Reviewer’s report

Title: Children of Senegal River Basin show the highest prevalence of Blastocystis sp. ever observed worldwide

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Reviewer: Kevin Shyong-Wei Tan

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Children of Senegal River Basin show the highest prevalence of Blastocystis sp. ever observed worldwide

Safadi et al.

Major comments:

The epidemiological study by Safadi et al presents the first report of a 100% prevalence of the emerging parasite Blastocystis among 93 Senegalese children. The authors used a combination of PCR and the more sensitive qPCR to determine presence and subtype (genotype) of the infected sample. It was observed that the frequency of ST 1, 2 and 3 were typical of more surveys worldwide. Two cases of ST4 infection were detected. Overall, the study is well conducted and the novelty lies in the 100% prevalence, which is indeed the first such record for Blastocystis. The manuscript is well written, the figures are of good quality and the results appropriately discussed. It would have been ideal if some form of viability assay was conducted concurrently with the survey (staining or culture for microscopic evidence of parasitosis, determining parasite density). This is to exclude spurious detection (false positives from ingested animal matter etc). Despite this, the study is a major finding and should be acceptable for publication after some minor revision.

Minor comments:

Line 81: Change ‘protozoa’ to ‘protist’ for accuracy.

Line 309-311: Confusing. How can one comment on prevalence of Blastocystis in symptomatic vs asymptomatic groups if both are 100%?

Methods: Was ethical consent provided for sample collection? The details should be provided.

Other authors suggest that besides subtype, parasite density may also factor in pathogenesis. The authors should include some mention of this in their discussion. Perhaps a more comprehensive survey including multiple parameters would shed more light on the pathogenesis topic.

An interesting observation is the lack of substantial co-infection with multiple
subtypes despite 100% prevalence. Can the authors speculate on the reason for this?

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests'