

## **Assessment Of Health Knowledge, Practices and Risk Factors Associated with Intestinal Helminthes Among Students of Imo State Polytechnic, Omuma Oru East Local Government, Nigeria.**

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### **Abstract**

A study was carried out on 620 students of Imo State Polytechnic Omuma using structured questionnaire between May and October 2023 to assess the health knowledge, practice and risk factors associated with intestinal helminthes. The demographic result of the study showed that male (56.5%) respondents were more than female (43.5%). The study also showed that 375(60.5%) and 245(39.5%) of respondents were within the age group of 17-20 years and 21-30 years respectively. Considering the type of toilet facilities utilized among the correspondents, 43% of the correspondents reside in accommodation with water closet facilities, 35.5% utilizes pit latrine while the other 22.5 % of the respondents' resort to indiscriminate defecation in nearby bushes due to lack of toilet facilities in their residential accommodation. The study further observed that (55%) of the respondents used soap and water to wash their hands, while (45%) use only water. 40.1 % of respondents admitted passing out worm (*Ascaris lumbricoides*) before as against (59.9%) that never experience it. Poor hygiene (12.3%), contaminated food (25.2%), improper cooked food (7.2%), are some of the major reasons highlighted by respondents on the knowledge of causes of worm infection among other opinion, while (8.8%) respondents have no idea on the causes of worm infection. It was observed that (8.1%) of the student claim that worm is natural and everybody has worm, while (0.8%) of students attributed it to the eating of mango fruit, sugary things (11.5%), eating of excess meat (5.5%), starvation (0.6%) while (8.8%) do not know the exact cause. 32.5% of respondents admitted being re-infected after treatment, stating that this might be due to not obeying hygiene rules and regulation. 20.5% believed that once they are treated, they cannot be re-infected again. 36.5% believed that it can be prevented while (10.5%)

believed that it cannot be prevented. The respondents believed that government can contribute greatly to good water and environmental sanitation in the life of its citizen through health education, regular environmental sanitation practices and the provision of social amenities for the good of the people.

*Keywords:* Health Knowledge, Practices, Risk Factors, Intestinal Helminthes

## 1.0 Introduction.

It has become so worrisome and an issue of concern that in developing countries, intestinal parasitic infection poses a major health problem which is not addressed properly. In developing countries, there are number of factors that have profound significance for high level of intestinal parasitic transmission. Human intestinal parasites are parasites that populate the gastro-intestinal tract of humans. It has become a major health problem in many developing countries. There are two main types of intestinal parasites: Helminthes and protozoa. In their adult form, Helminthes cannot multiply in the human body. Protozoa, however have only one cell, and can multiply inside the human body, which contributes to their survival and enables serious infections to develop.

Sometimes two or more can cause infection at the same time, a concept known as polyparasitism. Intestinal Helminthes is

distributed worldwide, particularly in tropical and sub-tropical areas of the world. More than one billion of the world's populations including at least 400 million school children are chronically infected with *Ascaris lumbricoides*, *Trichuris trichiura* and the hookworms. The prevalence of infections and degree of factors predisposing to infection vary from one region to another. Intestinal parasitic infections are among the most prevalent of human parasitic infections worldwide. They had been long recognized as an important health problem especially among Nigerian Children. Several epidemiological studies had indicated high prevalence rates of intestinal infections among Nigeria children. Few studies had also indicated a direct correlation between the intensity of infection with hook worms and with *Ascaris lumbricoides* and iron deficiency, anaemia and intestinal obstruction. Majority of Nigerian Children from low socioeconomic class has been found to be

anaemic, stunted with retarded growth and underweight due to malnutrition, all due mainly to intestinal parasites.

## 2.0 Materials and Methods

### 2.1 Study Area

The study was carried out in Imo State Polytechnic Omuma, Oru East LGA Imo State Nigeria. Omuma town is the headquarters of Oru East Local Government Area of Imo State in the south Eastern part of Nigeria. It is one of the oldest towns in Imo State. The city is located approximately at latitude  $5.560^{\circ}$  N and longitude  $6.972^{\circ}$  E in the rainforest belt, with an annual rainfall of 963.3mm. Its boundary to the west is Mgbidi, to the East by Akatta and Attah, to the North by Eleh and Nempi and to the South is by Amiri and Otulu. It has four communities; Abia-Omuma, Ozuh-Omuma, Umuhu-Omuma and Etit-Omuma.

