

Review of: "Giardia lamblia infection And Associated Risk Factors Among Patients Who Are Seeking Stool Examination At Bule Hora University Teaching Hospital, West Guji Zone, Ethiopia"

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Potential competing interests: No potential competing interests to declare.

Regarding sample size calculation, please make sure of the calculation and let me know if I get it wrong.

- $Z=1.96$ (Z-score for a 95% confidence level)
- $p=0.124$ (prevalence rate from a previous study, which is 12.4%)
- $d=0.05$ (margin of error, expressed as a decimal)

Plugging these values into the formula:

$$n = \frac{(1.96)^2 \times 0.124 \times (1 - 0.124)}{(0.05)^2} = \frac{(1.96)^2 \times 0.124 \times 0.876}{0.0025}$$

$$n = \frac{3.8416 \times 0.124 \times 0.876}{0.0025} = \frac{3.8416 \times 0.108624}{0.0025}$$

$$n = \frac{3.8416 \times 0.108624}{0.0025} = \frac{0.417537024}{0.0025}$$

$$n = \frac{0.417537024}{0.0025} = 167.0148096$$

$$n = 167.0148096 \approx 167$$

Based on the correct calculation, the sample size should be approximately 167, not 124. This discrepancy suggests there might have been an error in the calculations as presented. After calculating the initial sample size as 167, adding a 10% non-response rate:

$$167 + (167 \times 0.10) = 167 + 16.7 \approx 184$$

Therefore, after adjusting for a 10% non-response rate, the final sample size required for the study should be approximately 184, not 137.

Potential Bias: The study setting in an urban university hospital might introduce selection bias, as the population accessing healthcare in such settings could differ significantly from the general population in terms of socio-economic status, health-seeking behavior, and access to clean water and sanitation facilities. Acknowledging and discussing this potential bias would strengthen the study's conclusions.

Recommendations for Public Health Interventions: While the study identifies risk factors associated with *G. lamblia* infection, it could further leverage these findings by offering specific, actionable recommendations for public health interventions aimed at reducing the infection rate. For instance, strategies focusing on improving water quality, promoting food and hand hygiene, and public education campaigns tailored to the identified risk factors could enhance the study's practical value.

What is new that this research adds to the literature? This is a very important question I need the authors to answer.

Also, it needs English revision.