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RESEARCH ARTICLE

A COMPARATIVE STUDY TO ASSESS THE KNOWLEDGE REGARDING WORM INFESTATION IN CHILDREN AMONG URBAN AND RURAL MOTHERS ATTENDING OPD IN GURU TEG BAHADUR SAHIB (C) HOSPITAL, LUDHIANA, PUNJAB

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ABSTRACT

Background: Worm infestation is the infection of intestinal tract with any of several species of helminthes or parasitic worms, including Ascaris (Round worm), Entrobius (Pin worm), Trichinella spiralis and various species of Cestodes (Tape worm). (Kumari 2006) The World Health Organization estimates that over one billion of the world's population is chronically infested with soil transmitted helminthes. (Panwanda Geeta 2011) Worm infestation remains one of the main problems of child development. This is especially a great health hazard in developing countries. Impure water, low socio-economic state, poor sanitation coupled with low literacy rates of parents particularly the mothers are the main causes of this prevalent malady (Gupta 2009).

Aim: The Aim of the study is to compare knowledge of urban and rural mothers regarding worm infestation in children, with a view to enhance their knowledge on prevention and management of worm infestation, by distributing pamphlets.

Material and Methods: A Quantitative Research approach and Non Experimental Comparative research design was used to assess the knowledge regarding worm infestation in children among urban and rural mothers attending OPD in Guru Teg Bahadur Sahib (C) Hospital, Ludhiana, Punjab. Using convenient sampling technique a sample of 100 mothers including 50 residing in urban area and 50 residing in rural area and having children in the age group of 0 -10 years were selected. Data was collected using self structured questionnaire and results were analysed using descriptive and inferential statistics.

Results: The findings of the present study revealed that mean knowledge score of urban mothers was higher (18.86) as compared to rural mothers (16.96) regarding worm infestation in children. The difference between mean knowledge score was found to be statistically non-significant.

Conclusion: It was found that there was no impact of demographic variables on knowledge score of urban and rural mothers.

INTRODUCTION

Worm infestation remains one of the main problems of child development. This is especially a great health hazard in developing countries. Impure water, low socio-economic state, poor sanitation coupled with low literacy rates of parents particularly the mothers are the main causes of this prevalent malady. The main cause of worm infestation is poor sanitary conditions such as open air defecation where the eggs of the worms passed through the faeces get mixed with the soil and may result in contamination of food and water. Consumption of contaminated food or water with these eggs leads to worm infestation. Children get infected by touching mouth with soiled hands and also eating mud. Hook worm infection occurs when the larvae penetrate the skin through bare foot.

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(Gupta 2009) The common features of worm infestation are pain in abdomen, abdominal distension, peri-anal itching, nausea, cough, loss of weight, growth failure, anemia, vitamin deficiencies, bruxism and voracious appetite. The associated problems are pica, sleeplessness, irritability, urticaria, fever, eosinophila and diarrhea. Ascaris may produce intestinal obstruction or gangrene or perforation, obstructive jaundice, appendicitis, pancreatitis, Ascaris encephalopathy, liver abscess and peritonitis. Protein loss due to Ascaris infestation may cause Kwashiorkor. In pinworm and threadworm infestation, the infected child may present with vague general symptoms like poor appetite, loss of weight, teeth griding, abdominal pain, nausea, vomiting and diarrhea. Clinical features of Hook worm depends upon worm load. The infested child presents with progressive anemia, loss of appetite, epigastric pain, perverted taste, pica and black colored stool. The child infected with tape worm may show symptoms like

headache, abdominal pain, abdominal distension, recurrent diarrhea and growth failure.[1] The diagnosis of worm infestation can be made by stool examination. Periodic case finding technique is important to provide treatment to all infected persons. This will reduce the burden and frequency of transmission of infection, if supported with the environmental measures (Chandrashekhar *et al.,* 2005).

There are drugs which are effective against worm infestation such as Albendazole, Mebendazole, Pyrantel etc (Chandrashekhar *et al.,* 2005). The commonly used effective antihelmintic drugs are single dose of Albendazole (15mg/kg) or Mebendazole (100mg) twice daily for 3 days irrespective of patient's age. Levamisole single dose with 2.5 mg/kg or single dose of Pyrantel pamoate 10mg/kg body weight may also be used. On taking these drugs, the individual can have slight gastro-intestinal disturbance.[1] Worm infestation constitutes an important limitation on growth and development of children. In children with borderline nutritional status, worms can precipitate nutritional failure. Prevention of worm infestation can be done by interrupting its transmission. Sanitary disposal of human excreta, reduction of fecal contamination of the soil, provision of safe drinking water, food hygiene, good personal hygiene, improving habits of hand washing before eating and after defecation, avoidance of open field defecation, health education to the general public about the use of sanitary latrines and improvement of personnel and environment hygiene. Knowledge of breaking the life cycle of the worm is important from prevention point of view (Ahmed K Akbar *et al*., 2003).

MATERIALS AND METHODS

A Quantitative research approach and non experimental comparative research design was adopted to assess the knowledge regarding worm infestation in children (0 – 10 years) among urban and rural mothers. Conceptual framework for this study is based on Fitts and Posner Model. Convenient sampling was done for selection of 100 mothers - 50 from urban and 50 from rural area. A self structured multiple choice questionnaire was used for collection of data. The tool was having the following parts:-

Part I – Socio - Demographic Profile

This part included 7 items to gather information from mothers related to Age, Education, Number of children, Family history of worm infestation, Type of family and Source of information.

Part II - Structured Multiple Choice Questionnaire

This part included self structured multiple choice questions to assess mother's knowledge regarding worm infestation in children. The tool consisted of 40 multiple choice questions, each question had one correct answer among the 4 choices and each correct answer carried one mark. Each incorrect answer carried zero mark.

Criterion Measures

This questionnaire consisted of 40 multiple choice questions to assess knowledge regarding worm infestation among urban and rural mothers. For each correct answer the score '1' was given and for the wrong answer the score was '0'.

Total items = 40
Maximum score = 40
Minimum score = 0

Level of knowledge	Percentage	Score
Excellent	≥ 61%	≥ 25
Good	51 – 60 %	21 – 24
Average	41 – 50%	17 – 20
Below average	≤ 40%	≤ 16

Pilot study was conducted in the second week of December 2013, on 1/10th of total sample (5 belonging to urban area and 5 from rural area) to ensure the reliability of tool and feasibility of study. The Reliability of the tool was calculated by Split Half Method using Karl Pearson's Coefficient of Correlation and Spearman Brown's Prophecy formula. The reliability of the tool was found to be 0.79. The procedure of data collection was carried out in the month of March, 2014. Formal written permission was obtained from Ethical and Research committee and Medical Superintendent of Guru Teg Bahadur Sahib (C) Hospital, Ludhiana after discussing the purpose and objectives of the study. Convenient sampling was done for selection of sample of 100 mothers - 50 from urban and 50 from rural area. The participants were explained the purpose of the study and confidentiality was assured to them. Verbal consent was taken from all the participants for their participation in study. The information was collected from the participants using self structured questionnaire.

RESULTS

The analysis of data was done in accordance with the objective of the study. The findings have been organized and presented under following sections

Section -I: Demographic characteristics of sample.
Section -II: Findings related to level of knowledge regarding worm infestation in children.
Section-III Comparison of mean knowledge score regarding worm infestation in children among urban and rural mothers.
Section – IV: Relationship and Comparison of knowledge regarding worm infestation in children among urban and rural mothers with selected demographic variables like Mother's Age, Mother's Education, Number of children, Family History of Worm Infestation, Type of Family and Mass Media Exposure.

Table 1. Mean knowledge score regarding worm infestation in children among urban and rural mothers

N = 100

Area	Knowledge score		
	n	Mean	Mean%
Urban	50	18.86	47.15
Rural	50	16.96	42.40

Maximum Knowledge Score – 40
Minimum Knowledge Score – 0

Table – 1 shows that the Mean Knowledge score of urban mothers regarding worm infestation in children was 18.86 and

Mean Percentage was 47.15 whereas among rural mothers the Mean Knowledge score was 16.96 and Mean Percentage was 42.40%. Hence, it was concluded that urban mothers had more knowledge regarding worm infestation in children as compared to the rural mothers.

and Rural mothers regarding worm infestation in children was statistically non-significant. Hence, it was concluded that there is no difference in knowledge of Urban and rural mothers regarding Worm Infestation in children.

