

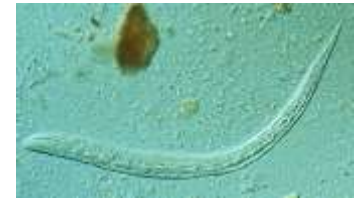
RESULTS OF SYSTEMATIC SCREENING PROGRAMME FOR STRONGYLOIDIASIS IN IMMIGRANT POPULATION.

L. Casado, J. Boga, J. L. Fernández-Martínez, J. Fernández-Suarez, M. Rodríguez, E. De Andrés-Galiana F. Vázquez , A. Rodríguez-Guardado

1: Hospital Universitario Central de Asturias (HUCA).

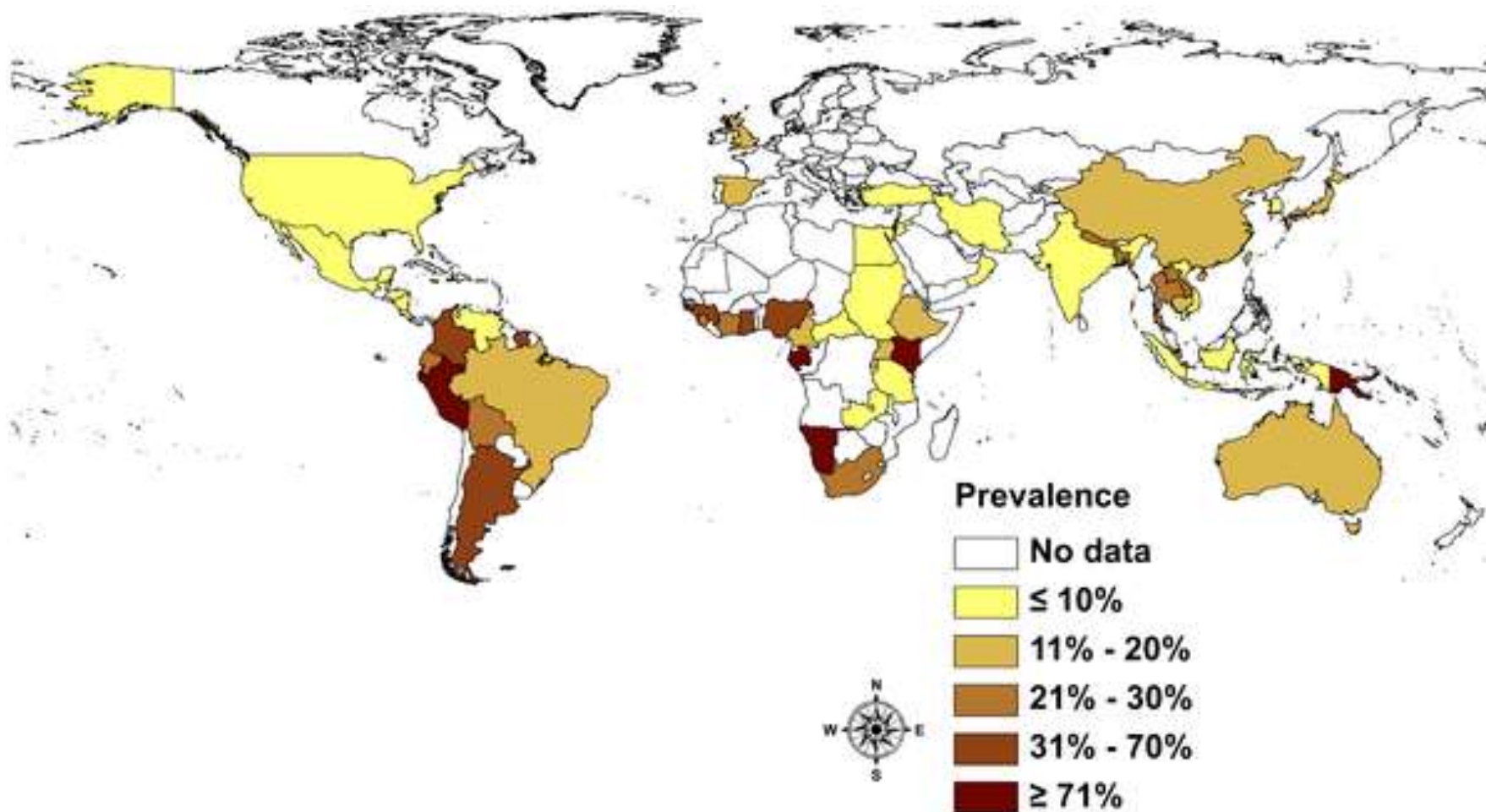
2. Oviedo University

Background



- Strongyloidiasis is a chronic intestinal helminth infection caused by the nematode *Strongyloides stercoralis* which is endemic in tropical and subtropical regions.
- Strongyloidiasis remains an important health problem due to the fact that this infection can persist for years to decades and can cause serious morbidity or death long after an immigrant resettles in a new country.
- CDC data show that if the infection is not detected on arrival the diagnosis can be delayed up to 5 years.
- It had been suggested that it's necessary the screening of newly arriving (i.e. within five years), high-risk immigrants populations and that serology is the most useful technique .

