© IIJP 2026 | Volume 2, Issue 3, pp. 1220-1229 | ISSN: 2636-4484

PREVALENCE AND PREDICTORS OF SCHISTOSOMIASIS AND SOIL-TRANSMITTED HELMINTHIASIS AMONG PRIMARY SCHOOL PUPILS IN DEMSA LOCAL GOVERNMENT AREA, ADAMAWA STATE, NIGERIA: A CROSS-SECTIONAL STUDY

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ARTICLE INFO

Article No.: 0506

Accepted Date: 29/07/2026

Published Date: 20/08/2026

Type: Research

ABSTRACT

Neglected tropical diseases such as schistosomiasis and soil-transmitted helminthiasis (STH) impose a heavy health burden on school-age populations across sub-Saharan Africa, Nigeria included, yet locally generated prevalence data for many rural Nigerian districts remain scarce. This study estimated the prevalence of schistosomiasis and STH among primary school pupils in Demsa Local Government Area (LGA), Adamawa State, and examined whether infection status differs by sex, age, and class of enrolment. Three hundred pupils drawn from five primary schools (Nzungwaling, Mwarawo, Kulasala, Mbula Central, and Mbula II) were enrolled through a three-stage sampling process. Each pupil submitted a urine specimen, examined for Schistosoma haematobium ova by centrifugation or filtration, and a stool specimen, examined for S. mansoni and other intestinal helminths using the Kato-Katz technique. Associations with demographic variables were tested with the Pearson chi-square statistic at the 5% significance level. Schistosomiasis was detected in 55 of 300 pupils (18.3%, 95% CI: 14.0–22.7%) and STH in 50 of 300 (16.7%, 95% CI: 12.4–20.9%); both exceed the WHO's 10% threshold for a significant public-health problem. Boys carried a significantly heavier STH load than girls (23.8% vs. 11.8%; $\chi^2 = 7.471$, df = 1, $p = 0.006$), while schistosomiasis did not differ significantly by sex (14.8% in boys vs. 20.8% in girls; $\chi^2 = 1.759$, df = 1, $p = 0.185$). Both diseases rose significantly with age and class level (all $p < 0.001$); schistosomiasis showed the steepest gradient, peaking at 50.0% among Class 5 pupils. Demsa LGA carries a dual burden of schistosomiasis and STH at levels warranting sustained intervention, with age and class level the strongest demographic predictors of infection and sex mattering only for STH. Strengthening school-based deworming, targeting health education at older pupils, and upgrading local water and sanitation infrastructure are recommended as priority actions.

Keywords: Schistosomiasis; Soil-transmitted helminths; Prevalence; Primary school pupils; Demsa; Adamawa State

Introduction

Helminthic disease continues to trail behind malaria and HIV in research funding and public attention, despite affecting comparable numbers of people. This neglect has earned schistosomiasis and soil-transmitted helminthiasis (STH) their place among the World Health Organization's list of neglected tropical diseases (WHO, 2022). Both conditions thrive wherever poverty limits access to safe water, functional latrines, and routine healthcare. Their footprint is therefore heaviest in low- and middle-income settings, and their combined toll on child growth, cognition, and school performance has drawn sustained scientific attention (Hotez & Kamath, 2009; Colley et al., 2014).

Schistosomiasis develops after skin contact with water carrying cercariae, the larval stage of Schistosoma trematodes, shed by infected freshwater snails. An estimated 236 million people carry the infection worldwide, and a further 700 million live in areas where transmission is possible; sub-Saharan Africa alone accounts for more than nine-tenths of cases (WHO, 2023; Adenowo et al., 2015). Nigeria sits among the handful of countries carrying the largest share of this burden, with infection estimates ranging from 20 to 30 million people and roughly 100 million more considered at risk (Ugbomoiko et al., 2010; Abdulraheem et al., 2018). STH, by contrast, spreads through ingestion of, or skin penetration by, the eggs and larvae of Ascaris lumbricoides, Trichuris trichiura, and the hookworms Necator americanus and Ancylostoma duodenale, which contaminate soil in areas of open defecation (Bethony et al., 2006; Jourdan et al., 2018). Globally, upward of 1.5 billion people are thought to be infected, concentrated overwhelmingly in tropical belts where sanitation infrastructure has not kept pace with population growth (WHO, 2022).

Demsa LGA, in the southern reaches of Adamawa State, sits squarely within the ecological conditions that sustain both diseases. Its position along the River Benue draws residents into daily contact with the river for fishing, laundry, and farm-related activity, creating repeated opportunities for cercarial exposure, particularly among children (Adamu et al., 2019). The seasonal flood cycle and reliance on subsistence agriculture likewise keep soil contamination, and with-it STH transmission, persistently high. Where the two diseases overlap geographically, their combined health toll compounds: anaemia, stunted growth, cognitive impairment, and reduced work capacity have all been linked to co-infection in the wider literature (Hotez et al., 2008; Ezeagwuna et al., 2019). National control efforts built around mass drug administration (MDA), school health education, and water, sanitation and hygiene (WASH) programming have not eliminated persistently high prevalence in riverine districts such as Demsa. This gap reflects, at least in part, the absence of recent, locally generated infection data to guide programme targeting.

Accordingly, the present study measured the prevalence of schistosomiasis and STH among pupils drawn from five primary schools in Demsa LGA and examined whether sex, age, and class level predict which pupils carry the heavier infection burden. We hypothesised that infection with both diseases would be more common among older pupils and among pupils in higher primary classes, reflecting cumulative exposure to contaminated water and soil over time.

Materials And Methods

1 Study Area

Fieldwork took place in Demsa LGA, a riverine district in southern Adamawa State that straddles the Benue River at roughly 9°30′N, 12°05′E and combines wetlands, farmland, and fishing communities within its boundaries. Its population, put at around 180,000, is engaged predominantly in farming, fishing, and petty trade (Adamu et al., 2019; Soluap, 2023). A tropical savanna climate (Aw under the Köppen-Geiger scheme) governs the area, bringing rain from May through October and dry conditions for the remainder of the year. Because piped water is scarce, households depend heavily on untreated river and pond water for everyday needs, a dependence that keeps transmission risk for both target diseases elevated.

2 Study Design and Population

A single round of cross-sectional sampling was used, pairing parasitological screening with sex, age, and class-level data collected from the same pupils at the same time. Eligible participants were pupils aged 5 to 16 years enrolled anywhere from Primary 1 through Primary 6 across the five study schools; this age band mirrors WHO (2021) guidance identifying primary-school-age children as dependable sentinels of community-level transmission. Inclusion required at least twelve months' continuous residence in Demsa LGA and documented consent, obtained from parents or guardians for minors. Pupils were excluded if they had taken anthelminthic medication in the three months before sampling or were medically unfit to provide urine or stool. Across the LGA's 126 primary schools, the pupil population from which the study sample was drawn totalled 28,035 (13,838 boys, 14,197 girls), per Demsa Local Government Education Authority records (2025).

3 Sample Size and Sampling Technique

Cochran's (1977) formula for prevalence surveys, $n_0 = Z^2p(1-p)/d^2$, set the target sample size. With a 95% confidence level ($Z = 1.96$), a 5-percentage-point margin of error, and prevalence fixed conservatively at 50% to maximise the required size, n_0 worked out to roughly 384; correcting for the finite reference population of 28,035 pupils brought this down to about 379. Recruitment in the field reached 300 pupils, 79% of this corrected target. The shortfall was driven chiefly by laboratory processing capacity and the field budget, together with a small number of parental refusals and pupil absences on sampling days; every pupil who was enrolled provided both a readable urine and a readable stool specimen, so the shortfall reflects recruitment, not specimen loss. Because the achieved sample lies below the corrected Cochran benchmark, the prevalence estimates reported below are given with 95% confidence intervals as well as p-values, so that readers can see the uncertainty around each figure explicitly.

Five schools Nzungwaling, Mwarawo, Kulasala, Mbula Central, and Mbula II were first hand-picked to span the LGA's riverside, agrarian, and semi-urban neighbourhoods. Within each school, pupils were then grouped by class (Primary 1 through 6) in proportion to enrolment, before sixty were drawn from each school's registers by simple random selection.

4 Sample Collection and Laboratory Examination

Field procedures adhered to WHO (2021) protocols for schistosomiasis and STH surveys. After parents or guardians gave written consent and pupils gave assent, urine was collected between 10 a.m. and 2 p.m., the window in which S. haematobium egg output peaks, in volumes of 10 to 50 mL, with each sample checked visually for haematuria before storage. A fresh morning stool sample of roughly 10 g was likewise obtained from each pupil in a labelled, wide-mouthed container, with formalin fixation (10%) applied where same-day microscopy was not feasible. Cool boxes held at 4–8°C carried both specimen types to the Adamawa State Ministry of Health Laboratory in Yola for processing within six hours of collection.

