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## Letter to the Editor

# Socio-Environmental Risk Indicator: A Possible Tool for Surveillance of Lymphatic Filariasis

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## Dear Editor-in-Chief

Lymphatic filariasis is a parasitic and neglected disease that causes clinical pictures of lymphedema and hydrocele, conditions that have significant social and economic consequences (1). It is considered a serious public health problem and currently an estimated 859 million people in 50 countries around the world are still threatened by filarial infection (2).

With the development of new treatment strategies and new diagnostic methodologies, lymphatic filariasis was chosen as one of the diseases with global elimination potentials. In 2000, the WHO launched the Global Programme Elimination Lymphatic Filariasis (GPELF) with two central pillars: (a) interruption of transmission through mass drug administration (MDA) of antifilarial drugs and (b) relief of suffering in chronic patients through management of morbidity and disability prevention (MMDP) (1).

After 20 years of the program, validation of the elimination of LF as a public health problem is advancing. An estimated 925 million people have received MDA in areas at risk. To ensure this progress continues, the WHO recommends that countries after MDA continue to meet the GPELF milestones by conducting surveillance on lymphatic filariasis to detect any possible recrudescence of infection (2,3).

The WHO recognizes the Transmission Assessment Surveys (TAS) methodology as the most appropriate for the stage of evaluation of measures taken to interrupt the transmission of filarial infection. However, the extensive resource requirements and low sensitivity in

low prevalence settings, common in post-MDA areas, may render this methodology flawed. Furthermore, there is no standard methodology for the identification of areas at risk and that deserve attention and priority in the implementation of surveillance actions (4).

The characterization of risk areas can contribute to decision making during the surveillance phase (4). In this scenario, statistical techniques of spatial analysis in health have been used to help determine environmental factors and epidemiological patterns (1). Socio-environmental risk indicators are tools that could support surveillance programs on lymphatic filariasis with low cost, simple format and based on secondary data. However, until now, the idealized socio-environmental risk indicators are based on the number of cases and present limitations in areas that need investigation independent of the presence of the disease (5,6).

Studies on the spatial distribution of vector-borne parasitic infections that consider their relationship to environmental risk factors are of great relevance for decision making in epidemiological and environmental surveillance (7, 8). A socio-environmental risk indicator based on factors associated with filarial infection transmission, such as those predisposing to vector proliferation, could be effective and useful in identifying risk areas for filariasis and other mosquito-borne diseases (e.g. Zika, Chingunya and dengue), regardless of the presence of cases.

This tool could be integrated into health systems and support planning and policy formulation activities, resource allocation and priority setting in the different spheres of risk (1). Given this need, research needs to be developed in post-MDA countries, such as Brazil, a GPELF signatory and with four endemic municipalities (Recife, Olinda, Jaboatão dos Guararapes and Paulista) in the state of Pernambuco (9). The results found could bring necessary discussions and possibilities for the continuity and effectiveness of the program and thus, could affect the surveillance actions in the country and be replicated in other countries that seek validation of the elimination of lymphatic filariasis, such as India, Indonesia, Myanmar, Nepal, East Timor and Bangladesh.

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## Conflict of Interest

Non-declared.

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