

MAGNITUDE OF SCHISTOSOMA MANSONI INFECTION AFTER FOUR ROUNDS OF MDA AMONG PRIMARY SCHOOL CHILDREN IN LOWER MOSHI, TANZANIA.



Authors

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Affiliations

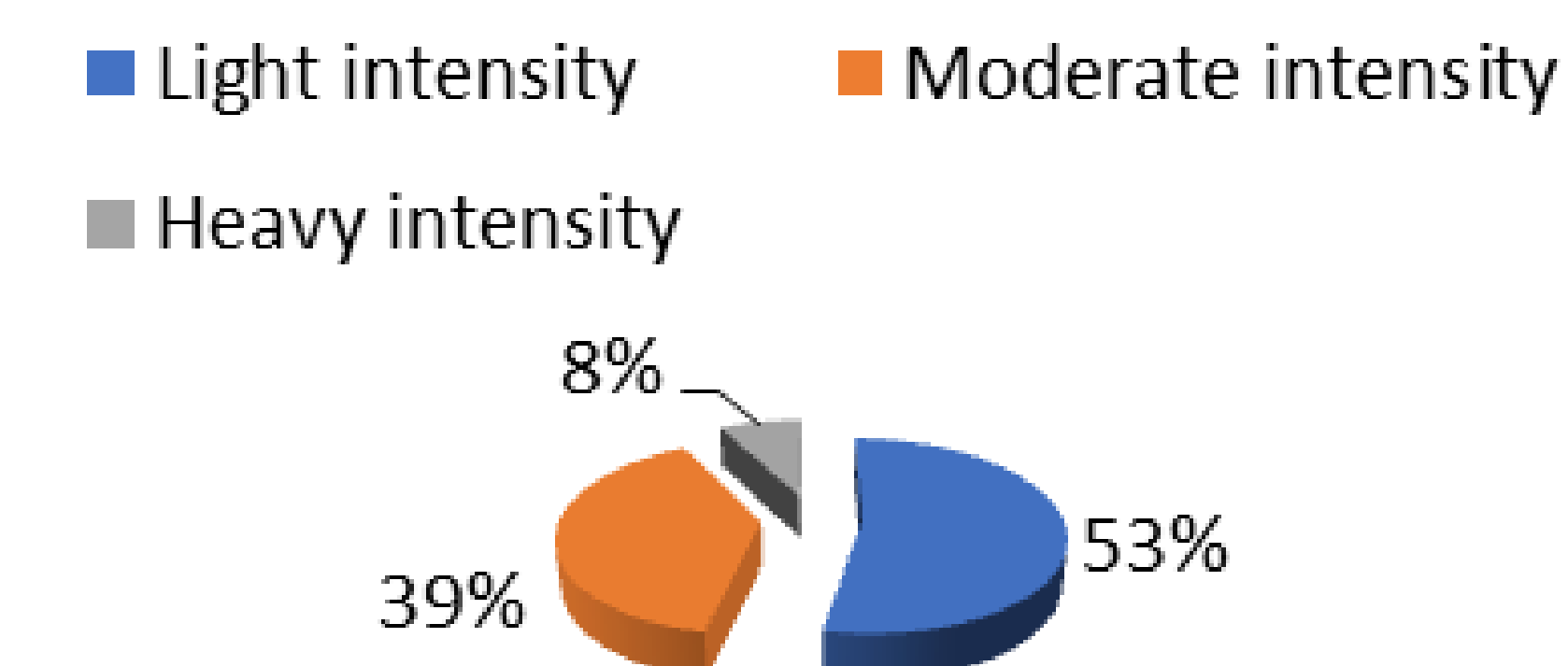
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ANALYSIS

- Descriptive statistics to summarize the data into frequencies, proportions and their 95% CI
- Pearson's Chi-Square (χ^2) test to compare the differences between categorical variables
- Modified Poisson regression analysis was performed to establish factors significantly associated with infection
- The significance level established at 5%.

Intensity of *S. mansoni* infection among primary school children in Lower Moshi



INTRODUCTION

S. mansoni infection remains a major public health concern in Tanzania. School-based mass drug administration (MDA) with Praziquantel, improvement of WASH and increasing awareness on control among risk groups, especially among school children, have been the major control measure in the country. Epidemiological data after the four rounds of MDA in Lower Moshi are lacking, and the factors contributing to the persistent transmission remain unknown.

OBJECTIVE

The main objective of this study was to determine the magnitude of *Schistosoma mansoni* infection and factors associated with persistent transmission after four rounds of Mass Drug Administration among Primary School Children in Lower Moshi, Tanzania.

- A total of 593 study participants were recruited for this study (257 males and 336 females). The prevalence of *S. mansoni* infection was 12.98% (77/593), higher among males compared to females (14.01% vs 12.02%; $p=0.51$) and in the age group, 11-14 years compared to younger age groups (10.45% vs 15.8%).
- More than half (53.25%) had light infection intensity with a few (7.79%) having heavy infection intensity. The overall geometric mean egg per gram of faeces (GM-epg) of the study participants was 89.1 GM-epg (95% CI: 71.04-111.8)