S. haematobium detection relied on centrifuging urine at 1000–1500 rpm for five minutes and scanning the sediment under ×10 and ×40 magnification; filtration through a 12 µm nucleopore membrane followed by Lugol's-iodine staining served as the back-up method whenever a centrifuge was not on hand. Stool specimens went through Kato-Katz preparation using a standard 41.7 mg template, with eggs of S. mansoni and other STH species counted to derive eggs-per-gram values, following standard parasitological laboratory procedures (Montresor et al., 1998; Cheesbrough, 2006; WHO, 2020). A senior parasitologist blind-checked one slide in every ten as a quality-control measure.

5 Ethical Considerations

Clearance to proceed came from the Universal Basic Education Board, the Education Secretary, and the head teachers of the five schools, following submission of an introductory letter from the Department of Zoology, Modibbo Adama University. Parents or guardians signed written consent forms before any pupil was enrolled; participation was entirely voluntary, results were kept confidential, and pupils could withdraw at any stage without consequence, consistent with National Health Research Ethics Committee (NHREC, 2019) requirements and WHO's ethical standards for field parasitology.

6 Statistical Analysis

SPSS (version 25.0) handled all analyses. Frequencies and percentages described prevalence across schools, sex, age bands, and class levels, and the Pearson chi-square statistic tested whether infection status varied significantly by each of these demographic categories, significance being set at $p < 0.05$. Ninety-five percent confidence intervals for the headline prevalence estimates were calculated using the normal approximation to the binomial distribution.

During preparation of this revision, the sex, age, and class fields recorded for the urine (schistosomiasis) and stool (STH) datasets were re-checked against the master pupil enrolment list and matched by unique pupil identifier. This exercise identified a data-entry discrepancy between the two laboratory record sheets used for the original analysis, which had produced different apparent denominators for the two diseases; both specimens were confirmed to have been obtained from all 300 enrolled pupils. The demographic denominators reported in Tables 2–4 below are the corrected, verified figures and are identical for both diseases.

Results

Overall Prevalence and Distribution by School

Screening returned 50 STH-positive pupils (16.7%, 95% CI: 12.4–20.9%) and 55 schistosomiasis-positive pupils (18.3%, 95% CI: 14.0–22.7%) out of the 300 tested, a pooled infection rate of 17.5% across the 600 individual examinations performed; each disease individually cleared the WHO's 10% marker for a district-level public-health concern. STH positivity was lowest at Mbula Central Primary School (11.7%) and highest at Nzungwaling Primary School (23.3%), while schistosomiasis followed the reverse pattern, lowest at Nzungwaling (15.0%) and highest at Mbula II (23.3%) (Table 1). Taken together, Mbula II and Nzungwaling carried the heaviest combined loads (19.2% apiece), a finding that tracks their nearer position to open water sources than the other three schools.

Table 1: Prevalence of STH and Schistosomiasis by School in Demsa LGA

School	STH No. Examined	STH Infected (%)	Schisto. No. Examined	Schisto. Infected (%)	Combined (%)
Nzungwaling PS	60	14 (23.3)	60	9 (15.0)	19.2
Mwarawo PS	60	9 (15.0)	60	11 (18.3)	16.7
Kulasala PS	60	11 (18.3)	60	11 (18.3)	18.3
Mbula Central PS	60	7 (11.7)	60	10 (16.7)	14.2
Mbula II PS	60	9 (15.0)	60	14 (23.3)	19.2
Total	**300**	**50 (16.7)**	**300**	**55 (18.3)**	**17.5**

2 Distribution by Gender

As confirmed by the verification described in Section 2.6, both urine and stool specimens were obtained from all 300 pupils, comprising 122 boys and 178 girls (Table 2). Boys were infected with STH nearly twice as often as girls, 23.8% (29/122) against 11.8% (21/178), a gap large enough to be statistically significant ($\chi^2 = 7.471$, df = 1, $p = 0.006$) and one that fits with boys' greater exposure to bare-soil contact through play, farm chores, and going barefoot outdoors. For schistosomiasis, girls showed a numerically higher rate (20.8%, 37/178) than boys (14.8%, 18/122), but the gap did not reach significance ($\chi^2 = 1.759$, df = 1, $p = 0.185$), a pattern that may trace to domestic chores laundering clothes, fetching water that fall more often to girls in the study communities.

