

# An update on the role of imaging in the care of patients with intestinal schistosomiasis

Sabrina HMYeung<sup>1,2</sup>, Rachel Lau<sup>3</sup>, Michael Klowak<sup>2,4</sup>, Candice Madakadze<sup>2</sup>, Leila Makhani<sup>2</sup>, Andrea K Boggild<sup>2,4,5</sup>

<sup>1</sup>McMaster University, Hamilton, Canada.

<sup>2</sup>Toronto General Hospital, Toronto, Canada.

<sup>3</sup>Public Health Ontario Laboratories, Toronto, Canada.

<sup>4</sup>University of Toronto, Institute of Medical Science, Toronto, Canada.

<sup>5</sup>University of Toronto, Department of Medicine, Toronto, Canada.



## BACKGROUND:

- Intestinal schistosomiasis leads to significant morbidity and mortality worldwide, including severe hepatic disease with peri-portal liver fibrosis, portal hypertension and subsequent esophageal varices
- Previous guidelines recommended the use of abdominal imaging to detect early hepatic changes, thereby improving disease outcome [1]

## METHODS:

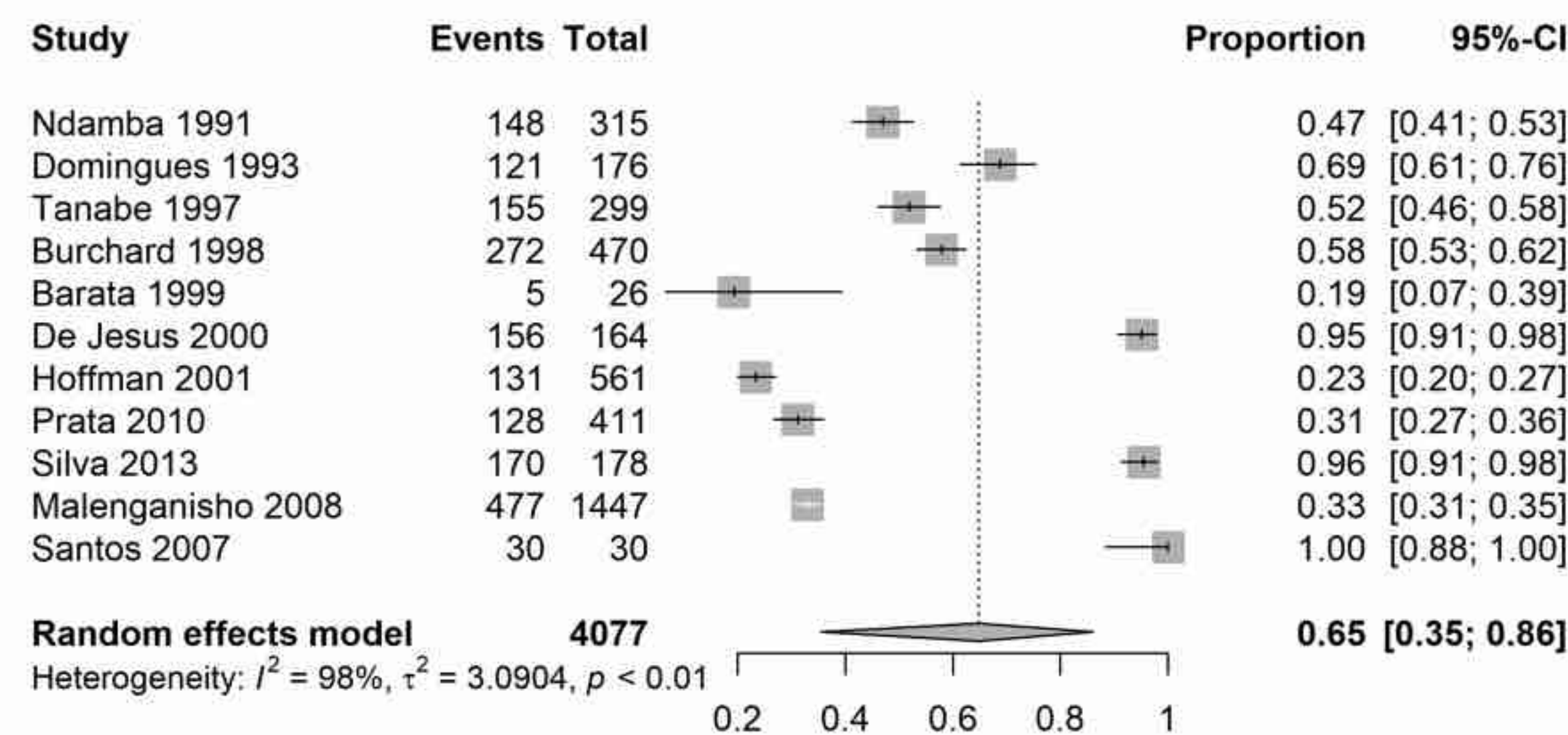
The search strategy was:

| Schistosomiasis                                          | Medical Imaging                                                                                                          | Liver                                                                                               |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Schistosomiasis                                          | CT                                                                                                                       | Liver                                                                                               |
| <i>Schistosoma mansoni</i>                               | Computed tomography                                                                                                      | Periportal fibrosis                                                                                 |
| <i>Schistosoma japonicum</i>                             | Ultrasound                                                                                                               | Hepatic                                                                                             |
|                                                          | Ultrasonography                                                                                                          | Echogenic                                                                                           |
|                                                          | MRI                                                                                                                      | Hepatosplenic                                                                                       |
|                                                          | Magnetic resonance imaging                                                                                               | Portal hypertension                                                                                 |
|                                                          | Echo imaging                                                                                                             |                                                                                                     |
|                                                          | Sonography                                                                                                               |                                                                                                     |
|                                                          | Sonogram                                                                                                                 |                                                                                                     |
| Schistosomiasis OR (Schisto* AND (mansoni OR japonicum)) | CT OR (computed AND tomography) OR Ultraso* OR Sonogr* OR MRI OR (Magnetic AND resonance AND Imaging) OR Echo OR Imaging | Liver OR periportal OR peri-portal OR fibrosis OR hepat* OR echogenic* OR (portal AND hypertension) |

- Searched MEDLINE, Embase, Cochrane Library of Systematic Reviews, Epistemonikos, Global Health, NICE, TRIP and LILACS from database inception to August 1, 2025
- The study followed PRSIMA guidelines [13]
- Metanalysis was performed on R (Version 4.2.2)

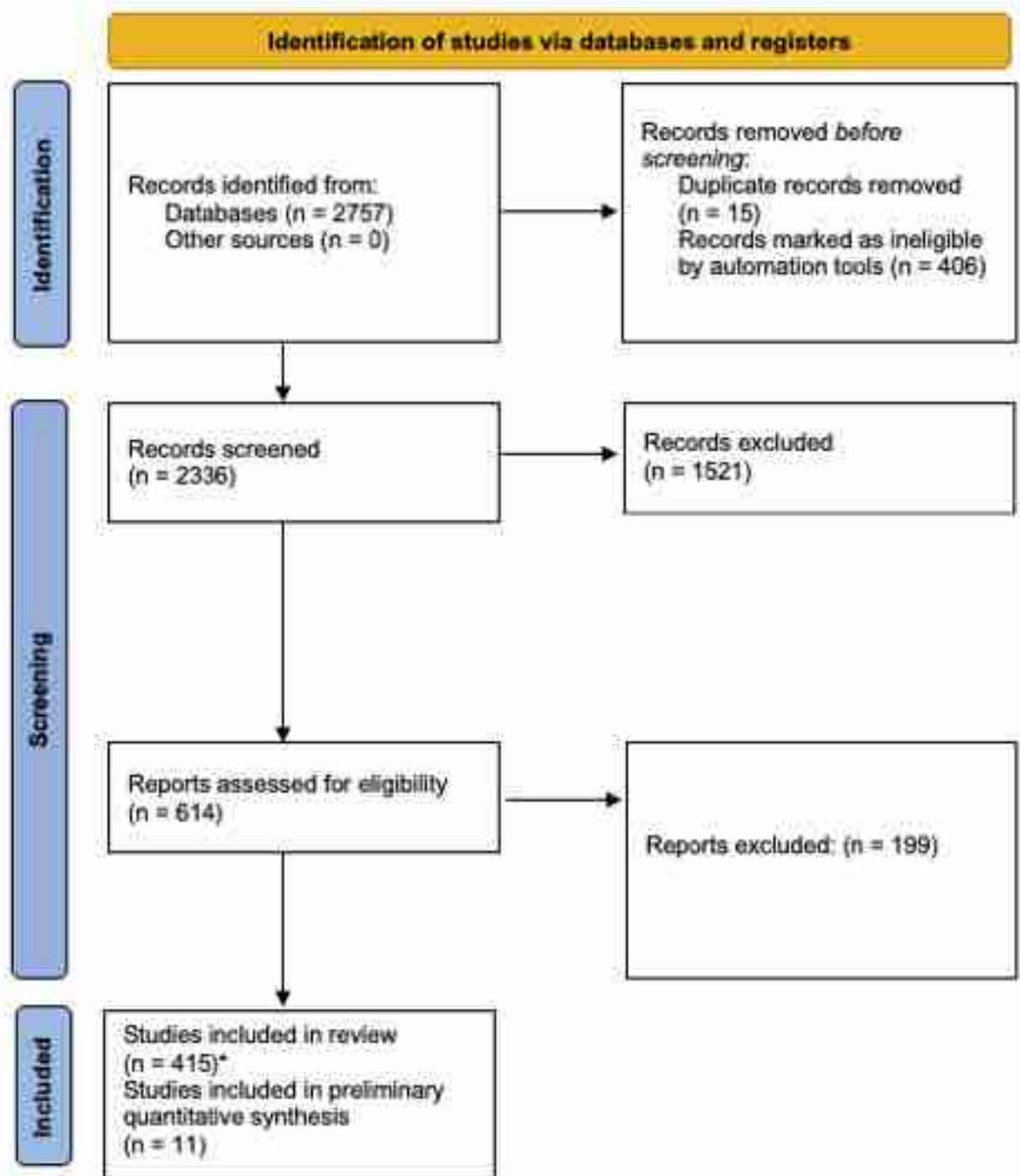
## RESULTS:

Prevalence of periportal fibrosis across 11 studies



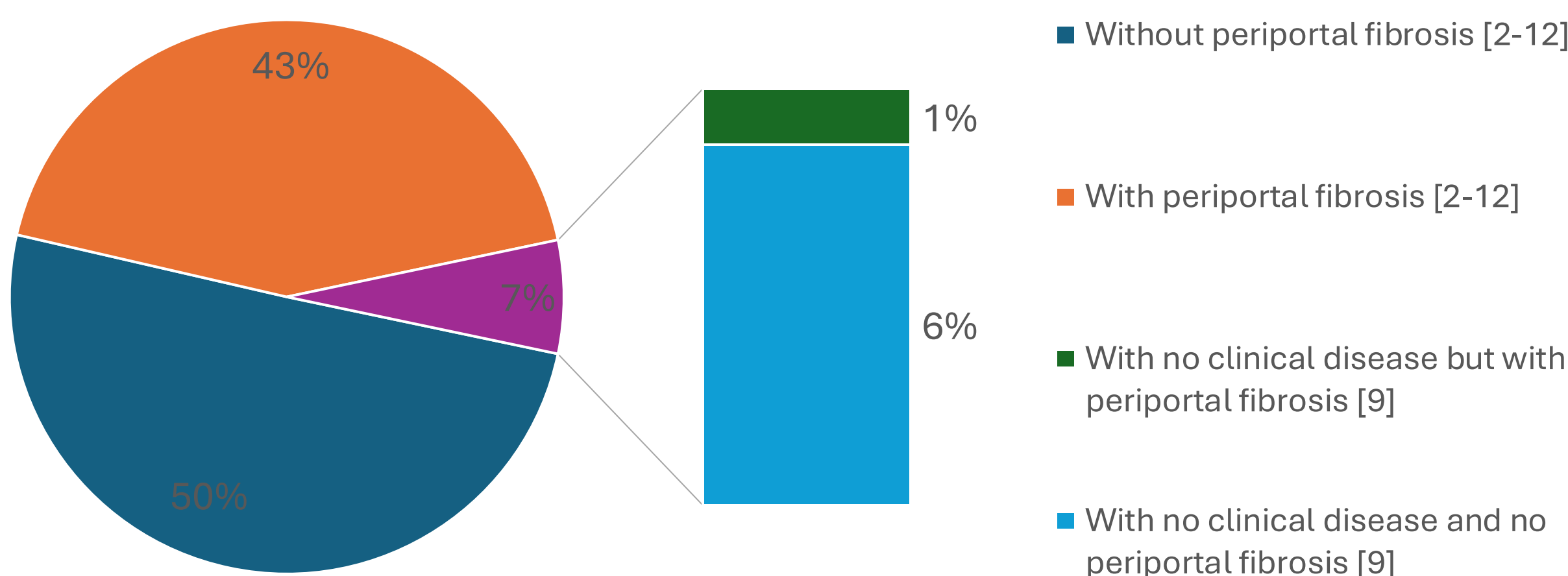
- 11 studies included in this preliminary analysis
- 9 cross-sectional and 2 case-control
- All diagnosed with *Schistosoma mansoni*
- All studies used ultrasound imaging (none with CT or MRI)

