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Prevalence of Intestinal Parasitic Infections among Children and Feacal Contamination of Primary School Premises in Imo State

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Abstract: This study evaluated the Prevalence of intestinal parasitic infections among school children and feacal contamination of school premises in urban and rural areas of Imo State, Nigeria. A cross-sectional survey was conducted from February to November 2024, in selected primary schools across Owerri and Orlu zones of Imo State. A total of 2,304 stool samples from children aged 5–13 years were collected and examined using Direct wet-mount technique, Kato Katz technique and formalin ethyl acetate concentration technique. Soil samples were also collected at strategic spots in the school premises to assess environmental contamination, and were examined using formalin ethyl acetate concentration techniques. Structured questionnaires were administered to assess the demographic information of the children. Statistical analysis was performed using R programmer version 4.4.2. The overall prevalence of Intestinal Parasitic Infections was 53.04%, with significantly higher rates in rural (56.06%) than urban areas (49.96%) of Imo state. Ascaris lumbricoides (28.73%) was the most prevalent parasite, followed by Hookworm (16.88%), Strongyloides stercoralis (14.50%), Entamoeba histolytica (12.11%), Schistosoma mansoni (10.29%), Trichuris trichiura (9.98%), Taenia species (7.34%), and Giardia lamblia (7.34%). Rural children showed significantly higher infection rates than their urban counterparts ($p = 0.002$). Out of a total of 2,304 children examined across urban and rural areas of Imo State, 777 (33.72%) had co-infections. Demographic analysis revealed that younger children and those in lower primary classes were more susceptible. The study revealed widespread soil contamination with intestinal parasites across all sampled locations in Imo State, with higher prevalence in rural areas. Of the 240 soil samples analyzed, 67.10% tested positive for at least one parasite, with Ascaris lumbricoides being the most common, followed by Hookworm and Trichuris trichiura. Orlu zone Rural showed the highest contamination rate, while Owerri zone urban had the lowest. Parasite ova were detected in all sampled sites, with toilet areas exhibiting the highest concentration, followed by classrooms and playgrounds. To effectively reduce the burden of intestinal parasitic

infections among children, the study recommends improving sanitation and access to safe water, enhancing health education and public awareness, reinforcing school-based deworming programs, strengthening rural healthcare services, implementing environmental control policies, and ensuring continuous monitoring through epidemiological studies. This study contributes to knowledge by providing updated data on intestinal parasitic infections among school children in Imo State, Nigeria, while also identifying toilet areas as key transmission hotspots, thereby informing targeted, integrated control and sanitation interventions.

Keywords: Prevalence, Intestinal Parasites, Infection, children, fecal contamination, soil.

Introduction

Intestinal parasitic infections (IPIs) rank among the most widespread chronic infections globally, particularly burdening populations in developing countries (Wafa, 2010). These infections present major public health and medical concerns, affecting around 450 million people, with children being the most vulnerable group (Odu et al., 2013). Common IPIs include Amoebiasis, Giardiasis, Ascariasis, Hookworm disease, and Trichuriasis (Opara et al., 2012).

The prevalence of these infections is highest in areas with poor sanitation, especially in tropical regions of Africa, Asia, and South America (CDC, 2011). While all age groups are susceptible, school-aged children face heightened risk due to their increased contact with contaminated environments (Odu et al., 2013). Behaviors such as playing in dirt, eating without washing hands, inadequate toilet hygiene, and consuming contaminated food and water contribute to this increased susceptibility (Barbara et al., 2011). Most intestinal parasites are transmitted through ingestion of food or water tainted with fecal matter (CDC, 2011). Some parasites, such as those responsible for hookworm disease and schistosomiasis, can also penetrate the skin or be ingested through contaminated soil (Hassan et al., 2014).