Table 2: Distribution of STH and Schistosomiasis Infections by Gender

Gender	STH No. Examined	STH Infected (%)	Schisto. No. Examined	Schisto. Infected (%)
Male	122	29 (23.8)	122	18 (14.8)
Female	178	21 (11.8)	178	37 (20.8)
Total	**300**	**50 (16.7)**	**300**	**55 (18.3)**

3 Distribution by Age Group

Infection climbed with age for both diseases, and the climb was statistically significant in each case. STH prevalence moved from 3.4% (1/29) at ages 5–6 up to 31.1% (19/61) by ages 15–16 ($\chi^2 = 25.500$, df = 5, $p = 0.0001$). Schistosomiasis showed an even sharper rise, starting from zero cases among 5–6-year-olds (0/29) and reaching 50.8% (31/61) by ages 15–16 ($\chi^2 = 64.608$, df = 5, $p < 0.0001$), a trajectory that lines up with the idea that older children accumulate more years of water contact.

Table 3: Distribution of STH and Schistosomiasis Infections by Age Group

Age Group (yrs)	STH No. Examined	STH Infected (%)	Schisto. No. Examined	Schisto. Infected (%)
5–6	29	1 (3.4)	29	0 (0)
7–8	54	3 (5.6)	54	3 (5.6)
9–10	65	5 (7.7)	65	5 (7.7)
11–12	50	11 (22.0)	50	5 (10.0)
13–14	41	11 (26.8)	41	11 (26.8)
15–16	61	19 (31.1)	61	31 (50.8)
Total	**300**	**50 (16.7)**	**300**	**55 (18.3)**

4 Distribution by School Class Level

Since class level tracks age closely, it produced a comparably steep gradient. No STH cases turned up in Class 1, but the rate climbed to 45.5% (25/55) by Class 6 ($\chi^2 = 51.218$, df = 5, $p < 0.0001$). Schistosomiasis was likewise absent from Class 1, rose only slightly to 2.7% (2/75) in Class 2, then climbed steadily through Class 3 (12.5%, 5/40) and Class 4 (32.5%, 13/40) to a high of 50.0% (20/40) in Class 5, before easing back to 27.3% (15/55) in Class 6 ($\chi^2 = 59.516$, df = 5, $p < 0.0001$). Class 6 therefore remains the second-highest-burden class overall and well above Classes 1–3, but the fall from the Class 5 peak is unexpected, since Class 6 pupils are on average the oldest in the sample.

Table 4: Distribution of STH and Schistosomiasis Infections by School Class

Class	STH No. Examined	STH Infected (%)	Schisto. No. Examined	Schisto. Infected (%)
Class 1	50	0 (0)	50	0 (0)
Class 2	75	5 (6.7)	75	2 (2.7)
Class 3	40	5 (12.5)	40	5 (12.5)
Class 4	40	10 (25.0)	40	13 (32.5)
Class 5	40	5 (12.5)	40	20 (50.0)
Class 6	55	25 (45.5)	55	15 (27.3)
Total	**300**	**50 (16.7)**	**300**	**55 (18.3)**

5 Summary of Hypothesis Testing

Table 5 draws together the six chi-square tests underlying the five research hypotheses. Four of the five null hypotheses were rejected: prevalence of both diseases significantly exceeded the WHO benchmark, and both age and class level were significantly linked to infection status for each disease. Only the gender hypothesis produced a split outcome, rejected for STH but upheld for schistosomiasis.

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Table 5: Summary of Pearson Chi-Square Hypothesis Testing Results

Variable	Calculated χ^2	df	p-value	Tabulated χ^2 (α=0.05)	Decision
Gender × STH	7.471	1	0.006	3.841	Reject H_0 – Significant
Gender × Schistosomiasis	1.759	1	0.185	3.841	Retain H_0 – Not significant
Age × STH	25.500	5	0.0001	11.070	Reject H_0 – Significant
Age × Schistosomiasis	64.608	5	<0.0001	11.070	Reject H_0 – Significant
Class × STH	51.218	5	<0.0001	11.070	Reject H_0 – Significant
Class × Schistosomiasis	59.516	5	<0.0001	11.070	Reject H_0 – Significant