## RESULTS:

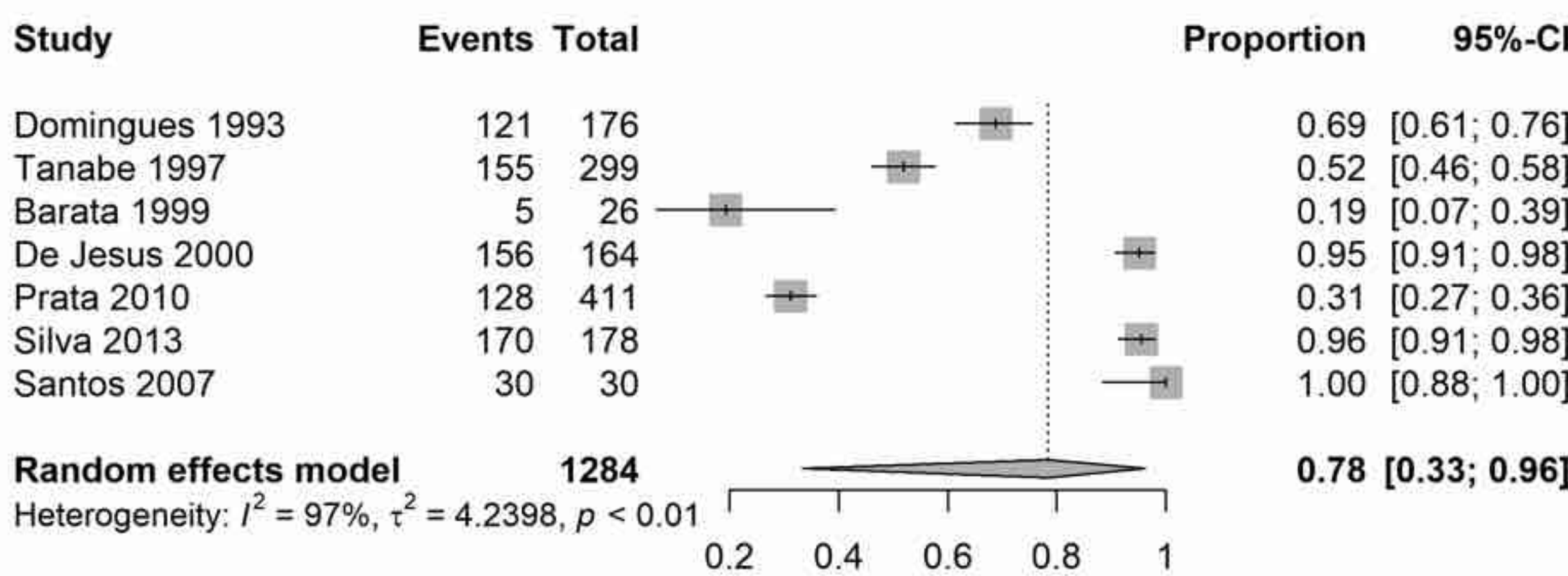


\*Screening ongoing

Breakdown of schistosomiasis patients and liver disease



Sub-analysis of prevalence of periportal fibrosis in Brazil



- Of the 4,077 participants examined across 11 studies, the **pooled prevalence** of periportal fibrosis was **65%** and in Brazil, specifically it was **78%**.
- Abdominal ultrasound is an important **diagnostic tool** in the diagnosis of schistosomiasis related disease.

## DISCUSSION:

- Abdominal imaging is able to detect liver fibrosis in the absence of clinical disease [9]
- Synthesizing the current literature on abdominal imaging in the evaluation of schistosomiasis can translate into clinical recommendations for improved risk stratification and management of schistosomiasis, and thereby overall improvement of disease outcomes

References:

