

## **Assessment of the knowledge, attitude & practice of worm infestation among the school going children in Hapania, Agartala, West Tripu**

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### **Introduction**

Worm infestation is one of the major causes of childhood malnutrition, anemia, stunted physical and mental growth, psycho-social problems and this along with repeated gastrointestinal and upper respiratory tract infection contributes to high morbidity in children and remains a major cause of high infant and child mortality in our country. The infection is usually transmitted via ingestion of eggs from contaminated foodstuffs, an infection may occasionally occur via inhalation of eggs and swallowing of infected secretions.[1]

The overall prevalence of helminth infection in school-age children in India is about 50% in Urban and 68% in the rural area. Soil-transmitted helminths commonly known as worms form part of the Neglected tropical diseases which are associated with substantial acute and chronic morbidity, particularly among children [2].

Worm infestation as a public health problem needs immediate attention from policymakers in India. Most helminths infections, if left untreated, result in multi-year, chronic inflammatory disorders that cause both concurrent and delayed-onset pathology to the afflicted human host, it is now appreciated that chronic helminth infections are also linked to more insidious persistent health [3].

Infection occurs at all ages but is most common in children of preschool or early school age. Both sexes are equally affected. Though more common in children, intestinal obstruction due to *AscariasisLumbricoides* in adults, especially young adults are also well known.[4]

The World Health Organization (WHO) recommends that baseline data collection has to be collected before the control strategy is selected in areas where schistosomiasis and soil-transmitted helminthiasis (STHs) control programs are to be initiated, as this would allow monitoring and evaluation of control strategies [5].

There were very few studies conducted on worm infestation in Tripura, therefore, this study conducted to assess the knowledge, attitude and practice among school going children in Hapania, Tripura.

### **Materials & Method**

A cross-sectional study was conducted at Dukli higher secondary School, Hapania, Agartala, West Tripura, which is under peri-urban field practice area for the Department of Community Medicine, Tripura Medical College & Dr. BRAM Teaching Hospital, for a period of two months August to September 2018. The school is situated just nearby the urban health training center under Department of Community Medicine of Tripura Medical College & Dr. BRAM Teaching Hospital. It is a Govt. School consists of Morning section (1st standard to 5<sup>th</sup> standard) and afternoon section (6<sup>th</sup> standard to 12<sup>th</sup> standard). This study was conducted under ICMR STS project and targeted only the afternoon students for feasibility. Ethical permission was obtained from the Institutional ethical committee of Tripura Medical College and Dr BRAM Teaching Hospital.

#### **Sample size calculation:**

The total number of the students study at Dukli higher secondary School Hapania from 6<sup>th</sup> standard to 12<sup>th</sup> standard was 542. The sample size was calculated to 91 using the formula  $n = (z_{1-\alpha/2})^2 * p * q / e^2$ , where  $(z_{1-\alpha/2}) = 1.96$ ,  $p = 50\%$ ,  $q = (1-p)$ ,  $e$  (absolute error) = 10%. It's rounded off to 100.

#### **Sampling procedure:**

Two-stage sampling was done for the proper representation of students from each standard. The students were stratified according to their standard. From 6<sup>th</sup> to 11<sup>th</sup> standard 14 students were selected from each class by simple random sampling considering attendance register as a sampling frame and 16 students were selected from the 12<sup>th</sup> standard by following the same procedure. In case any selected student were happened to absent or refused to include in the study, in such cases the next roll number were included in the study.

#### **Study tool:**

A structured and pre-tested questionnaire was used for data collection. The questionnaire has 2 parts, Part-1 regarding socio-demographic profile like age, gender, parents occupation, parents education.

Part 2 has three sub parts; related to Knowledge, attitude and practices. The questions related to knowledge was have they heard about worms, type of worms, symptoms related to worms infestation. The questions related to attitude were measured by 3 scale Likert. The last part of the questionnaire was related to practices like regular use of foot wares, use of sanitary latrines etc.

#### **Data collection procedure:**

After getting the ethical permission from the institutional ethical committee the Principal of the school was approached for permission one week before data collection and with

consultation with the principle a telephonic permission was sought from the guardians of the students. Data were collected during class hour. The students were fully explained about the study. The questionnaire distributed to the participants according to the preference of language.

#### Data analysis:

Data collected from the above method was entered in Microsoft Excel spreadsheet and was expressed in terms of proportions in appropriate tables.

#### Results

**Table no 1: Distribution of the study participants is according to Socio-demographic profile (n = 100)**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>		
<b>Female</b>	37	37%
<b>Male</b>	63	63%
<b>Type of family</b>		
<b>Nuclear</b>	<b>77</b>	<b>77%</b>
<b>Joint</b>	18	18%
<b>Three generation</b>	4	4%
<b>No Idea</b>	1	1%
<b>Religion</b>		
<b>Hindu</b>	96	96%
<b>Muslim</b>	3	3%
<b>Others</b>	1	1%
<b>Fathers education</b>		
<b>Graduate &amp; above</b>	2	2%
<b>Higher secondary</b>	9	9%
<b>Secondary</b>	67	67%
<b>Primary</b>	12	12%
<b>Illiterate</b>	10	10%
<b>Mothers education</b>		
<b>Graduate &amp; above</b>	-	-
<b>Higher secondary</b>	9	9%
<b>Secondary</b>	14	14%
<b>Primary</b>	73	73%
<b>Illiterate</b>	4	4%
<b>Fathers occupation</b>		
<b>Govt. job</b>	<b>52</b>	<b>52%</b>
<b>Private</b>	<b>12</b>	<b>12%</b>
<b>Business</b>	<b>18</b>	<b>18%</b>
<b>farmer</b>	<b>12</b>	<b>12%</b>
<b>No job</b>	-	-
<b>Mother occupation</b>		