Symptoms associated with IPIs vary but often include abdominal pain, fever, fatigue, gastrointestinal issues, malnutrition, weight loss, rectal prolapse, insomnia, immune system suppression, organ enlargement, and cognitive difficulties (Ayeh-Kumi et al., 2009). In Nigeria, prevalence rates of IPIs differ significantly across states. For instance, Mohammed et al. (2023) documented a 6.0% prevalence in Sokoto, while Idowu et al. (2022) reported a significantly higher 69.6% in Ogun State. Prevalence rates were 38.3% in Plateau (Barnabas et al., 2022), 27.22% in Adamawa (Pukuma et al., 2022), and 18.31% in Anambra State according to Oluwaseun and Ekesiobi (2024). Additional studies from Anambra State noted rates of 35.2% (Aribodor et al., 2025), 12.5% (Nzeukwu et al., 2022), and a high prevalence of 72% according to Igbodika, Ekesiobi and Emmy-Egbe, (2014). In Imo State, reported prevalence includes 19.3% (Ihejirika et al., 2023), 48.7% (Udensi et al., 2015), 24.8% (Oguoma et al., 2008), and 43.0% (Kamalu et al., 2013).

Tegan and Demtie (2021) underscored the importance of environmental factors in influencing IPI risk. Aribodor et al. (2012) highlighted that contact between hands

and mouth after touching fecally contaminated surfaces is a major transmission pathway. Inadequate sanitation practices—such as indiscriminate disposal of human and animal feces—foster contamination of soil, water, and food, thereby perpetuating infection cycles (Ojurongbe et al., 2014). Furthermore, Colan et al. (2011) linked the consumption of undercooked beef with increased risk of taeniasis, with sewage-contaminated water sources being a particularly dangerous vector for disease transmission.

Effective control of these infections requires more than treatment; it calls for behavioral changes, enhanced sanitation infrastructure, and reliable access to clean water (Rollinson et al., 2013). Though anthelmintic drugs like Albendazole and Mebendazole are effective in treating worm infections, they offer only temporary relief due to the high risk of reinfection (Ihejirika et al., 2023). Campbell et al. (2014) emphasized the importance of shifting public health focus from treatment alone to prevention through WASH (Water, Sanitation, and Hygiene) strategies.

Objectives of the Study: The broad objective of this study is to assess the prevalence of intestinal parasitic infections among children and the extent of fecal contamination within school environments across both urban and rural areas of Imo State. The specific objectives are:

1. To investigate the prevalence of intestinal parasitic infections among school-aged children in urban and rural areas of Imo State.
2. To identify the types of intestinal parasites present in soil samples collected from urban and rural school environments in Imo State.

Materials and Methods

Study area: The study was carried out in Imo State, Nigeria, between February and November in 2024, to evaluate the prevalence of intestinal parasitic infections among children and feacal contamination of school premise in rural and urban areas of Imo state, Nigeria.

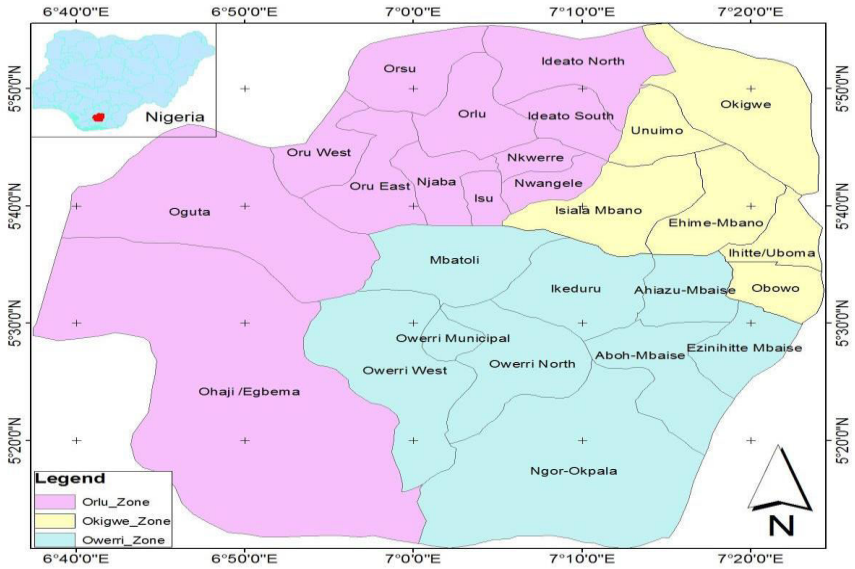

Figure 1: Map of Imo State showing Orlu and Owerri zones.
Source: Ihejirika et al., (2023)

Study Population: The subjects used for this study were children within the age of 5-13 years old. In each of the study school, the Head Teacher provided the list of all the children within the ages of 5-13 years old in their schools, which was used to calculate the sample size for each study school.