**Religion:** Christianity is the dominant religion in Omuma.

**Culture:** The culture of Omuma is typical of Igbo cultures, being steeped in Igbo art and Igbo music. Some cultural activities and festivals are associated with ancient tribal gods and rites, but since the spread of Christianity, many are no longer performed.

**2.2 Method of Data Collection** Structured questionnaire were administered to 620

students in the institution, focus group discussions were conducted to validate response received through the questionnaire. Each focus group comprises of 5 to 10 students. Males and females were interviewed separately (Table I). The participants were encouraged to express their feelings and ideas freely. Notes were also taken to facilitate the data analysis.

### 2.3 Data Analysis

The questionnaires were analyzed using simple percentage to determine the relationship between the respondents.

## 3.0 Results & Discussion

### 3.1. Demographic Analysis

Six hundred and twenty (620) respondents participated in the study. Majority of the respondents in Imo State Polytechnic (56.5%) were male while (43.5%) were female (Table 1). However, of the total number of respondents, (60.5%) of the respondents were within the age groups of 17-20 years while (39.5 %) were within the age group of 21-30 years.

### 3.2 Risk Factors and Health Knowledge Respondents

In assessing the living conditions of the respondents with regards to accommodation, 60% respondents claimed that between 3 to 5

persons live in a room, 22% claimed that 2 people stay in a room while 18% reported that 6-10 people stay in a room, irrespective of the type of accommodation. 43% of respondents utilized the water closet type of toilet facility. 35.5% of respondents use the pit-latrines system, while 22.5% respectively defecate in the bushes.

On hand washing practices after defecation (55%) of the respondent use water and soap to wash their hands while (45%) use only water. (Table 2). From table 2 also, 40.1% of the respondents accepted to have passed out worms while 59.9% of the respondents have not passed out worms before.

**Table: 1**

SEX	No	%
Male	350	56.5
Female	270	43.5
Total	620	
Age Groups		
17-20 years	375	60.5
21-30 years	245	39.5

