



Schematic diagram of Trophozoites and cysts of Intestinal protozoas.

Feacal Examination of Children Attending Hajiyya Gambo Sawaba General Hospital, Zaria.

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ABSTRACT

Intestinal protozoa and faeco-oral transmitted helminths (STH) constitute major health problems, especially in the tropical and sub-tropical regions. They can be the cause of a wide spectrum of clinical problems ranging from apparently symptomless infections to life-threatening conditions such as intestinal obstruction as in *Ascaris* infestation, failure to thrive as well as anaemia if not properly treated. In this study, results of 100 stool samples of children 1 to 10 year that visited GSGH between January 2014 and January 2015, were collected from the laboratory record book, and analyzed using simple percentages. The results showed that male patient (54.4%) were more than the female patient (46.0 %). It also showed that the total age range of 1-5 year is 22 (40.74%), while that of age 6-10 years is 32 (59.25%), This study also shows that the highest parasitic infection in this study is *Ascaris lumbricoid* (66.67%), followed by *E.vermicularis* (16.67%). The percentage infection of the *Ascaris lumbricoid*, is more in female children (66.67%) between 6-10 years, than the male children (33.33%) of the same age range. It is suggested that children with intestinal parasites should be treated periodically treated and ensure personal hygiene and clean environment.

Key Word: Intestinal protozoa, faeco-oral, parasites and infections

INTRODUCTION

Intestinal parasitic infections are globally endemic and have been described as constituting the greatest single worldwide cause of illness and disease Mehraj et al, (2008). IPIs are linked to lack of sanitation, lack of access to safe water and improper hygiene; therefore, they occur wherever there is poverty. Intestinal parasitic infections deprive the poorest of the poor of health, contributing to economic instability and social marginalization. The poor people of under developed nations experience a cycle where under nutrition and repeated infections lead to excess morbidity that can continue from generation to generation. People of all ages are affected by this cycle of prevalent parasitic infections; however, children are the worst affected Mehraj et al, (2008). Intestinal protozoa and faeco-oral transmitted helminths (STH) constitute major health problems, especially in the tropical and sub-tropical regions (Savioli et al;1992)

They can be the cause of a wide spectrum of clinical problems ranging from apparently symptomless infections to life-threatening conditions such as intestinal obstruction as in *Ascaris* infestation, failure to thrive as well as anaemia if not properly treated. Faeces are the solid, semi-solid formed or unformed waste product of the animal's digestive system including Bacteria and parasites excreted out of the body. Faeces vary significantly in appearances i.e size, color and texture, according to the state of digestive system, diet and general health. Normally stool is semi-solid, with a mucus coating. Stool examinations helps in easy detection and identification of parasite example; the

larvae, ciliate, flagellates and trophozoite of amoeba. Ova and cyst may also be detected by using wet saline preparation method. For a number of years, the centers for disease control (D C) has recommended that the routine parasitological examination of a fecal specimen should consist of a direct microscopic examination in both saline and iodine, a concentration examination and a permanently stained smear. However, timely processing within 1 hour of passage of a fresh specimen will give better result.

MATERIALS AND METHODS

The area of study is Zaria local government. There is high commercial activity in the local Government, this is evidence by the presence of large central markets and Government academic institutions and several health Institution both federal and state owned, including the Hajia Gambo Sawaba General Hospital, Zaria City. The population of the study covered 100 children under ages of 1-10year who attended Hajiya Gambo Sawaba General Hospital between 20014 and 20015 respectively. Data was collected from the available laboratory record book of parasitology and micro biology laboratories from January 2014 to January.2015. The data collected was analyzed and presented using frequency distribution table and result express in percentage.

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Table 1: Sex distribution of infected male patient with parasite

Age range (male)	Parasite name	Frequency	Percentage [%]
1-5years	Ascaris lumbricoid	2	16.66
6-10	Ascaris lumbricoid	4	33.33
	Taena Spp.	2	16.66
	Gardia Lambia	1	8.33
	HookWorm	1	8.33
	E.Histolytica	1	8.33
	Hertmanella Nana	1	8.33
Total		12	100%

In table 1, the majority of male children infected with high number of parasites are between the age range of 6-10 years which shows 83.31% of infection, and the highest parasite is Ascaris lumbricoid (33.3%).