<b>House wife</b>	<b>84</b>	<b>84%</b>
<b>Govt. job</b>	<b>8</b>	<b>8%</b>
<b>Private</b>	<b>8</b>	<b>8%</b>
<b>Business</b>	-	-
<b>Farmer</b>	-	-
<b>No job</b>	-	-

### Socio-demographic:

In the present study out of 100 participants 63% were male and 37% were female. Most the participants were (77%) were belongs to nuclear family followed by 18% from joint family, 4% from three generation family and 1% of the participants said they have no idea about their family type. 96% of the participants were from Hindu community. 67% of the participants said their father studied up to secondary followed by 12% said that their father studied up to primary standard. 73% of the participants said their mother studied up to primary followed by 14% said that their father studied up to secondary standard. 52% of the participants said their fathers engaged with Govt Job. 84% of the participants said their mothers were house wife.

**Table no 2: History of passing worm in stool in last one month (n = 100)**

<b>History of passing worm in stool in last one month</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Yes</b>	59	59%
<b>No</b>	41	41%

Table no 2. Show that the 59% of the study participants have given history of passing worm in stool in last one month.

**Table no 3: Distribution of study participants according to knowledge, attitude & practice of the study participants**

<b>Questions related to Knowledge</b>	<b>Frequency (%)</b>	<b>Percentage</b>
<b>Have you heard about worms? (n = 100)</b>		
<b>Yes</b>	60	60%
<b>No</b>	40	40%
<b>What are the types? (n = 60)</b>		
<b>Roundworm</b>	10	16.7%
<b>Tapeworm</b>	12	20%
<b>Threadworm</b>	23	38.3%
<b>Multiple responses</b>	5	8.3%
<b>No Idea</b>	10	16.7%
		-
<b>Clinical manifestation of worm</b>		

<b>infestation (n = 60)</b>						
<b>Pain abdomen</b>		10			16.7%	
<b>Pain abdomen &amp; itching</b>		15			25%	
<b>Vomiting</b>		2			3.3%	
<b>Worms in stool</b>		11			18.3%	
<b>Perini itching</b>		14			23.3%	
<b>Multiple responses</b>		6			10%	
<b>No idea</b>		2			3.3%	
<b>Sources of the worms (n = 60)</b>						
<b>Animal Feces</b>		3			5%	
<b>Human Feces</b>		35			58.3%	
<b>Meat</b>		4			6.7%	
<b>Soil</b>		5			8.3%	
<b>Multiple responses</b>		1			1.7%	
<b>No idea</b>		12			20%	
<b>Question related to attitude (n=100)</b>	<b>Yes</b>	<b>No idea</b>	<b>No</b>	<b>Yes</b>	<b>No idea</b>	<b>No</b>
<b>Hand wash should be done before every meal</b>	93	4	3	93%	4%	3%
<b>Everyone should use footwear</b>	91	6	3	91%	6%	3%
<b>Vegetable &amp; fruits should be washed</b>	89	9	2	89%	9%	2%
<b>Question related to practices (n=100)</b>	<b>Frequency</b>			<b>Percentage</b>		
<b>Type of latrine use</b>						
<b>Sanitary</b>		76			76%	
<b>Insanitary</b>		11			11%	
<b>Open defecation</b>		4			4%	
<b>No idea</b>		9			9%	
<b>Regular use of footwear</b>						
<b>Yes</b>		98			98%	
<b>No</b>		2			2%	
<b>Waste disposal</b>						
<b>Municipal collection</b>		50			50%	
<b>Nearby place</b>		27			27%	
<b>no idea</b>		23			23%	

### Knowledge of study participants:

Table no 3 shows that in the present study 60% of study participants heard about worms. Among them, 38.3% were heard about threadworms followed by tapeworms (20%). Majority of the participants said pain abdomen and itching (25%) as a clinical manifestation of worm infestation followed by Perini itching (23.3%) followed by worms in the stool (18.3%). Most of them knew human feces (58.3%) as sources of worms.

**The attitude of the study participants:**

Table no 3 shows that in the present study 93% of participants had a positive attitude of Hand wash before every meal. Around 91% of participants had a positive attitude about wearing footwear. 89% had a positive attitude about Vegetable & fruits washing before consuming.

**Practices of the study participants:**

Majority of study participants (76%) had the sanitary latrine in their house followed by insanitary latrine (11%). Most of them use footwear's (98%). Most of the waste disposal is done by municipality collection (50%)

**Discussion**

93% of the study participants in this present study have a positive attitude about hand washing before every meal. Studies done Kancheepuram District, Chennai<sup>7</sup> and Ghana<sup>8</sup> had shown 100% of the study participants had a positive attitude towards hand washing before the meal. A study was done in Ethiopia<sup>9</sup> shown lower (54%) positive attitude compare to the present study. In the present study, 76% of study participants use sanitary latrine which lower than Bangladesh (98.4%)<sup>10</sup>. 4% of the study participants of our study go for open defecation which much lower than the study done in Kolkata (40.9%)<sup>11</sup>.

**Conclusion**

Most of the school going children are aware of worm infestation & their deleterious effects on health. A good number of study participants have a positive attitude towards hand hygiene which can be helpful in the prevention of worm infestation. Sanitary latrines are also used by the majority of the participants which is a good practice. Frequent health awareness sessions will be helpful to bring the uncovered population under the umbrella of practicing health hygiene.

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