**Demography of the study**

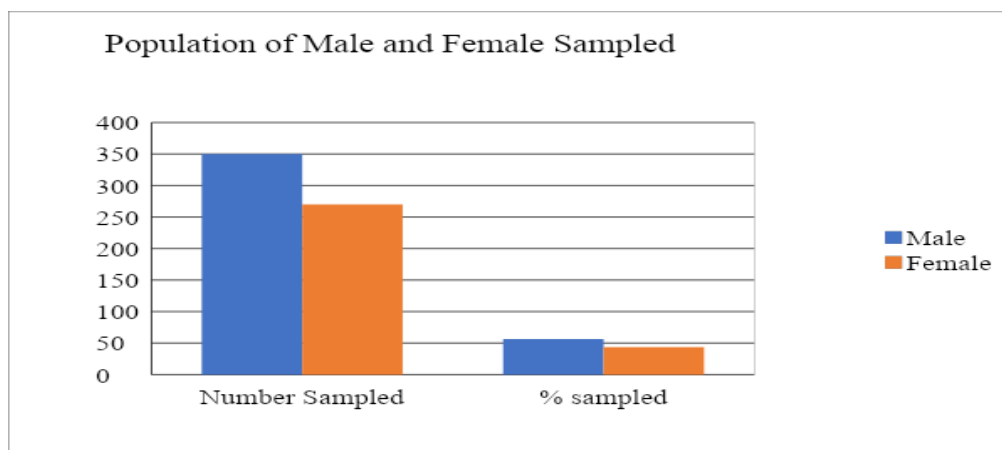


Figure 1a: Demography of the Population of Male and Female Studied

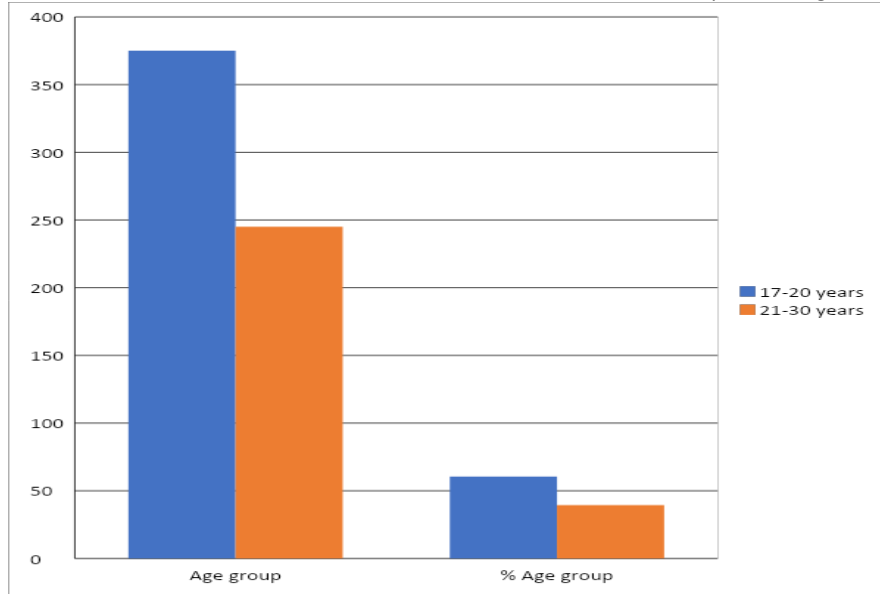


Figure 1b: Demography of the Population of Age Group Studied

Figure 1 shows the percentage population of males and females and the age groups studied. From figure 1a, 56.5% and 43.5% correspond to the percentage population of males and

females studied whereas 375(60.5%) and 245(39.5%) of the students were in the range of 17-20yrs and 21-30yrs respectively.

**TABLE 2**

**Knowledge and practices associated with Helminthes infection**

Questions	Imo Poly
Hand Washing	%
Water with soap	55
Water only	45
Passed out worms	
Yes	40.1
No	59.9
Knowledge of worm infestation	
Poor hygiene	12.3
Contaminated food	25.2

Eating sugary things	11.5
Eating mango fruits	0.8
Worm is natural	8.1
Improper cooked food	7.2
Eating excess meat	5.5
Due to disease	10.5
No idea	8.8
Contaminated water	9.5
Starvation	0.6