Sample size and Sampling Technique: The sample size was calculated using Yamane (1967) formula for sample size determination as described in Lonas (2019). Simple random sampling technique was used to select the total number of 2,304 children between the ages of 5-13 years, from the study schools in urban and rural areas of Owerri and Orlu zones of Imo state. A well-structured questionnaire was used to collect demographic information of the children.

Advocacy visit: Advocacy visit was made to the community heads of some of the communities visited to solicit for their support. Written informed consent was sought from the parents or guardians of selected pupils before commencement.

Ethical considerations: Ethical approval was obtained from the Ethical committee, Department of Public Health, Imo State Ministry of Health; and Ministry of Education, before the commencement of the study.

Inclusion criteria: Children within the age range of 5-13 years and whose parents or guardians consented were recruited in the study.

Exclusion criteria: Children above below 5 years and those whose parents did not consent were excluded in the study.

Stool sample collection and parasitological examinations: Each pupil was provided with a clean, dry, caped, well-labeled sample bottle for fresh faecal sample collection. The pupils were adequately instructed on how to get a little portion of their stool (approximately 5g) into the bottles. The class teachers were also educated to ensure full compliance. Sample collections was done in the morning in each of the selected Schools, each day. All stool samples were transported to Microbiology Laboratory, Department of Science Laboratory Technology, Imo State Polytechnic, for analysis. The collected stool samples were examined same day using Direct Wet-mount and Kato-katz techniques, as described by WHO (2019). And the remaining samples were immediately preserved with 10% formalin, for further analysis using Formalin-ethyl acetate sedimentation technique described by WHO (2019).

Soil samples Collection and parasitological examinations: Soil samples were also collected at strategic spots in the school premises:- the playground, Toilet/urination area and classroom area. At each spot, soil samples

(approximately 200-250 g of soil) was collected from a depth of about 2cm-6cm, with a hand trowel. The soil samples collected were kept in a well-labelled black polythene bags, and taken to the laboratory for parasitological examination. A total of 240 (20 spots x 12 schools) samples were collected from different spots. The collection was done in the morning hours from 7.00 am - 10am, when the larvae and eggs of geohelminths are still active (Nisha, et al., 2019). The parasitological examination of soil samples was done using Formalin-ethyl acetate sedimentation technique as described by Nisha, et al., (2019).

Data Analysis: All statistical analysis were done using the software, R version 4.4.2. (R Core Team, 2024). A Chi-square test for proportions was used to compare infection prevalence across different zones/areas.

Results

The overall prevalence of intestinal parasitic infections in the study areas was 53.04%, with varying prevalence rates across different locations (Table 1). In Owerri Zone, the prevalence was higher in rural areas (64.54%) compared to urban areas (51.80%). Similarly, in Orlu Zone, the prevalence in urban areas was 48.13%, while in rural areas, it was slightly lower at 47.78%. A statistical comparison of infection rates between Owerri Zone and Orlu Zone revealed that, within Owerri Zone, the difference between urban and rural areas was highly significant (X^2 = 19.03, df = 1, p < 0.001). In contrast, within Orlu Zone, the difference between urban and rural areas was not statistically significant (X^2 = 0.0034, df = 1, p = 0.953).

Table 1: Overall Prevalence of Intestinal Parasitic Infections among children in Imo State.