Table 2: Sex distribution of infected female patient with parasite

Age range female	Parasite	Frequency	Percentage [%]
1-5years	Ascaris lumbricoid	1	16.66
6-10years	Ascaris lumbricoid	4	16.67
	E.vermicularis	1	66.67
Total		100	

Table 2 shows the result of female children between 6-10years that were more frequently infected with high numbers of parasite (83.32%), whereas the age range between 1-5years showed low paracetaemia with only 16.66%.

Table 3: male and female infected with parasite

Age range	Parasite name	Frequency	Percentage [%]
1-5years	Ascaris lumbricoid	3	16.65%
6-10years	Ascaris lumbricoid	8	44.44%
	Hook worm	1	5.56%
	Hertmanella nana	1	5.56%
	Giardia lambia	1	5.56%
	Taenia spp	2	11.1%
	E.histolytica	1	5.56%
	E.vermicularis	1	5.56%
	Total	8	18

Results and discussion

Table 3 above showed the result both males and females that were infected with parasites. The tables generally suggest that, the children between 6-10year are more frequently infected with high number of parasite [83.33%], when compared to that of children between the ages of 1-5years, which showed low paracetaemia of only (1) [16.66%] of infections.

Discussion

In this study of 100 stool samples of children age one to ten that visited GSGH between January 2014 and January 2015, the male patient (54.4%) were more than the female patient (46.0%). The result also showed that the age range of 1-5 is 22 (40.74%), while that of age 6-10 years is 32 (59.25%), implying that children between the age of 6-10 frequent the hospital more than the children of age 1 to 5 year. This study also shows that the highest parasitic infection in this study is *Ascaris lumbricoides* (66.67%), followed by *E. vermicularis* (16.67%). The percentage infection of the *Ascaris lumbricoides*, is more in female children (66.67%) between 6-10 years, than the male children (33.33%) of the same age range.

The tables generally suggest that, the children between 6-10 year are more frequently infected with high number of parasite [83.33%], when compared to that of children between the ages of 1-5 years, which showed low paracetemia of only (1) [16.66%] of infections. A similar trend was reported by Jombo et al;2007, in which the bulk of parasitic infestation occurred in the 8-15 years age group. High prevalence of intestinal parasitic infestation is apt to occur in low socio-economic condition, characterised by inadequate water supply and poor sanitary disposal of faeces (Meremikwu et al 1995; Al-Agha and Teodorescu 2000). The higher prevalence rate of intestinal parasitism in this study might be attributed to the poor hygienic practice and sanitary environment. The indiscriminate disposal of human wastes and unhygienic way of life might have been predisposing factors. The predominance of *Ascaris lumbricoides* in this study is in consonance with other reports (Eneanya and Anikwue, 2005). This observation is similar to the finding of Damen et al 2007 on the study of Prevalence of Intestinal Parasites among Pupils in Rural North Eastern, Nigeria, where the age group of 6-8 years had the highest prevalence (85.7%). They also observed that the distribution of intestinal parasites showed *Ascaris lumbricoides* to have the highest prevalence of (19.1%). Similarly, a study by Uwaezuoke et al;2006, on the prevalence of intestinal parasites was conducted among school children in Owerri Municipality of Imo State, Nigeria, between February and September 2003 reported that of the 1511 children examined, 721 (47.7%) were infected with intestinal parasites. The parasites encountered showed *Ascaris lumbricoides* (18.5%) to be the highest, followed by *Trichuris trichiura* (10.7%), *Entamoeba histolytica* (7.3%), *Strongyloides stercoralis* (6.0%), and Hookworm (5.3%). Uwaezuoke et al;2006 observed that although the prevalence of intestinal parasites was higher among males (50.3%) than in the females (45.7%), it was not significant ($p < 0.05$), this observation is in contrast to our finding in this study.

Conclusion

This study showed a high prevalence of intestinal parasitic (*Ascaris lumbricoides*) infection in the stool samples of female children (age 6-10 year) attending Gambo Sawaba General

Hospital kofan Gaya Zaria.

Recommendation

It is suggested that children with intestinal parasites should be treated periodically using broad spectrum or multi-agent drug combinations because of the multiple parasitism susceptibility in children. Public enlightenment and emphasis on personal hygiene and clean environment may be necessary in the prevention and control of parasitic infections among children in rural areas.

Acknowledgment

I appreciate the management and laboratory staff of GSGH, Zaria for the support and permission to carry out this study.

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