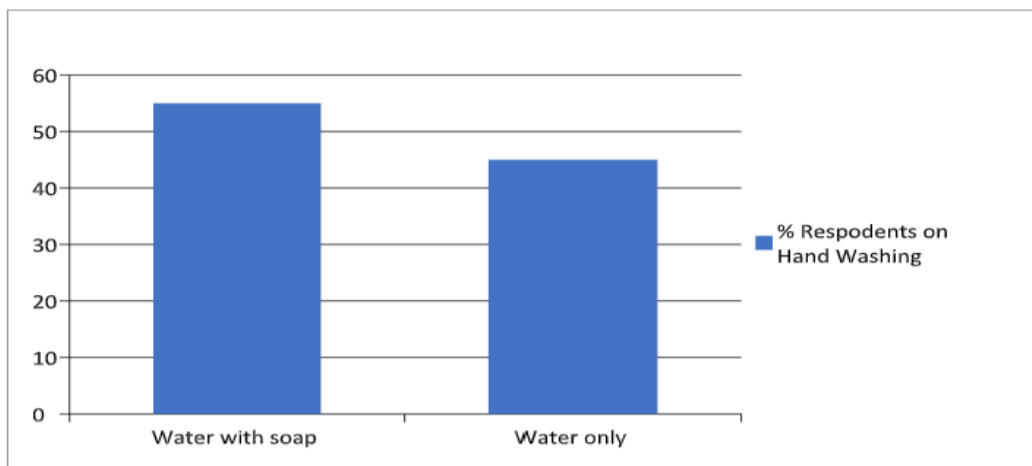


Figure 2a: % Knowledge of Hand Wash associated with Helminthes infection

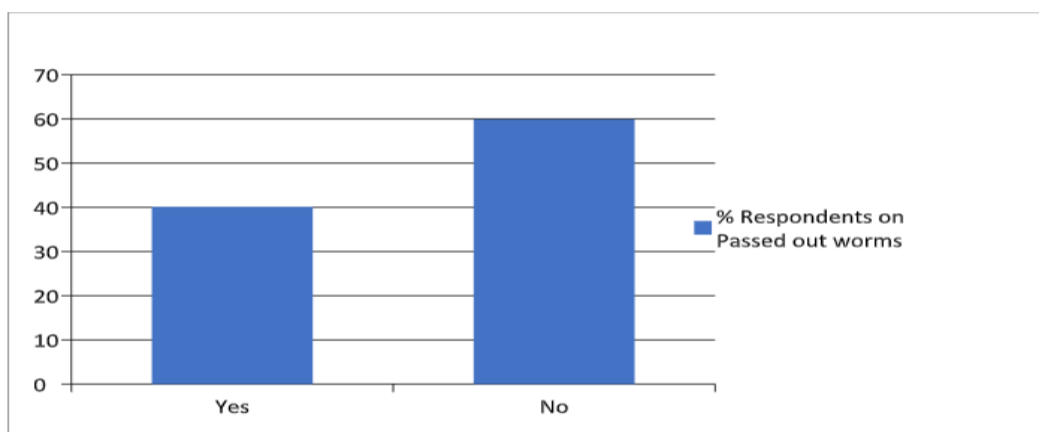


Figure 2b: % Knowledge of Passed out worms associated with Helminthes infection

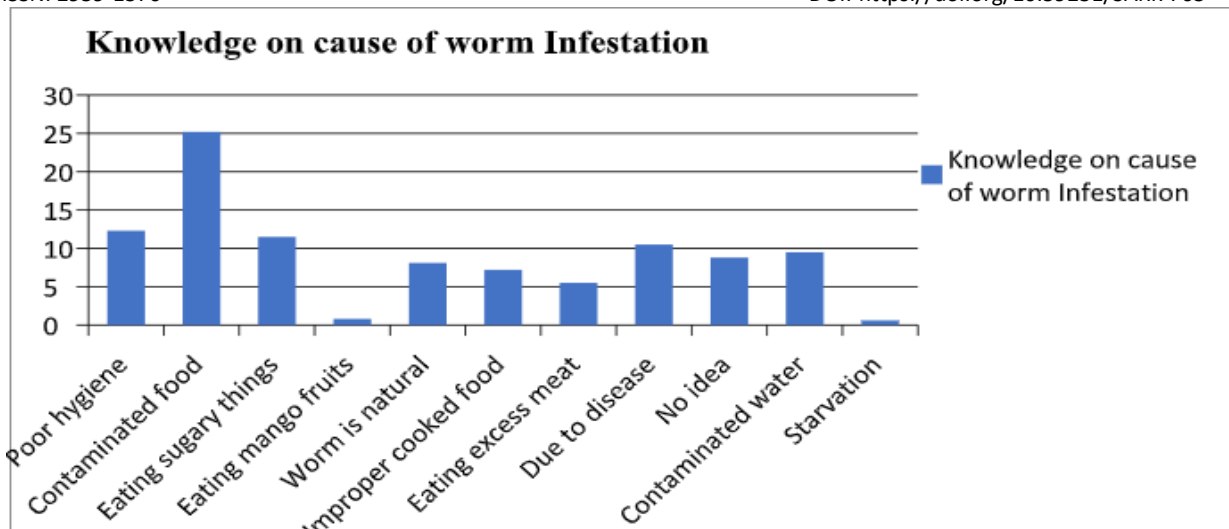


Figure 2c: % Knowledge of Possible causes of worm Infestation

Figure 2 explained the knowledge and practices associated with Helminthes infection. Judging from figure 2a, 55% of the students testified that Imo Poly student wash their hand with soap and water while 45% wash their hands with only water but not soap. Furthermore, 40% has passed out worms while

60% has not passed out worms as evident in figure 2b. Finally, a larger percentage (25%) of the students feel that contaminated food is the major cause of Helminthes infection while starvation (0.6%) and eating mango fruit (0.8%) contributed least to Helminthes infection.

**Table 3**

**Some risk factors and preventive measure associated with Helminthes infection**

Factor	Imo Poly %
<b>Number of students living in a room</b>	
2	22%
3-5	60%
6-10	18%
<b>Types of toilet facility utilized</b>	
Water closet	43%
Pit latrine	35.5%

Defecate in bush	22.5%
Ever received medical treatment for worm infection	
Treated by parents	40%
Treated by medical personnel	48%
Self-medication	12%
Possibility of being infected and prevented	
Can't be infected again if treated	20.5%
Can be re-infected again	32.5%
Can be prevented	36.5%
Cannot be prevented	10.5%
Preventive Measure can one be re-infected	
Regular deworming	35.5%
Maintaining good hygiene habits	43.2%
Cooking food properly	10.3%
Taking balance diet	11.%

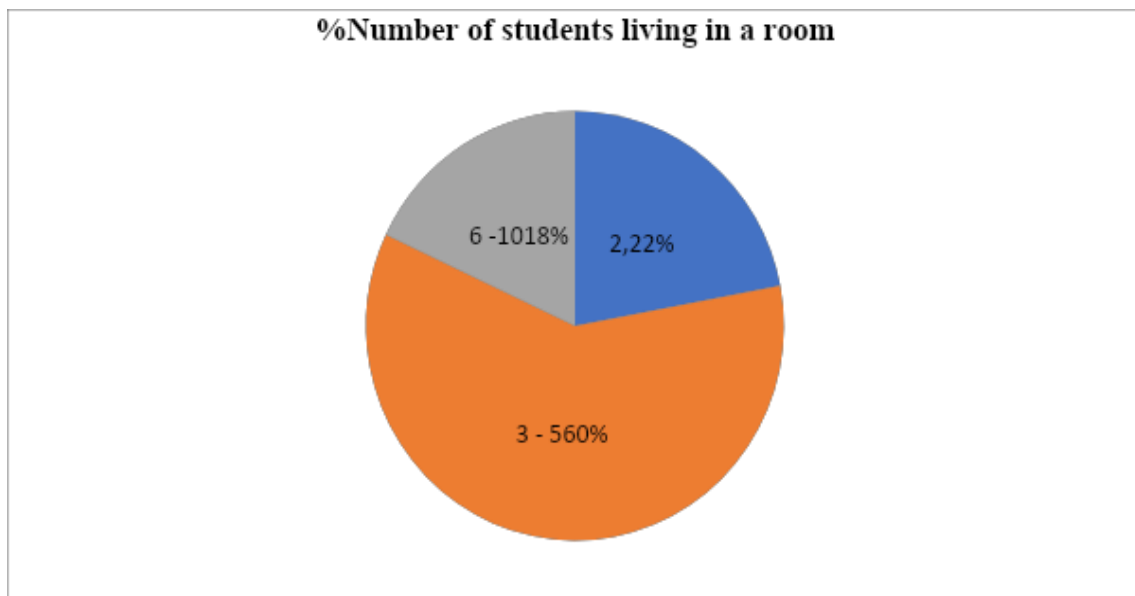


Figure 3a: % Number of students living in a room as risk factor to Helminthes infection



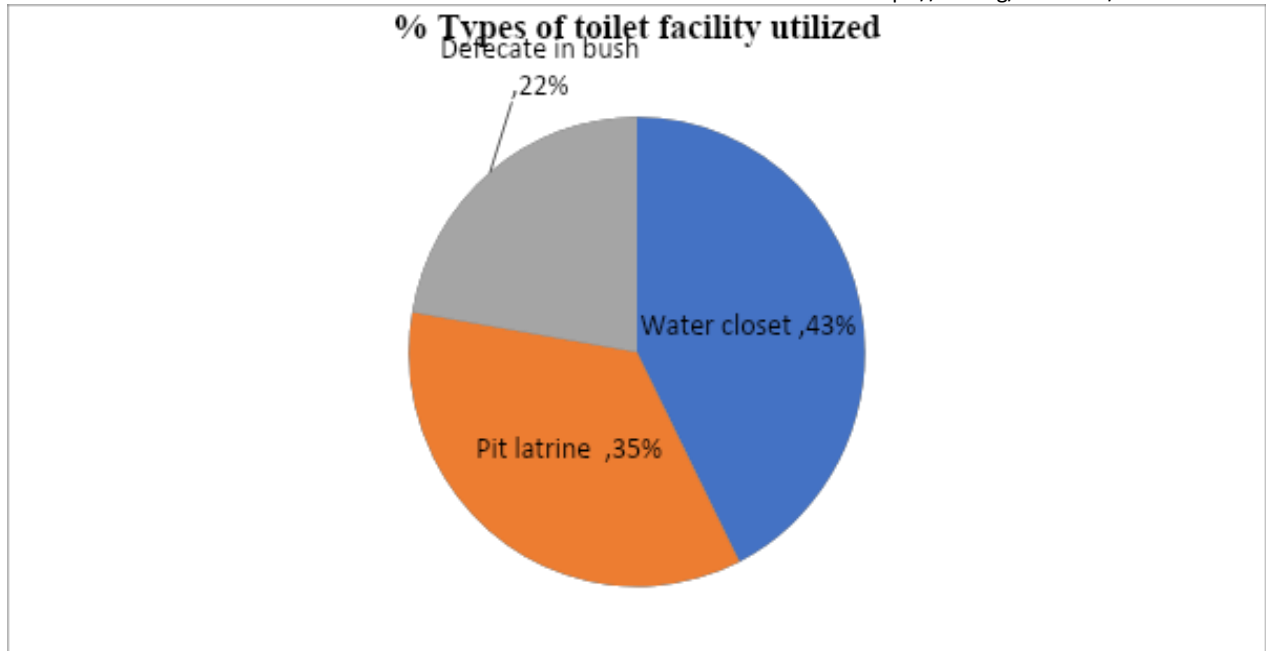


Figure 3b: % Types of toilet facility utilized as risk factor to Helminthes infection