Figure 4. Prevalence of *S. stercoralis* infection by country based community-based studies.



Schär F, Trostorf U, Giardina F, Khieu V, Muth S, et al. (2013) *Strongyloides stercoralis*: Global Distribution and Risk Factors. PLOS Neglected Tropical Diseases 7(7): e2288. doi:10.1371/journal.pntd.0002288
<http://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0002288>

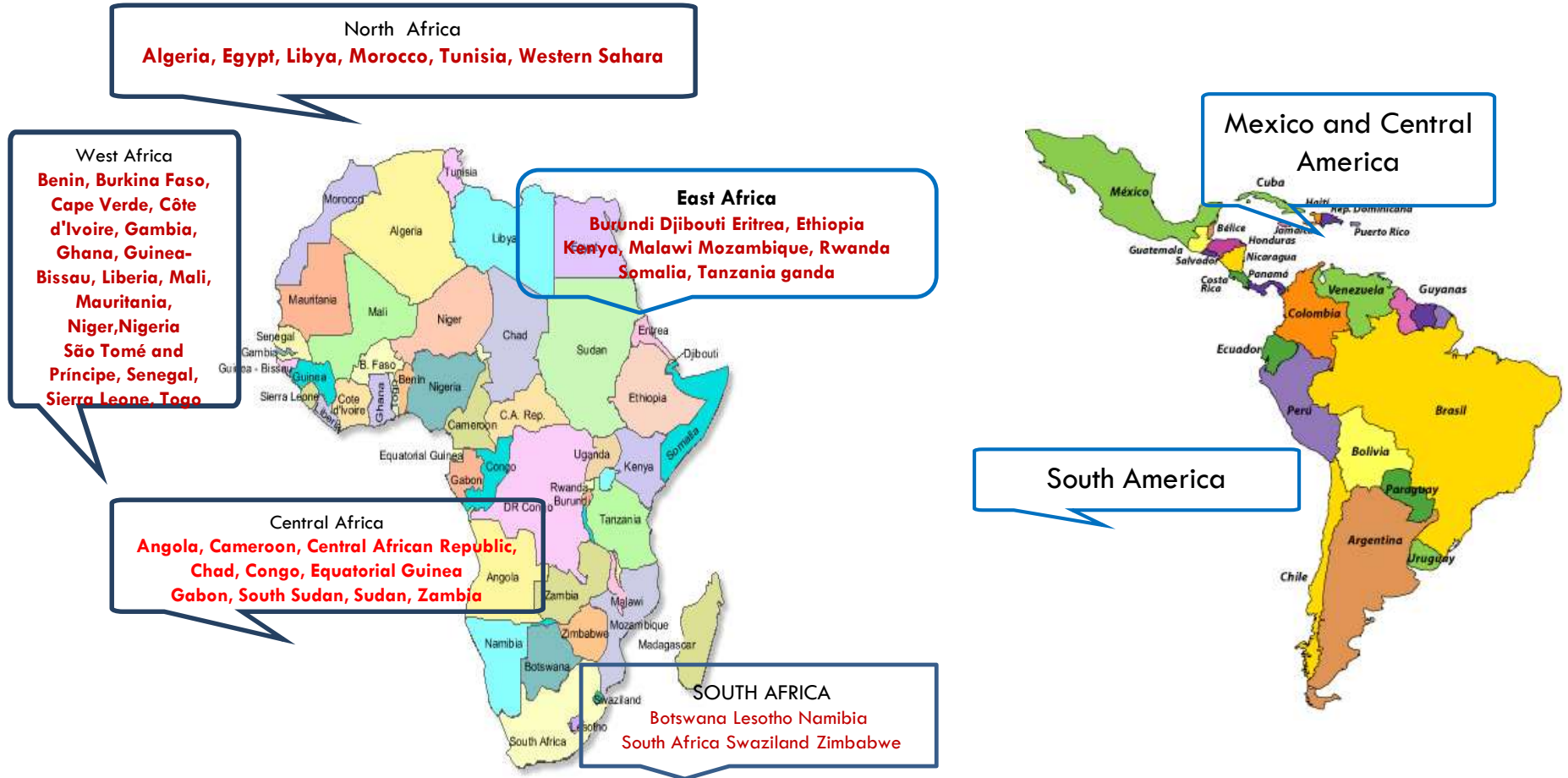
Objective

- For this reason since 2009, the Unit of Tropical Medicine of Hospital Universitario Central de Asturias (Spain) performs a screening of *S. stercoralis* infection in all immigrant patients
- **AIM:**
 - ▣ i) to study the seroprevalence of chronic strongyloidiasis in immigrant population;
 - ▣ ii) to identify geographic areas of greatest risk of infection in order to optimize screening programs.