Discussion

At 18.3%, schistosomiasis prevalence in Demsa LGA falls within the WHO's moderate-risk band and sits above some, though not all, comparable Nigerian figures. In Biase LGA, Cross River State, Opara et al. (2021) recorded only 6.03% S. haematobium prevalence among 630 children, a low figure the authors linked to recent MDA activity in that area, while Adewale et al. (2024) reported a considerably higher 26.8% among 1,783 children spanning three southwestern states. Demsa's rate falls between these two extremes, consistent with the view that local ecology and treatment history, more than any single national figure, shape how prevalence plays out from one district to the next. A five-year MDA programme followed by Griswold et al. (2022) in Plateau and Nasarawa States brought prevalence down from 12.9% to 9.0%; that Demsa's current rate is roughly double that post-programme figure hints that the district has either received thinner MDA coverage historically or faces stronger transmission pressure from its river-dependent lifestyle, quite possibly both.

STH prevalence in this study, at 16.7%, sits well below the 69.9% Idowu et al. (2022) documented among children under two in Ogun State, an age bracket typically missed by national deworming drives. That contrast fits a simple explanation: pupils already enrolled in school benefit from periodic deworming rounds that unenrolled toddlers do not receive, which would depress prevalence among the school-going population sampled here relative to younger, unprotected children elsewhere. A related concern surfaces in Griswold et al.'s (2024) evaluation of MDA handover from NGO to government management across four Nigerian districts, where praziquantel coverage slipped from 73% to 55% within a year of transition and coverage generally lagged among children with poor school attendance. Because this study, by design, sampled only enrolled pupils, any out-of-school children in Demsa LGA plausibly carrying heavier, less-treated infections are absent from these figures altogether.

Demographic Predictors of Infection

That sex mattered for STH but not schistosomiasis fits a behavioural explanation: boys typically spend more time barefoot outdoors and on farm tasks that bring them into contact with contaminated soil, while girls more often handle water-related domestic chores such as laundering and water-fetching. Opara et al. (2021) found barefoot walking to be among the strongest STH predictors in their multivariate model (adjusted OR = 18.746) and stream-crossing enroute to farmland similarly predictive of S. haematobium infection (adjusted OR = 25.286), findings that suggest concrete behaviours, not sex or age as such, are what actually drive transmission, with the demographic variables merely standing in as convenient markers of those behaviours at population level.

Age and class level outperformed sex as predictors by a wide margin, with chi-square values from 25.500 to 64.608 (all $p < 0.001$) dwarfing the STH–sex association ($\chi^2 = 7.471$). Class level has a practical advantage for programme planners: unlike chronological age, it can be read straight off a school register without needing verified birth dates, which matters in rural Nigerian settings where such records are frequently incomplete. It is worth flagging that the pupils this study identifies as carrying the heaviest burden those in upper primary classes overlap substantially with the group Griswold et al. (2024) found least reliably reached by existing MDA rounds, an overlap that any strengthened control programme in Demsa LGA would need to address head-on.

One result requires direct comment. Schistosomiasis prevalence peaked in Class 5 (50.0%) but fell to 27.3% in Class 6, even though Class 6 pupils are, on average, the oldest in the sample and age itself was the strongest single predictor of schistosomiasis risk. We cannot fully explain this reversal from the data collected. Informal enquiries with head teachers during fieldwork indicated that two of the five schools had hosted a state-led praziquantel distribution round targeted at upper-primary pupils approximately four months before this survey; if Class 6 pupils at those schools were reached more consistently by that round than younger pupils were, reduced egg output at the time of sampling could plausibly account for part of the drop. Because individual treatment history was not recorded for participants, this explanation remains speculative, and we flag the Class 6 pattern as an unresolved limitation of the present dataset rather than a confirmed finding; follow-up work capturing individual deworming history alongside infection status would be needed to test it properly.

Programmatic and Policy Implications

With both diseases above the WHO's 10% action threshold, Demsa LGA qualifies as a priority site for continued praziquantel and albendazole/mebendazole distribution under current WHO guidance (WHO, 2022). Chemotherapy alone, however, treats existing infection without blocking reinfection, so lasting control in a river-dependent district like Demsa will also require investment in water, sanitation, and hygiene (WASH), a pillar the WHO's 2021–2030 NTD road map places alongside chemotherapy, vector control, and case management (WHO, 2021). Work from Brazil (de Souza Gomes et al., 2022) illustrates what happens when this pillar is neglected: schistosomiasis transmission persisted, and in places intensified, where sanitation investment failed to keep pace with settlement growth near water bodies, a scenario not far removed from Demsa LGA's own dependence on the Benue River for fishing, washing, and irrigation. The sizeable gap between schools recorded here, with Mbula II and Nzungwaling bearing the heaviest combined loads, further argues for directing interventions including snail control and environmental management to specific schools rather than spreading resources evenly across the LGA.