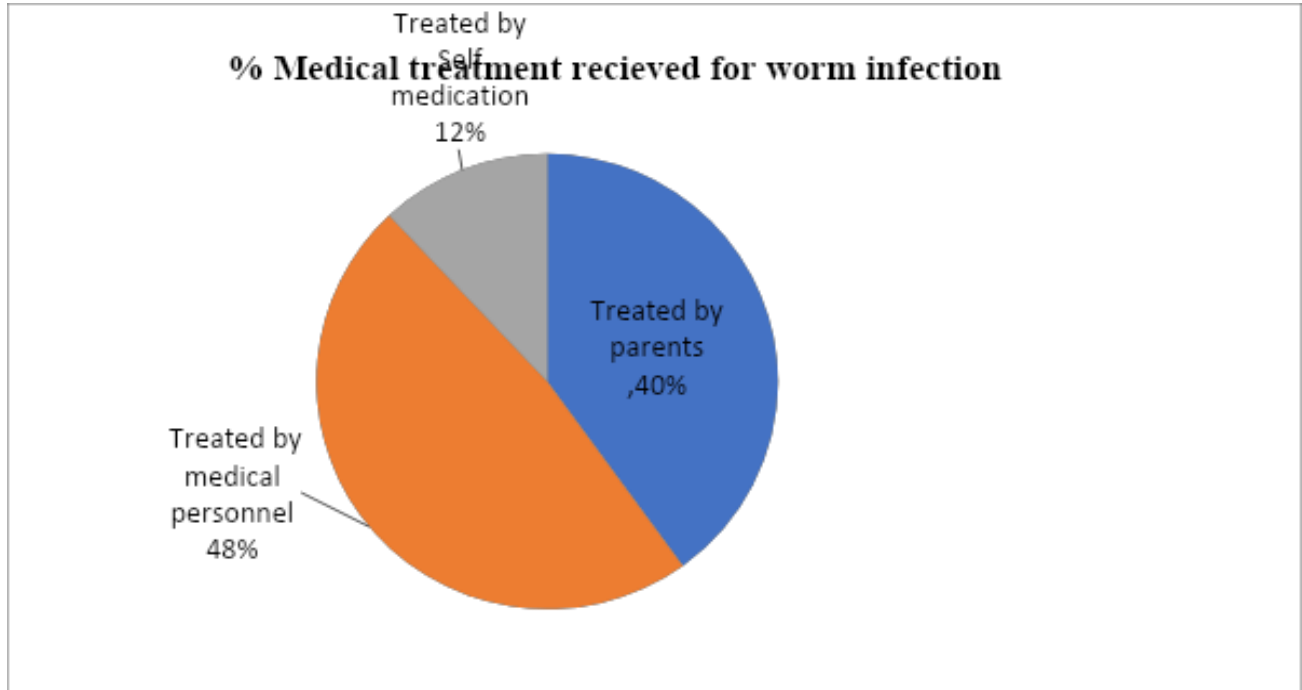


Figure 3c: % Type of Medical treatment received as risk factor to Helminthes infection

