

Study examines local perceptions of Chagas disease in Bolivia

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A new study examines local perceptions of Chagas disease in a region where the infectious agent is endemic. The results underline the need to take social and cultural factors into account in campaigns designed to

curb infectious diseases.

Chagas disease is found primarily in Latin America, but globalization is promoting its spread beyond the region. The condition is caused by the unicellular organism *Trypanosoma cruzi*, which is transmitted to humans by certain species of blood-sucking bugs. If left untreated, the infection can become chronic, which may in turn result in life-threatening damage to the heart or the intestinal tract. The World Health Organization (WHO) has classified Chagas disease as one of the world's neglected tropical diseases. Cases have also been reported in Germany, mainly among immigrants from Latin America. An international team of researchers led by Michael Pritsch (Division of Infectious Diseases and Tropical Medicine, Ludwig-Maximilians-Universitaet (LMU) in Munich Medical Center) has now carried out a study of public perceptions of the disease in the Monteagudo region of Bolivia, the country with the highest incidence of infection worldwide. The results suggest new approaches that should help to enhance the long-term efficacy of campaigns intended to check the spread of [infectious diseases](#) by ensuring that the measures selected are more widely accepted and utilized by the populations affected.

Monteagudo is located in the Bolivian Chaco—a region in the southeast of the country, where around half of all adult inhabitants are infected with *T. cruzi*. "Several NGOs have already initiated health projects specifically intended to reduce the incidence of infection with *T. cruzi*," says Sandra Parisi, the lead author of the new report. As part of her work for the German charity DAHW Deutsche Lepra und Tuberkulosehilfe e.V., Parisi interviewed in collaboration with Bolivian medical students and clinical researchers approximately 10% of all households in Monteagudo with the aim of assessing their attitudes to the campaigns that are underway, and their level of knowledge of both the disease and ways to reduce the risk of infection. The project presented several logistical challenges. "In some cases, we had to undertake journeys

lasting several days in order to reach these people. And very often, the only way to travel to the households was on horseback," Parisi explains. In addition to visiting people in their homes, the team conducted in-depth interviews with other key protagonists including patients, doctors, community leaders and traditional healers. "To the best of our knowledge, this is the largest and most comprehensive such study that has ever been done in this region," says senior author Michael Pritsch.

In comparison with earlier studies in Latin American countries, the authors found that the population of Monteagudo knew more about primary preventive measures, i.e. the need to control the insects that transmit the disease. This finding suggests that State-supported and international campaigns in recent years have been successful. On the other hand, far fewer people were aware of the fact that the disease can also be transmitted via contaminated foods and from mother to child.

Chagas is a source of anxiety for the local population, and people who contract the disease can face social consequences—such as exclusion from consideration for jobs and bank loans. In spite of these negative connotations, the researchers were astonished to discover that the [disease](#) is also regarded as a normal part of life in the region. "We were often told that if you don't have Chagas, you're not a real chaqueño," says Parisi. Another factor that the authors found disturbing was widespread opposition to the use of benznidazole, the current treatment of choice. Many prefer alternative treatments because they are more accessible locally and have fewer side-effects than the recommended drug. One reason for this skepticism lies in a misconception regarding the results of rapid, antibody-based tests for the presence of the parasite. Many patients mistakenly interpret a second positive test as proof that the treatment is ineffective.

"This underlines the importance of including a more active, participatory component in future campaigns, in order to identify and correct such

misunderstandings early on," says Pritsch. For the region's inhabitants, the opinions of other members of the local community, veterinarians and traditional healers were accorded at least as much weight as those of the doctors. According to the study's authors, this factor makes it imperative to ensure that all of the relevant protagonists are consulted and informed in future projects.

"Our study constitutes an impressive demonstration of the fact that medical research and the provision of new methods of diagnosis and treatment does not automatically lead to improvements in public health. It represents only one aspect of the process," says Pritsch. He and his colleagues therefore argue that a holistic understanding of illness and its local manifestation, which includes a consideration of its social and cultural aspects in the community concerned, is required to enhance the acceptance and efficacy of health campaigns. Studies of patient-centered provision of healthcare, such as that reported in the new publication, can contribute to improvements in the practical implementation of concepts developed in the field of Global Health.

More information: Sandra Parisi et al. "We have already heard that the treatment doesn't do anything, so why should we take it?": A mixed method perspective on Chagas disease knowledge, attitudes, prevention, and treatment behaviour in the Bolivian Chaco, *PLOS Neglected Tropical Diseases* (2020). [DOI: 10.1371/journal.pntd.0008752](https://doi.org/10.1371/journal.pntd.0008752)

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