Table 2. Frequency and percentage distribution of mean knowledge score regarding worm infestation in children among urban and rural mothers

N=100

Level of Knowledge		Mean Knowledge Score							
		Urban mothers n=50				Rural mothers n=50			
		N	n%	Mean	Mean%	n	n%	Mean	Mean%
Excellent	(>61%)	7	14	26.14	65.4	3	6.00	26.67	66.7
Good	(51-60%)	11	22	22.36	55.9	7	14.00	21.57	53.9
Average	(41-50%)	19	38	18.74	46.9	21	42.00	18.48	46.2
Below average	(<40%)	13	26	12.15	30.4	19	38.00	12.05	30.1

Maximum Knowledge Score – 40
Minimum Knowledge Score – 0

Table - 2 depicts the mean knowledge score regarding worm infestation in children among urban and rural mothers. In mothers belonging to urban area, maximum 19 (38%) mothers had average knowledge, followed by 13 (26%) having below Average knowledge, 11 (22%) having good and only 7 (14%) had excellent knowledge regarding Worm infestation in children. Among Rural mothers, maximum 21(42%) mothers had average knowledge, 19 (38%) had below average knowledge, 7 (14%) had good and 3(6%) had excellent knowledge regarding Worm Infestation in children. Urban mothers having excellent level of knowledge had maximum mean knowledge score and mean percentage (26.14, 65.4%), followed by mothers having good level of knowledge (22.36, 55.9%) then mothers having average knowledge (18.74, 46.9%) and least in mothers having below average knowledge (12.15, 30.4%). Among rural mothers, mothers having excellent level of knowledge had maximum mean knowledge score and mean percentage (26.67, 66.7%), followed by mothers having good level of knowledge (21.57, 53.9%), then mothers having average knowledge (18.48, 46.2%) and least in mothers having below average knowledge (12.05, 30.1%). Hence, it was concluded that in both groups, majority of mothers were having average knowledge regarding worm infestation in children.

Table 3. Comparison of Mean knowledge score regarding worm infestation in children among urban and rural mothers

N = 100

Area	Mean Knowledge Score					
	N	Mean	Mean%	SD	df	Z
Urban	50	18.86	47.15	5.11	98	1.92 ^{NS}
Rural	50	16.96	42.40	4.77		

Maximum Knowledge Score – 40
Minimum Knowledge Score – 0

Table – 3 shows the comparison of mean knowledge score regarding worm infestation in children among urban and rural mothers. The mean knowledge score and mean percentage of Urban mothers regarding Worm Infestation in children was higher 18.86 (47.15) as compared to rural mothers 16.96 (42.40%).The difference in mean knowledge scores of Urban

DISCUSSION

Based upon findings from the analysis of data and review of literature, discussion was done according to the objectives written as below:

The mean knowledge score and mean percentage of Urban mothers regarding Worm Infestation in children was higher 18.86 (47.15) as compared to rural mothers 16.96 (42.40%). Study conducted by Vasumathi (2011) revealed similar findings, where it was found that mothers in rural area had lower knowledge as compared to urban mothers regarding worm infestation. The findings of the present study related with age revealed that among urban mothers, mean knowledge score was highest (19.42) in age group of 21 – 30 years and least (16.14) in the age group of ≤20 years. Among rural mothers mean knowledge score was highest (18.50) in age group of ≤20 years and least (16.58) in the age group of 21 – 30 years. The difference in mean knowledge score of mothers in various age groups residing in Urban and Rural area was found to be statistically non-significant. It was concluded that age had no impact on knowledge of urban and rural mothers regarding worm infestation. On the contrary, in the study done by Traub *et al*. (2004) it was reported that age had an impact on knowledge of mothers regarding worm infestation.

Conclusion

It was concluded that there was no significant difference between mean knowledge score of urban and rural mothers, also there was no significant relationship of knowledge with variables. It was inferred that variables had no impact on knowledge of mothers regarding worm infestation.

Recommendation

On the basis of finding of the study, following are the recommendations

- Pamphlets can be prepared on worm infestation and kept in child care settings so that the parents coming there can read them and know about worm infestation, its

transmission, clinical features, adverse effects, prevention and management.

- Health awareness programmes must be organized in community to educate people about preventable conditions like worm infestation.

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