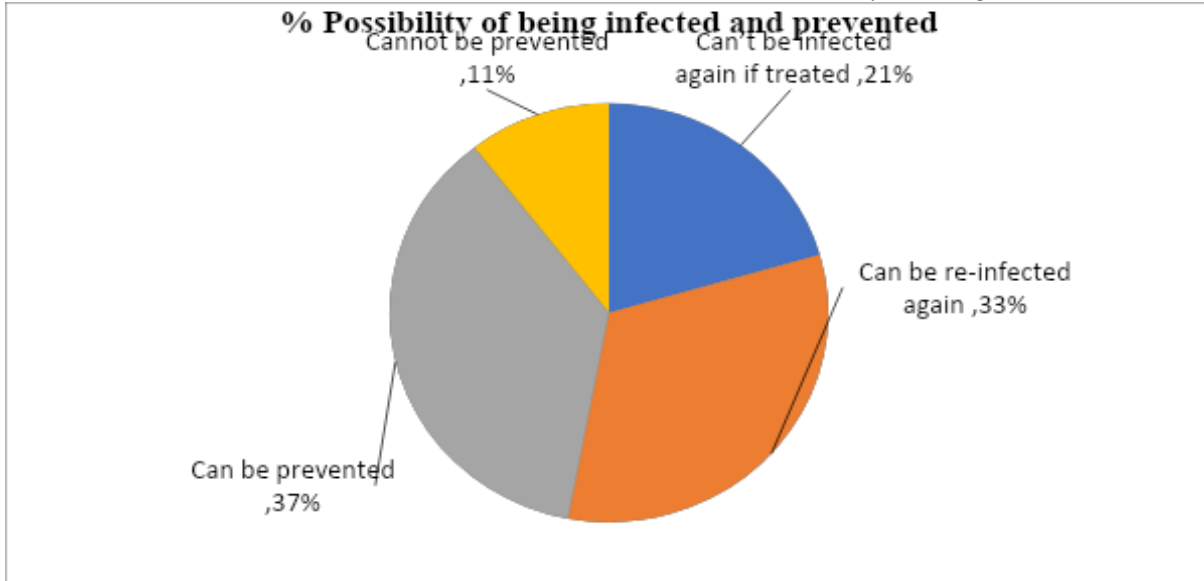


Figure 3d: % Possibility of being infected and prevented as risk factor to Helminthes infection

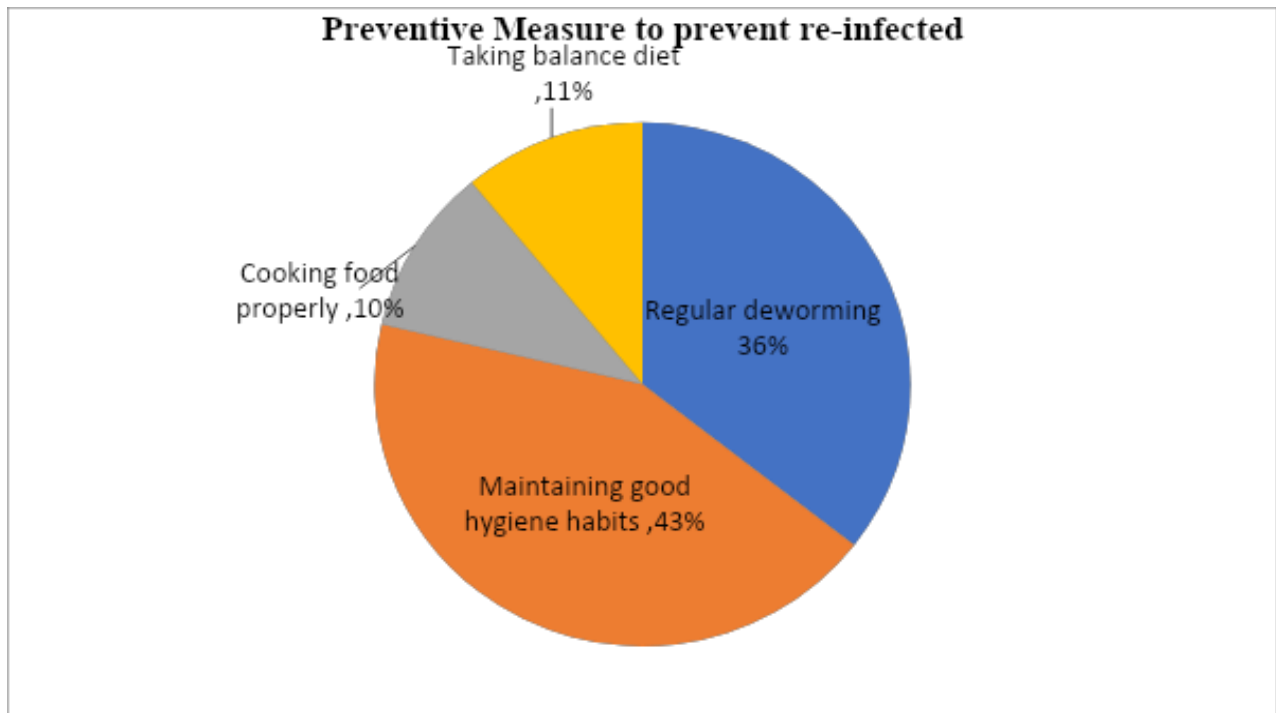


Figure 3e: % Preventive Measure to prevent re-infected of Helminthes infection

Figure 3 represents some risk factors and preventive measure associated with Helminthes infection. From figure 3a, the distribution of the students in percentage per room shows that 60% of the student's accommodation are occupied by 3-5 students, 18% 6-10 students and 22% by only 2 students. From figure 3b, 43%, 35.5% and 22.5% use water closet, pit toilet and defecate in the bush respectively to ease themselves. Figure 3c confirms that only a small percentage (12%) of the students practice self-medication whereas the majority of them are treated by their parents (40%) or medical personnel (48%). Based on the study shown in figure 3d above, 36.5% of the students feel that Helminthes infection can be prevented, 32.5% of the students are of the opinion that infected people can be re-infected, 20.5% affirmed that this infection cannot re-infect if properly treated while 10.5% said that Helminthes infection cannot be prevented. Finally in figure 3e, 43% of the studied population believe that maintaining good hygiene habits will go a long way to prevent the infection. In the contrary, 36% of the population is of the opinion that regular deworming is the key to preventing the infection, 11% attest that eating balance diet is

the solution to Helminthes infection while 10% said it is proper cooking of food.

