2. Materials and methods

A literature search was initially performed in PubMed (http://www.ncbi.nlm.nih.gov/sites/entrez?db=pubmed) and Scopus (www.scopus.com) databases using as keywords the terms ''sero-prevalence OR seropositivity” AND “toxoplasma OR toxoplasmosis”. We subsequently searched these databases and a general search engine (Google, http://www.google.com) using the terms “Toxoplasma OR Toxoplasmosis” and individual country names, for all countries (e.g. “toxoplasmosis AND Afghanistan”, and so on). We additionally searched the SciELO (scientific electronic library online, www.scielo.br) database with the keyword toxoplasmosis, for hitherto unretrieved relevant Latin American literature. A further search was performed in the references of the initially retrieved articles. We also searched abstract books of last decade’s international infectious disease congresses for additional studies, including the Infectious Diseases Society of America’s annual meetings (http://www.idsociety.org/Content.aspx?id=1900), the International Congress of Infectious Diseases (http://www.isid.org), and the European Congress of Clinical Microbiology and Infectious Diseases (http://www.blackwellpublishing.com/eccmid18).

We selected articles published during the last decade, i.e. after January 1, 1999 and registered until December 30, 2008 (when a final search was re-performed), irrespective of the date of retrieval of the contained data. Available literature on the subject published prior to 1999 has been summarised in a relevant review, published in 2000 (Tenter et al., 2000). For countries for which no recent data were available, relevant data search was extended until 1990, in order to create a global view of T. gondii seroprevalence. Articles written in languages other than English, Greek, Spanish, French or Italian were translated by a native speaker of the individual language.

Included studies reported seroprevalence rates either in women of childbearing age or pregnant, or in the general population or a representative sample of it. Studies focusing on specific target groups (for example HIV-positive patients or slaughterhouse workers or children or psychiatric patients) were excluded. We also excluded studies focusing on a specific sub-group of pregnancy, women with bad obstetric history, since their results cannot be reliably translated to general prevalence rates. For a study to be included, the minimum number of patients was preset as 100, in order to minimise undue sampling biases into prevalence estimates.

2.1. Statistical analysis

Confidence intervals (CIs) for seroprevalence rates in each individual study were either derived from the relevant study, or estimated using the freely available online Sample Size Calculator (Creative Research Systems, http://www.surveysystem.com/sscalc.htm). When CIs were not available from an individual study, we calculated 95% CIs using the available sample size and percentages, and presumed that the population from which the sample size was derived was too large (or unknown) to exert any significance on 95% CIs.

3. Results

Fig. 1 depicts the current global T. gondii seroprevalence status, according to the data retrieved and subsequently analysed and discussed.

3.1. North and Latin America

Numerous studies derive from Latin America, in particular Brazil; data for USA are derived from the nationwide NHANES study (Jones et al., 2007), while limited information is available for Canada (Table 1). The majority of studies emerging from Latin American countries show significantly high seropositivity rates; the only exception is a large-sample study from Brasilia (Cabral et al., 2008): one can presume that Brazil’s capital may exhibit a different socioeconomic structure compared to the rest of the country since it is a city recently built in order to serve as a federal centre. Seroprevalence studies in general population samples in Amerindians have shown even higher prevalence rates and potential correlations with sanitary practices and eating/drinking habits (the use of well water or the consumption of rodents or monkeys) (Boia...