Methods

- **Study Design:** Prospective, descriptive study
- **Population:**
- All immigrants patients attending in the Tropical Medicine Unit of Hospital Universitario Central de Asturias, a reference in Asturias, a region in northern Spain where 3.8% of the population is foreign-born
- January 2009 to December 2016.

Methods.



. (CDC Travelers' Health. In: <http://wwwnc.cdc.gov/travel/regions/list.htm>.)

Methods

□ Diagnosed:

- Examination of three concentrated stool samples,
- Culture in blood agar
- Enzyme-linked immunosorbent assay for serum anti-*S. stercoralis* antibodies

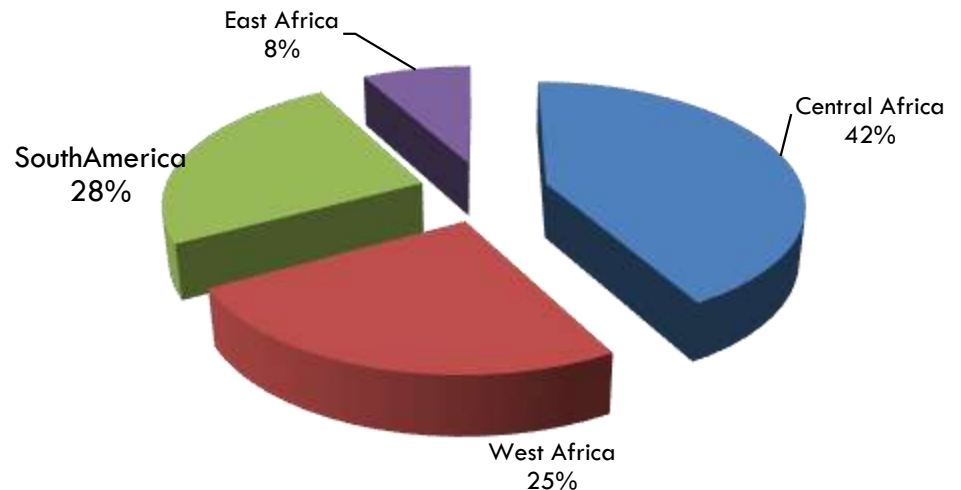
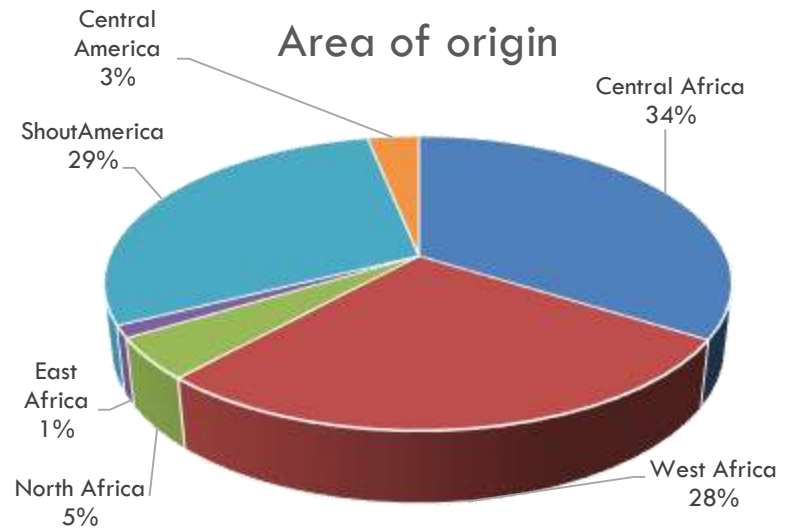
- We considered that infection exists if the microscopic visualization of larvae in stool sample and/or the ELISA was positive.
- In positive patients, the presence of other nematodes or filarias was discarded

Methods

- Eosinophilia in blood test was studied in presence of strongyloidiasis.
- All positive patients were treated with ivermectin.
- All data was entered into a database and analyzed using SPSS 18.0 software package.
- Quantitative variables were analyzed with the Student t test or the Mann-Whitney test when appropriate.
- Qualitative variables were analyzed with the chi square test with the Yates correction or Fischer's exact test (2-tailed) when necessary.

Results

- We screened 968 patients (52.8% women, mean age 34[12], mean time in Spain 1358[1813] days)
- **121 patients (12,5%) were positive for *S. stercolaris***
- The infection was significantly more frequent in women ($p=0.001$; OR 1.964[1.314-2.935]) but we didn't find differences in age or time in Spain



Conclusions

- Our findings suggest a high likelihood of chronic strongyloidiasis in East African patients.
- Given the persistent nature of infection and the mortality associated with the hyperinfection syndrome, we recommend that immigrant patients from developing countries be routinely screened for *S. stercoralis*, especially those from East Africa.
- Serology is a highly appropriate screening tool.