Cases of visceral leishmaniasis, which is due to *L. infantum*, are reported in countries of western and south-eastern Europe, central Asia, south Caucasus and Turkey. The majority (nearly 75%) of cases are found in Albania, Georgia, Italy and Spain.

Human (and canine) leishmaniasis is a re-emerging problem in some parts of southern Europe, with a steady increase in the prevalence of visceral disease. Almost 80% of the total number of cutaneous cases are in Israel, Turkey, Turkmenistan and Uzbekistan. Cases of anthroponotic cutaneous leishmaniasis, which is caused by *L. tropica*, have been reported from Azerbaijan, Greece, Israel, Turkey and Uzbekistan. The disease is endemic predominantly in densely populated settlements where person-to-person transmission is maintained by *Phlebotomus sergenti*. Cases of zoonotic cutaneous leishmaniasis caused by *L. major* have been registered in central Asia, the south Caucasus, Israel and Turkey, and the disease is epidemic-prone. Cases of cutaneous leishmaniasis caused by *L. infantum* have been reported in some south Caucasian, central Asian and European countries, with proven and suspected vectors the same as those for visceral leishmaniasis.

Leishmaniasis is a new programme in the WHO European Region. In 2011, the malaria programme was expanded to include other vector-borne and parasitic diseases, including leishmaniasis. Since then, a number of activities have been conducted with assistance from WHO headquarters, including coordination meetings, supplies of medicines to selected countries, data collection and analysis.

In 2014, the WHO European Regional Office for Europe published the *Strategic framework for leishmaniasis control in the WHO European Region 2014–2020*.[1] The regional goal is, by 2020, to eliminate mortality due to visceral leishmaniasis, significantly reduce morbidity due to visceral and cutaneous disease, contribute to improving the health status of populations at risk, and minimize the socioeconomic losses provoked by the disease in countries where leishmaniasis is a public health problem.

[1] Strategic framework for leishmaniasis control in the WHO European Region 2014–2020. Copenhagen: World Health Organization Regional Office for Europe; 2014 (http://www.euro.who.int/__data/assets/pdf_file/0017/245330/Strategic-framework-for-leishmaniasis-control-in-the-WHO-European-Region-20142020.pdf).

The objectives of the programme are:

- to strengthen public health services' institutional capacities and enhance the capacity for decision-making related to leishmaniasis and its control;
- to improve capacities for early detection as well as access to appropriate and affordable diagnosis and treatment of cases of visceral leishmaniasis and cutaneous leishmaniasis;
- to reinforce disease surveillance;
- to improve capacities for the prompt response to and prevention of leishmaniasis outbreaks;
- to strengthen appropriate vector and reservoir control interventions;
- to strengthen research capabilities;
- to increase community awareness and participation in leishmaniasis prevention;
- to build and scale up partnership action for leishmaniasis control;
- to enhance intersectoral collaboration; and
- to strengthen cross-border coordination and cooperation.

3.2 WHO Region of the Americas

José Antonio Ruiz Postigo

The WHO Regional Office for the Americas has established an online surveillance system to collect and analyse country data on leishmaniasis (SisLeish). The portal contains information on the number of cases and the incidence rate for each type of disease up to the second subnational level. It also displays information about the vector and the medicines used in each country. This initiative has allowed countries to standardize indicators and improve the reporting rate.

4. Progress of and challenges to implementation of the Regional Framework and the Manual for case management, February–June 2014

4.1 Afghanistan

Muhammad Sami Nazhat
Naimullah Safi

There are several differences between the current national protocols and the Regional Framework and the Manual. The current national protocols lack several definitions and indicators such as the "number of months between onset of symptoms and diagnosis" or those related to treatment outcome. The treatment options are in practice limited to pentavalent antimonials only.

Following the WHO recommendations, new indicators have been incorporated to a draft document of the national control strategy and treatment guidelines for further technical review by the Ministry of Health. The enhanced reporting forms, including the important indicators for case management evaluation, are used in Balkh, Kabul, Kandahar, Helmand, Herat and Parwan provinces.

4.2 Algeria

Harrat Zoubir

Given the eco-epidemiological similarities between Algeria and the neighbouring countries in the WHO Eastern Mediterranean Region, the documents developed by the Region were shared with Dr Zoubir before the meeting for comparison with those used in Algeria.

The main differences are the indications for local or systemic treatment, the contraindications for systemic treatment with pentavalent antimonials, the intralesional and systemic treatment protocols, and the surveillance and follow-up forms. Some indicators are not available at the country level (e.g. % of patients with size/number/location of lesions registered, % of patients treated systemically, treatment outcome, % of severe adverse events). The dosage of pentavalent antimonials per kg body weight per day is three times higher.

The country wishes to increase the number of health facilities providing diagnosis of the disease, improve surveillance and notification within the private sector, enhance the management of cases in whom pentavalent antimonials have failed, and reduce the national incidence to below 1 per 10 000 inhabitants by 2018.

The WHO protocol is considered convenient for the country and it would be pertinent to adopt it, mainly to standardize surveillance forms and the treatment schedule.

4.3 Islamic Republic of Iran

Mohammed Reza Shirzadi

Several challenges have been encountered in meeting the targets proposed in the Regional Framework, notably the difficulties in detecting infected cases with no relevant clinical manifestations and referring those who refuse treatment.

Efforts are being made to sensitize patients in order to complete treatment. Treatment results are poorly defined so it is difficult to report on this indicator.

4.4 Morocco

Abderrahmane Laamrani El Idrissi

The national programme reviewed and compared its national strategy and case management protocols with the regional documents. The analysis showed that some national objectives are more ambitious than those proposed by WHO (e.g. to interrupt transmission of cutaneous leishmaniasis due to *L. major* in active foci by 2016 in Morocco). In other instances, however, the national protocols lack some of the activities proposed at the regional level (e.g. a geographical information system, and indicators such as the "number of months between onset of symptoms and diagnosis" as well as those related to treatment outcome).

5. Regional activities to strengthen surveillance systems and capacity-building

5.1 Regional surveillance system and country profiles

José Antonio Ruiz Postigo

To support countries in adapting their national surveillance systems to the proposed regional surveillance system, WHO is preparing an application and an automated report format that can easily import data from Excel files and generate up-to-date leishmaniasis country profiles. This will allow a standardized format for information-sharing and analysis.

In order to implement the regional surveillance system effectively, countries need to start using the reporting forms provided through the regional documents. WHO will then help with any challenges in completing the forms. The main objective is for countries to have more accurate epidemiological and case management information on the actual situation to better guide planning decisions for disease control.

5.2 International e-learning course

José Antonio Ruiz Postigo

WHO is collaborating with the Open University of Catalonia (Universitat Oberta de Catalunya) to conduct an interactive online course on the case management of cutaneous leishmaniasis. The objective is to disseminate the Manual on case management. The course will be facilitated by Dr Mourad Mokni, one of the co-authors of the Manual, in English and French.

The methodology will be an asynchronic online teaching where participants can download the material and then post queries and comments in a discussion forum so that other pupils and the facilitator can provide feedback. The duration of the course will be 3 months for a total of 150 hours. The certificate will be issued under the European Credit Transfer System.

Participants from WHO's African, Eastern Mediterranean and European Regions are welcome on this course, which will be sponsored by WHO for Ministry of Health personnel.

6. Conclusions

The participants of the meeting concluded that:

1. Cutaneous leishmaniasis control activities will be coordinated by a newly established WHO network for cutaneous leishmaniasis control whose main members will be from the national leishmaniasis programmes.

2. The network will be coordinated by WHO through its headquarters and the African, Eastern Mediterranean and European Regional Offices.

3. The vision of the network is:
    a. To contribute to reducing the burden of cutaneous leishmaniasis in endemic countries.

4. The objectives of the network are:
    a. To improve access to health services and disease management for people living in areas at risk of cutaneous leishmaniasis by enhancing access to health facilities for case management of the disease.

    b. To decrease disease transmission by addressing all aspects involved in the cycle (e.g. vector and reservoir control; preventive measures).

5. The targets of the network are:
    a. To assess the baseline situation of cutaneous leishmaniasis by establishing the disease burden in each country through thorough data analysis or field surveys where appropriate.

    b. To establish a global surveillance system, including global mapping or geographical information systems, for information-sharing and monitoring the disease trend.

    c. To improve patients' access to alternative or new treatments such as creams and ointments by introducing new formulations for easier administration of medicines and extending capacities for treatment coverage.

    d. To design and implement surveillance tools to predict the emergence of outbreaks, and prevent and decrease the impact of the disease through case management and disease control measures.

Annex 1. Agenda

Monday, 23 June 2014

08:30–09:00	Registration
09:00 – 09:30	Opening session • Opening remarks • Objectives • Introduction of participants • Election of Chairperson and Rapporteur
09:30 – 10:30	**Updates on control of cutaneous leishmaniasis, 2012-2013** • Afghanistan, Algeria, Iran (Islamic Republic of), Morocco, Tunisia
10:45–11:15	Lessons learnt from other Regional Leishmaniasis Control Programmes
11:15–12:15	**Progress with and challenges to implementing the Regional Framework and the Manual (February–June 2014)** • Morocco (LEISHGUIDE project) • Afghanistan, Islamic Republic of Iran, Tunisia
13:00-14:00	• Regional surveillance system and country profile
14:00–16:30	Discussion of how to accelerate the implementation of the regional strategy: tools for surveillance system and country profiles

Tuesday, 24 June 2014

	The way forward • Training plans at interregional and country levels (international e-learning course) • Practical aspects of addressing interregional collaboration and standardization under the same epidemiological context • Finalization of standardized country profile format • Workplan of activities and timeframe, 2014 **Conclusions and recommendations** Closure

Annex 2. List of participants

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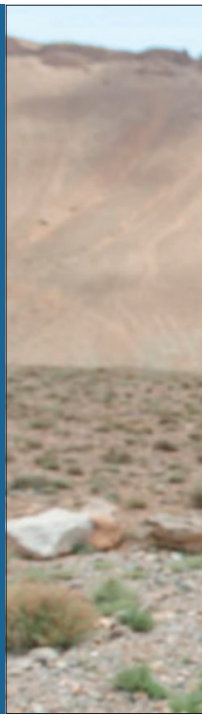

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