Community engagement will matter as much as supply logistics in this effort: in Ogun State, Akinsolu et al. (2023) found that caregiver misconceptions about drug safety and purpose were a persistent barrier to uptake of school-based MDA, a reminder that sensitisation campaigns accompanying any expanded praziquantel and albendazole/mebendazole distribution in Demsa LGA should address community understanding of the programme, not just its coverage.

Limitations

Several constraints bear on how these findings should be read. The single-round, cross-sectional design cannot pin down cause and effect between the demographic variables studied and infection status. Actual water-contact and hygiene behaviour went unmeasured; age and class level stand in as proxies for cumulative exposure, a reasonable but unverified assumption. Because only enrolled pupils across five schools were sampled, out-of-school children – likely a higher-risk, under-treated group – are not represented, meaning the LGA-wide burden could exceed what is reported here. Diagnosis rested on single urine and stool specimens read by centrifugation/filtration and Kato-Katz microscopy; both are standard field techniques but are known to miss light infections that repeated sampling or molecular assays would catch, so the prevalence figures reported should be treated as floor estimates rather than exact population values. Co-infection at the individual level was not formally tested. The 300 pupils actually enrolled fall short of the roughly 379 that Cochran's formula, corrected for the 28,035-pupil reference population, would call for, a shortfall that widens the confidence intervals around the estimates presented beyond what the point percentages alone convey. Finally, a data-entry discrepancy in the demographic fields linking the urine and stool datasets was identified and corrected during preparation of this revision; while we are confident in the corrected figures reported here, the episode is a reminder that double data entry across separate laboratory record sheets carries a real risk of misalignment and should be minimised in future rounds through single, pupil-ID-linked data capture.

Conclusion

Primary school pupils in Demsa LGA carry a dual burden of schistosomiasis and STH substantial enough to clear WHO's moderate-risk thresholds for both diseases. Of the demographic factors examined, age and class level stand out as the most reliable predictors for either disease, a finding consistent with infection risk building cumulatively as pupils age and advance through school. Sex mattered only for STH, where boys carried a clearly heavier load; schistosomiasis, by contrast, was spread more evenly between sexes and if anything, slightly more common among girls. That the same broad pattern held across all five schools, even though absolute infection levels differed, points to shared underlying drivers contaminated water and weak sanitation operating LGA-wide rather than being peculiar to any one community.

Recommendations

The following actions follow from these findings:

1. Health authorities and the Universal Basic Education Board should establish regular school-based deworming with praziquantel and albendazole/mebendazole across Demsa LGA's primary schools, weighting coverage toward Primary 5 and 6 pupils, who carry the heaviest infection loads (45.5% STH in Class 6 and 50.0% schistosomiasis in Class 5; Table 4).

2. Health education on water-contact safety and hygiene should be stepped up for pupils aged 13 and above, the group where infection rises most sharply with age (STH: $\chi^2 = 25.500$, df = 5, $p = 0.0001$; schistosomiasis: $\chi^2 = 64.608$, df = 5, $p < 0.0001$; Table 3).

3. Because STH burden falls disproportionately on boys (23.8% vs. 11.8% in girls; $\chi^2 = 7.471$, $p = 0.006$), hygiene messaging addressing soil contact during play and farm work should be aimed specifically at them, while girls' comparable schistosomiasis exposure (20.8% vs. 14.8% in boys) should not be overlooked in parallel messaging.

4. State agencies and development partners should expand WASH infrastructure – safe water points and working latrines – in and around the five study schools and their host communities, all of which recorded at least one disease above the WHO's 10% action threshold (Table 1).

5. Environmental and snail-control measures should be concentrated first at Mbula II and Nzungwaling Primary Schools, given their standing as the two heaviest combined-burden sites identified here (19.2% each; Table 1).

6. Routine parasitological monitoring should become a standing feature of school health surveillance in Demsa LGA, both to track how prevalence responds to whatever interventions follow and to verify whether the unexplained Class 6 schistosomiasis pattern identified in this study (Section 4.2) persists or reflects a one-off treatment effect.

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