Location	**No. Examined**	**No. Infected**	**Prevalence**	**X^2**	**P-value**
Owerri Zone					
Owerri Urban	612	317	51.80	19.03	< 0.001
Owerri Rural	564	364	64.54		
Orlu Zone					
Orlu Urban	588	283	48.13	0.0034	0.953
Orlu Rural	540	258	47.78		
Total	**2304**	**1222**	**53.04**		

df = 1

Table 2 shows that, in Owerri Zone, Ascaris lumbricoides was the most common parasite, with a prevalence of 31.70% in Owerri Urban and 39.72% in Owerri Rural. Hookworm infections were also prominent, affecting 18.63% of individuals in Owerri Urban and 21.81% in Owerri Rural. Other frequently encountered parasites in Owerri included Strongyloides stercoralis (14.71% in urban areas and 15.60% in rural areas), Schistosoma mansoni (8.99% in urban areas and 15.60% in rural areas), and Entamoeba histolytica (9.31% in urban areas and 17.55% in rural areas). A similar pattern was observed in Orlu Zone, where Ascaris lumbricoides was also the most common parasite, with a prevalence of 19.73% in Orlu Urban and 23.70% in Orlu Rural. Hookworm infections were lower in this zone compared to Owerri, with rates of 12.41% in urban areas and 14.63% in rural areas. Other parasites, such as Trichuris trichiura and Strongyloides stercoralis, were relatively consistent across both urban and rural settings in Orlu. Interestingly, Entamoeba histolytica and Giardia lamblia showed slightly higher prevalence rates in Orlu Urban compared to Orlu Rural, which contrasts with the trend seen in Owerri.

Table 2: Prevalence of Intestinal Parasites among children in Owerri zone and Orlu Zone of Imo state.

Location	**No. Examined**	**Hookworm**	**Trichuris trichiura**	**Ascaris lumbricoides**	**Taenia species**	**Strongyloides stercoralis**	**Schisto. mansoni**	**Entamoeba histolytica**	**Giardia lamblia**
Owerri Zone									
Owerri Urban	612	114 (18.63)	58 (9.48)	194 (31.70)	56 (9.15)	90 (14.71)	55 (8.99)	57 (9.31)	44 (7.19)
Owerri Rural	564	123 (21.81)	56 (9.93)	224 (39.72)	37 (6.56)	88 (15.60)	88 (15.60)	99 (17.55)	42 (7.45)
Orlu Zone									
Orlu Urban	588	73 (12.41)	59 (10.03)	116 (19.73)	46 (7.82)	89 (15.14)	46 (7.82)	70 (11.90)	49 (8.33)

Orlu Rural	540	79 (14.63)	57 (10.56)	128 (23.70)	30 (5.56)	67 (12.41)	48 (8.89)	53 (9.81)	34 (6.30)
Total	**2304**	**389(67.48)**	**230(40.00)**	**662(114.85)**	**169(29.09)**	**67(57.85)**	**237(41.30)**	**279(48.59)**	**169(29.27)**

Table 3, presents data on the Prevalence of Co-Infections among Children in Urban and Rural areas of Imo state. Out of a total of 2,304 children examined across urban and rural areas of Imo State, 777 (33.72%) had co-infections (i.e., were infected with two or more parasite species). In Owerri zone, urban area had a co-infection prevalence of 31.2%, while Owerri zone, rural area had a higher prevalence at 41.3%, In Orlu Zone, Urban showed a prevalence of 30.6% while the Rural area of Orlu zone had a slightly higher prevalence at 32.0%. Overall, co-infections were more common in Rural areas of Imo state (36.78%) compared to Urban areas (30.92%). The most prevalent co-infection was Hookworm and Ascaris lumbricoides, which occurred at the highest frequency. Ascaris lumbricoides and Strongyloides stercoralis was the second most common, followed by Trichuris trichiura and Ascaris lumbricoides. Triple co-infections were also observed, with some combinations involving three different helminth species, such as Hookworm, Trichuris trichiura, and Ascaris lumbricoides. Additionally, certain co-infections involved a mix of helminths and protozoans, including Entamoeba histolytica and Giardia lamblia. As the plot progresses, lower-frequency co-infections include various combinations of Schistosoma mansoni, Taenia species, and Giardia lamblia, among others.