RESULTS/ FINDINGS

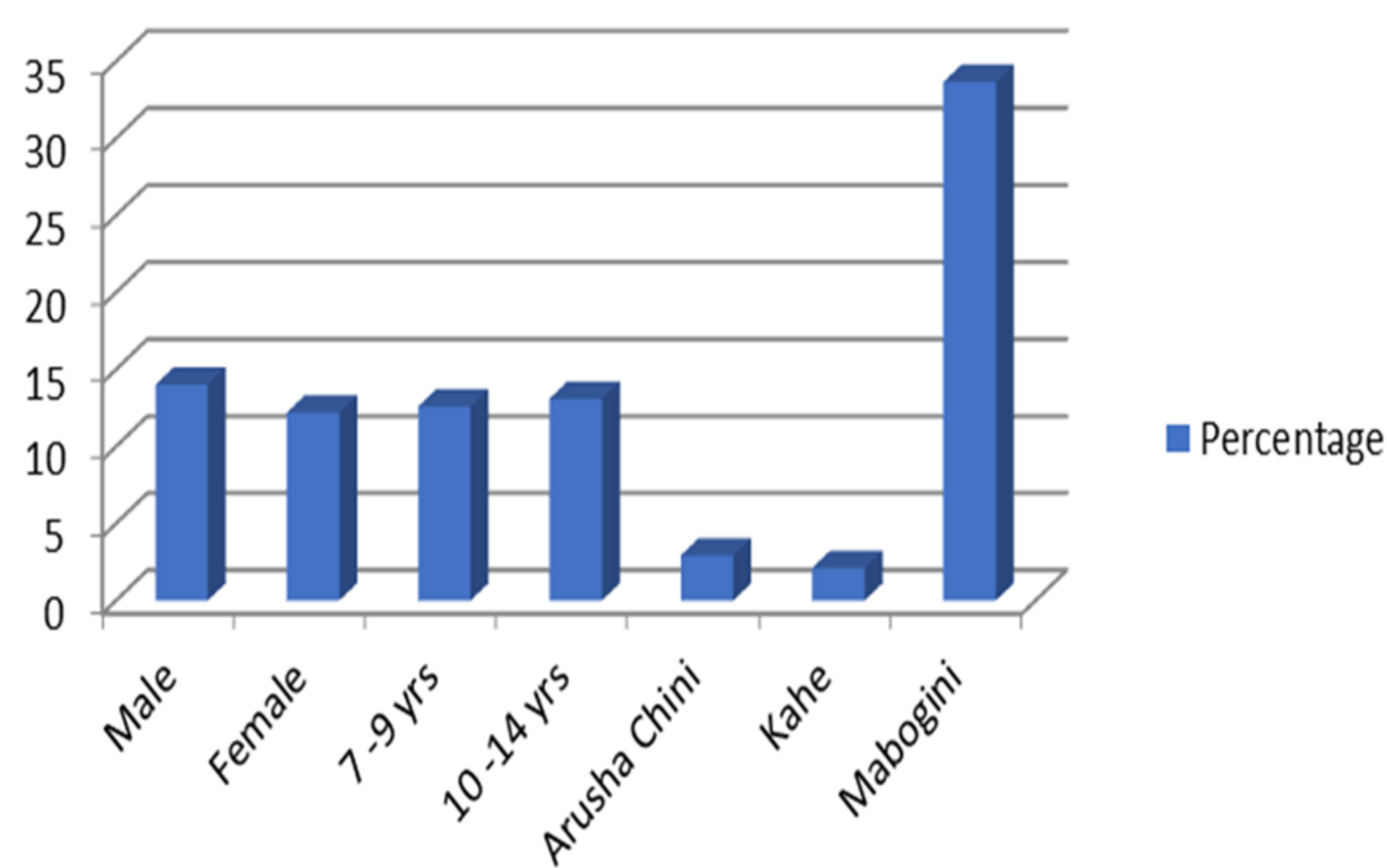
METHODOLOGY

A quantitative school-based cross-sectional study was conducted among 593 primary school students.

- A two-stage cluster sampling approach was used to obtain the participants.
- Interviewer-administered questionnaires were used to gather information on social demographic characteristics and the factors associated with the persistent transmission of *S. mansoni*.
- Formal-ether concentration technique to establish prevalence
- Kato Katz technique to establish intensity.



Prevalence of *S. mansoni*



Variable	<i>S. mansoni</i> Positive	cPR (95% CI)	aPR (95% CI)
Wards			
Arusha Chini	6 (2.90)	1	1
Kahe	4 (2.2)	0.99 (0.96-1.02)	0.94 (0.896-0.99)
Mabogini	67 (33.7)	1.29 (1.23 1.37)	1.26 (1.19-1.34)
Level of Knowledge			
Low	9 (7.3%)	1	1
Moderate	13 (15.3%)	1.07 (0.99 1.16)	1.05 (0.97-1.13)
High	26 (23.4%)	1.15 (1.07-1.24)	1.04 (0.95-1.12)
Type of toilet			
Pit latrine	11 (8.1)	1	1
Flush toilet	65 (15.3)	1.067 (1.01-1.12)	1.08 (1.01-1.16)
Contact with water source			
Yes	60 (16.6)	1	1
No	17 (7.4)	0.92 (0.88-0.96)	0.98 (0.917-1.078)
Ever participated in MDA			
Yes	73 (14.5)	1	1
No	1 (25)	1.09 (0.77-1.53)	0.918 (0.848-0.994)

CONCLUSION

Moderate prevalence of *S. mansoni* in Lower Moshi (12.98%). Independent predictors of *S. mansoni* infection;

- Participation in MDA rounds
- Type of toilet
- Area of residence.

Further studies recommended to map the focal points of schistosoma infection in Lower Moshi, to ensure equity in the distribution of school-based MDA.

An integrated approach with adequate water supply and sanitation interventions to ensure access to services without the need to visit water sources to fetch water for flushing the toilets after use.