

# PhD defence Issam Bennis

## Cutaneous leishmaniasis in Morocco: psychosocial burden and simplified diagnosis

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Inschrijven niet verplicht



Dit is de omschrijving

### Supervisors

- Prof. Dr. Marleen Boelaert (Institute of Tropical Medicine)
- Prof. Dr. Jean-Claude Dujardin (University of Antwerp)

### Summary

Cutaneous leishmaniasis (CL) is a neglected tropical disease (NTD) affecting frequently more than 4000 persons per year in Morocco. The social representations of CL were never explored, though efficient control requires understanding of people's perception and community involvement. To fill this gap, and to facilitate early diagnosis of CL, our research aimed to document the psychosocial burden of CL in these regions, and to assess a new diagnostic tool.

We documented the intersectoral response measures against 2010-2012 outbreak in Errachidia province. The reservoir of *L. major*, a rodent, *Meriones shawi*, was targeted using strychnine-poisoned wheat baits.

In 2015, we conducted qualitative research in a group of high school students living in *L. major* areas to study their perception of CL.

Furthermore, we conducted focus group discussions on CL perception and its psychosocial burden in the adult population in Tinghir and Errachidia provinces (*L. tropica* and *L. major* areas respectively).

We related our findings on psychosocial burden to those in the international literature by conducting a scoping literature review.

Finally, we assessed the accuracy of a new rapid diagnostic test (RDT) of CL in the real-life conditions of primary health centers. We compared the RDT results with a composite reference standard based on PCR and microscopy.

Between 2004 and 2013, 7099 cases of CL were recorded in Errachidia Province. Almost 20% of 448 high school students reported a CL lesion and 87% said it could lead to psychological consequences. Adult participants in the focus groups considered the impact of CL lesions and scars as important, especially for young women since their stigmatization may lead to refusal of marriage. The scoping review confirmed that localized CL is a source of pronounced psychological suffering, stigmatization, and reduction of quality of life in several endemic countries.

The RDT showed a sensitivity of 68% [95% CI, 61-74], a specificity of 94% [95% CI, 91-97], a positive predictive value of 95% [95% CI, 92-98] and a negative predictive value of 64% [95% CI, 58-70]. Species typing on a subsample of 87 PCR positives using PCR-RFLP and PCR-sequencing identified *L. tropica* (n=40), *L. major* (n=35) and *L. infantum* (n=12). Our findings suggest that this novel RDT is a useful addition to traditional diagnosis in Morocco, especially in remote localities.

The rising number of CL scars cases in Morocco should mobilize more public health attention to sustain preventive measures against vectors and animal reservoirs. The case management should be reviewed based on current evidence.

