

Executive Summary

Chagas disease has an estimated annual incidence of 50,000 people, prevalence of about 8 million infected persons worldwide (WHO, 2015, WHO, 2010b) and 5.4 million prevalent cases that are expected to develop chronic Chagas disease heart complications (Hotez et al., 2008).

Chagas disease has been typically associated with poor people of Latin America, living in poorly constructed houses of remote rural areas and peripheral urban areas that have been usually the most vulnerable to infection.. However, in the last decades this health problem and its economic burden have expanded beyond the endemic countries of Latin America through population movements, mainly migration. In 2012, control targets have been set by World Health Organization (WHO) to interrupt intra-domiciliary vectorial transmission in Latin America and blood transfusion transmission in the Americas, Europe and Western Pacific (Rodrigues-Coura and Albajar-Viñas, 2010, WHO, 2012) (WHO, 2010b).

Chagas disease presents itself in two phases. An initial acute phase, which lasts around two months, usually not detected because of its' asymptomatic or unspecific presentation, flu-like symptoms. In <5% of cases, especially if there is immunosuppression or a high inoculum of parasites, a severe myocarditis can happen, which may lead to death. After having succeeded the acute phase, people enter in the chronic phase and become life-lasting parasite carriers, without a successful antiparasitic treatment. Most of the patients will remain asymptomatic, but up to 40% will develop disease alterations 10 to 30 years later: around 30% will develop cardiomyopathy, with mainly arrhythmias or hearth failure (cardiac form); around 10% will develop a digestive form, with mega syndromes of the esophagus or colon, or a mixed form, with cardiac, digestive or neurologic manifestations (Biolo et al., 2010, Klein et al., 2012).

Based on the DALYs, Chagas disease is considered one of the most important neglected tropical diseases in the American continent, causing a burden even 5 times higher than Malaria itself (Hotez et al., 2008).

It is noticeable that significant efforts in the control of the disease have been implemented in many areas of Latin America with good results. For example, vector control programs in several countries have led to a verified interruption of the vector borne transmission (Dias et al., 2002). But in order to finance sustainable plans to meet these control targets, on a national and global level, disease endemic and non-endemic countries need a better understanding of the cost of interventions to control the disease.

Based on the Prisma statement, this review extracts costs data taken from articles coming from peer-reviewed journals from Pubmed, Lilacs and NHS databases without past time limit and until the 22nd October 2013. This information was adjusted to 2012 prices and summarizes interventions for which reliable cost data exists that can be compared and generalized across countries, focused on interventions of demonstrated cost-effectiveness. These existing studies were undertaken in a limited number of endemic countries and in two non-endemic countries.

The results show that prevention strategies costs varies much less than the costs of treating Chagas disease, which ranges from 153 USD to 30,590 USD per person per year in endemic countries, and as much as 39,652 USD in the United States. A better understanding of the cost of prevention and treatment may help raise awareness of the burden of Chagas disease, the opportunity and necessity of implement preventive measures, creating incentives for increased collaboration between endemic and non-endemic countries on prevention strategies.

Key words: Chagas disease, *Trypanosoma cruzi*, Costs, Economic evaluation, Migration.