Table 3: Prevalence of Co-Infections among Children in Urban and Rural areas Imo state.

Location	No. Examined	No. Infected	Co-infections	Prevalence %
Owerri Zone				
Owerri Urban	612	317	191	31.2
Owerri Rural	564	364	233	41.3
Orlu Zone				
Orlu Urban	588	283	180	30.6
Orlu Rural	540	258	173	32.0
Total	**2304**	**1222**	**777**	**33.72**
Urban Area	1200	600	371	**30.92**

Rural Area	1104	622	406	**36.78**
Total	**2304**	**1222**	**777**	**33.72**

Table 4, shows the prevalence of infection by Age in rural and urban areas of Imo State. In both urban and rural areas, children aged 5-7 years had the highest prevalence, with rural children in this age group showing a higher prevalence (60.40%) than their urban counterparts (51.13%). The Pearson's Chi-squared test confirmed a statistically significant difference in prevalence across age groups (p = 0.004).

Table 4: Prevalence of Infection by Age in rural and urban areas of Imo State

Area	Age	Total	Infected	Prevalence (%)
Urban Area	5-7	530	271	51.13
	8-10	601	299	49.75
	11-13	69	30	43.48
Rural Area	5-7	505	305	60.40
	8-10	530	282	53.21
	11-13	69	35	50.72
Total		2304	1222	

X-squared = 17.044, df = 5, p-value = 0.004417

Gender differences in infection were also observed (as shown in Table 5). While the difference in urban areas was minimal, with females (51.09%) and males (48.92%) showing comparable rates, rural areas exhibited a higher prevalence among males (57.74%) compared to females (54.95%). The statistically significant Chi-squared test result (p = 0.013) indicates that gender may influence infection risk, particularly in rural areas where boys may engage in more outdoor activities, increasing their exposure to contaminated soil and water sources.

Table 5: Prevalence of Infection by Gender in rural and urban areas of Imo state

Area	Gender	Total	Infected	Prevalence (%)
Urban Area	Female	597	305	51.09
	Male	603	295	48.92
Rural Area	Female	555	305	54.95
	Male	549	317	57.74
Total		2304	1222	

X-squared = 10.707, df = 3, p-value = 0.01342

Table 6 shows that soil contamination with intestinal parasites is widespread across all sampled locations in Imo State, with higher prevalence rates in rural areas than urban areas. In overall, out of 240 soil samples examined, 161(67.10%) tested positive for at least one parasite. Ascaris lumbricoides was the most common parasite 80(33.30%), followed by Hookworm 50(20.83%) and Trichuris trichiura 31(12.92%). Among the locations, Orlu Rural had the highest total prevalence 51(85.00%), while Owerri Urban recorded the lowest 27(45.00%). Generally, the Orlu Zone had higher contamination levels than the Owerri Zone.

Table 6: Prevalence of Intestinal Parasites in Soil from different locations in Imo state

Location	**No. Sampled**	**Hookworm +ve (%)**	**T. trichiura +ve (%)**	**A. lumbricoides +ve (%)**	**Total +ve (%)**
Owerri Zone					
Urban Area	60	9 (15.00)	4 (6.60)	14 (23.30)	27 (45.00)
Rural Area	60	11(18.30)	7 (11.60)	21 (35.00)	39 (65.00)
Orlu Zone					
Urban Area	60	14 (23.30)	11(18.30)	19 (31.60)	44 (73.30)
Rural Area	60	16(26.6)	9 (15.00)	26 (43.30)	51 (85.00)
Total	**240**	**50 (20.83)**	**31 (12.92)**	**80 (33.30)**	**161 (67.10)**

Table 7, shows that intestinal parasite ova were found in all the sampled soil sites, with the highest concentration recorded in toilet areas (395), followed by classroom areas (226), and the least in playgrounds (59). Ascaris lumbricoides was the most frequently detected parasite, accounting for 41.9% of the total parasite count, followed by Hookworm (32.8%) and Trichuris trichiura (25.3%). In overall, toilet areas had the highest total parasite count (395), indicating they are the most contaminated sites, while playgrounds had the lowest (59) (Figure 4.9).