### 3.3 Discussion

The demographic result showed that male (56.5 %) respondents were more than female (43.5 %). These confirm earlier findings that male respondents are more receptive than female, even when study instrument allows for equal number of respondents.

The study also showed that 375(60.5%) and 245(39.5%) of respondents were within the age group of 17-20 years and 21-30 years respectively. Considering the type of toilet facilities utilized among the correspondents, 43% reside in accommodation with water closet facilities, 35.5% utilizes pit latrine while the other 22.5 % of the respondents' resort to indiscriminate defecation in nearby bushes due to lack of toilet facilities in their residential accommodation. According to this research, it was observed that indiscriminate defecation by person is a serious factor in the spread of diseases.

On hand washing after defecation, the study observed that (55%) of the respondents used soap and water to wash their hands, while (45%) use only water. Some respondents who use only water claimed that their hands did not touch feces, even though they also practice

anal cleaning. Hand washing with soap after every defecation process had been recommended. This, according to reports would eliminate any potential pathogen that could have been picked up, and this practice, would go a long way in preventing transmission. (40.1 %) of respondents admitted passing out worm (*Ascaris lumbricoides*) before as against (59.9%) that never experience it.

Some respondents are aware of the causes of worm infection. Poor hygiene (12.3%), contaminated food (25.2%), improper cooked food (7.2%), are some major reasons highlighted by respondents on the knowledge of causes of worm infection among other opinion, while (8.8%) respondents have no idea on the causes of worm infection. The knowledge about worm transmission and risk factors from the study was high when compared with earlier reports on the knowledge of the possible causes of worm infection of students of higher institution. They reported that (8.1%) of the student claim that worm is natural and everybody has worm, while (0.8%) of students attributed it to the eating of mango fruit, sugary things (11.5%), eating of excess meat (5.5%), starvation (0.6%) while (8.8%) do not know the exact

cause. On the knowledge of re-infection of Helminthes, (32.5%) of respondents admitted being re-infected after treatment, but that this might be due to not obeying hygiene rules and regulation. (20.5%) believed that once they are treated, they cannot be re-infected again. (36.5%) believed that it can be prevented while (10.5%) believed that it cannot be prevented. Maintaining good hygiene behavior is crucial in preventing diseases; improving infrastructure without improving behavior may not result to effective disease control.

#### **4.0 Conclusion and Recommendation**

##### **4.1 Conclusion**

The assessment of health knowledge and risk factors associated with intestinal helminthes among the students of Imo State Polytechnic Omuma, Oru East Local Government Area were studied between May to September, 2023.

The study observed that a high percentage of respondents across the institution have adequate knowledge about causes and prevention of worm infection and other diseases that can be transmitted through dirty water and dirty environment but only needed to be encouraged on the importance and benefits of practicing good personal hygiene to avoid being infected or re-infected. That

notwithstanding, educative program from health facilities and government will still be of help especially for the few ignorant students among the tertiary institution and the public in general. Estimates of these parasitic diseases thus become a matter of necessity for the surveillance of public health, proper health-care delivery and people's welfare. It is believed that the findings from this research will generate some scientific interest amongst clinicians and scientist, so that the much-needed study will focus more on the epidemiology of these neglected intestinal parasites, and will be compared with the prognosis of the patients.

#### 4.2 Recommendation

The following are recommended for effective management of helminthes infections;

1. Environmental sanitation laws should be enforced by Institutional heads in conjunction with the government and should continue to assist in the provision of social amenities like pipe-borne water and free medical care to assist the low-income and poor people in the society.
2. Hygiene and sanitation campaign should be aggressively pursued and message should be specific on what real hygiene

encompasses. In particular, the idea that cleanness promotes good health should be reinforced.

3. Dustbins and dumpsites should be provided free of charge to schools and at designated areas outside the school environment to eliminate refuse disposal on roads and likely spread of diseases associated with clean environment.

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