Table 7: Distribution of Intestinal parasite ova in soil sample from different sites in the study area.

Parasite	**Playground**	**Toilet area**	**Classroom area**	**Total Parasite count**	**%**
Ascaris lumbricoides	41	149	95	285	**41.9**

Hookworm	6	131	86	223	**32.8**
Trichuris trichiura	12	115	45	172	**25.3**
	59	395	226	680	

Discussion

The overall prevalence of intestinal parasitic infections in the study areas was 53.04%, with varying prevalence rates across different locations. The prevalence found in this study is higher compared with previous study conducted in Imo state, by Ihejirika, et al., (2023), Udensi, et al., (2015) and Oguoma, et al., (2013), where they reported overall prevalence of 19.3%, 48.7% and 43.0% respectively. Oluwaseun and Ekesiobi, (2024) and Aribodor, et al., 2025) reported 18.31%, 35.2% respectively, in Anambra state. While Idowu et al., (2022) reported 69.6% in Ogun State and 38.3% in Jos, Plateau State according to Barnabas et al., (2022). These variations could be due to geographical settings differences, sanitation facility coverage, accessibility of safe water, and personal hygiene dissimilarity (Damtie et al., 2021).

A key observation from the findings of this study is the variation in prevalence between urban and rural area. In Owerri Zone, rural areas had a significantly higher prevalence (64.54%) compared to urban areas (51.80%), with a highly significant statistical difference ($X^2 = 19.03$, $df = 1$, $p < 0.001$). This pattern aligns with the report of Idowu et al., (2022), who reported a rural-urban difference in terms of prevalence of intestinal parasitic infections among children, suggesting that environmental and socioeconomic factors significantly influence infection rates. Conversely, in the Orlu Zone, prevalence rates were similar between urban (48.13%) and rural areas (47.78%), with no significant difference ($X^2 = 0.0034$, $df = 1$, $p = 0.953$). This lack of disparity implies that in certain regions, urban and rural areas may share similar risk factors, possibly due to comparable levels of sanitation and access to healthcare services. Supporting this observation, a study in Rwanda reported an overall Intestinal parasitic infection prevalence of 53.2% among children, with no significant difference between urban and rural settings, indicating that factors beyond urban-rural classification, such as hygiene practices and socioeconomic status, play crucial roles in infection rates (Hakisimana, et al, 2023).

In the study, Ascaris lumbricoides was the most commonly detected parasite, with a prevalence of 28.73%. This finding is consistent with other studies in different parts of Nigeria (Ekesiobi (2025), Idowu et al., (2022), Udensi, et al., (2015), Ihejirika, et al., (2023)). Hookworm infections were also notable, with a prevalence of 16.88%. This is in agreement with the reports of Okechukwu, et al., (2024), and Ngwamah et al., (2024). This could be as a result of children not wearing protective foot wears while playing outside or within the school premises. Other intestinal helminths identified are Strongyloides stercoralis (14.5%) Schistosoma mansoni (10.29%) Trichuris trichiura (9.98%), and Taenia Species (7.34%). This is consistent with the findings of Imalele et al. (2023), Gbonhinbor et al., (2022), Damtie et al., (2021), Ihejirika et al. (2023). Igbodika, et

al., (2014). All of them recorded similar helminths parasites with varying prevalence. This shows that these parasites are common throughout the country where similar environmental conditions exist. The protozoan parasites, Entamoeba histolytica and Giardia lamblia, were also found in 12.11% and 7.34% of the study population, respectively. This finding is in agreement with earlier studies conducted in the geopolitical zones of Imo state (Udensi et al., 2015).

The prevalence of intestinal parasitic infections among children in urban and rural areas of Imo state reveals significant differences across demographic factors. The results of this study are consistent with findings of Gbonhinbor et al., (2022) on prevalence of intestinal parasitic infection in school-age children, where the number of parasitic infections decreased as the children's age increased. This findings is not in agreement with that of Udensi et al., (2015), who reported lower prevalence rates in the younger age group as compared with the older ones, in Imo state. Gender differences in infection were also observed. This study revealed that male children had a higher infection rate than female children, especially in the rural areas (57.74%) compared to females (54.95%). This findings agrees with Amisu, et al., (2023), but differs from those of Tongiura, et al., (2019), who found a higher infection rate in females than in males. The statistically significant Chi-squared test result ($p = 0.013$) indicates that gender may influence infection risk, particularly in rural areas where female children mostly do household chores indoors, whereas male children engage in outdoor activities, increasing their exposure to contaminated soil and water sources (Gbonhinbor, et al., 2022).

The analysis of soil samples from urban and rural areas revealed a significant presence of soil-transmitted helminths (STHs), specifically Ascaris lumbricoides, hookworms, and Trichuris trichiura. This result and the predominance of Ascaris lumbricoides aligns with findings of Igbodika and Ekesiobi (2019) on Soil Contamination with Soil Transmitted Helminths in different locations in Ihiala L.G.A Anambra State, South East, Nigeria., and reported Ascaris lumbricoides has the overall highest prevalence in soil samples (25.0%), followed by Hookworm (20.2%), Trichuris trichiura (4.0%). Also, Imalele, (2023) in his findings on, Environmental contamination by soil-transmitted helminths ova and subsequent infection in school-age children in Calabar, Nigeria reported Ascaris lumbricoides (23.3%), as the highest recovered STH followed by hookworm (17.5%), and Trichuris trichiura (16.3%). Within school environments, the highest concentrations of these parasites were found in toilet areas, followed by classrooms, with playgrounds having the lowest levels of contamination. This distribution underscores the role of poor sanitation in facilitating the transmission of STHs. Similar patterns have been documented by Olufotebi, et al., (2019) in Ibadan, Nigeria, and found higher prevalence rates of STHs in areas with inadequate sanitation facilities. The significant presence of Ascaris lumbricoides in classroom areas highlights the potential for parasite transmission within learning environments, suggesting that children may come into contact with contaminated surfaces and objects, increasing their risk of infection. According to

Ogomaka, et al., (2012), the high prevalence of STH infections among school-aged children has been attributed to poor personal hygiene and environmental sanitation.

Conclusion

The findings of this study indicate a high prevalence of intestinal parasitic infections among school children in the study areas of Imo State, with an overall infection rate of 53.04%. The prevalence varied across different locations, with rural areas generally exhibiting higher infection rates than urban areas. Ascaris lumbricoides emerged as the most prevalent parasite, followed by Hookworm, Strongyloides stercoralis, and other intestinal parasites. Additionally, co-infections were common, with a significant proportion of infected individuals harboring multiple parasite species.

Younger children (particularly aged 5–7 years) were found to be at higher risk, likely due to their increased exposure to contaminated environments and poor hygiene habits. Rural areas, particularly Owerri Rural, exhibited a higher burden of infection, underscoring the disparities in sanitation infrastructure and access to clean water between urban and rural communities.

Gender differences in infection rates were minimal, though boys in rural areas appeared to have a slightly higher risk, possibly due to increased outdoor exposure. The findings of this study confirm that the soil in both urban and rural areas of Imo State is contaminated with intestinal parasites, posing a significant public health concern. The presence of Ascaris lumbricoides, Hookworm, and Trichuris trichiura in soil samples highlights the persistent problem of soil-transmitted helminth infections among school children. Ascaris lumbricoides was the most prevalent parasite, particularly in toilet areas, followed by classroom spaces, while playgrounds exhibited the lowest contamination levels. This distribution pattern underscores the role of poor sanitation and hygiene practices in the transmission of intestinal parasites. Furthermore, the study revealed that soil contamination and subsequent risk of infection are higher in rural areas compared to urban settings, likely due to inadequate sanitation infrastructure, increased direct contact with contaminated soil, and poor waste disposal practices.

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