



Knowledge and practice of worm infection among mothers of school going children of Arba VDC, Kaski, Nepal

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Abstract

Background

Parasitic worms (helminths), are serious threat to life. A good knowledge of worm infection among the mothers of child bearing age could help to improve the scenario. The present study aimed to obtain the scenario of the knowledge, and practice of helminth infection in relation to the community's existing knowledge in a village of western Nepal.

Methods

The present research work was conducted between 01-07-2014 to 31-07-2014 with a structured questionnaire in Arba VDC, Kaski, Nepal

Results

Majority of the mothers were in the age group of 26-30 years, followed by 31-35 years and <25 years. Among the 26-30 years age group mothers, knowledge score was relatively good. Brahmins had highest good knowledge score. Among Hindus knowledge score was more comparing with Buddhists. Practice score was good for almost all participants.

Conclusion

This study has showed a need for more awareness of worm infections for a better health. Governmental policies regarding health education need to increase knowledge of worm infections also important in this context.

Key words

Knowledge, mothers, Nepal, practice, worm infection



Background

Parasitic worms (helminths), are serious threat to life. The importance of soil-transmitted helminthes and schistosomes, were well understood long back [1]. Soil-transmitted infections like helminthiasis and schistosomiasis are impact globally affecting 1 billion people annually [2-4]. Research data shows that about 750 million people are at risk [5]. Sithithaworn *et al.* reported in Southeast Asia, about 67.3 million people are at risk for *Opisthorchis viverrini*. About ten million people of Thailand and Laos suffers from helminth infection [6]. Although there were several awareness programme, implementation of health policies have been prepared to reduce parasitic transmission in different parts of the globe [8], still worm infections always be a serious health issue and a socio-economic burden for the victims. It has also been noticed that poor socioeconomic background is a cause of this infection, which sometimes involve multiple species [4,7,8-11]. Epidemiologists observed that school going children were most vulnerable. Several crucial factors responsible for this clinical scenario, such as impaired physique, nutritional and cogitative potential *etc.* [1,13,14]. Schistosomiasis is among the top 14 outpatient treated diseases in Zimbabwe. The age group 8-15 years recorded the highest national incidence rate of schistosomiasis in 2002 [15].

There are enormous strategic plans adopted worldwide to control mortality and morbidity for helminthiasis with special emphasis on regular combined school based treatment of primary school children, but the key factor is knowledge and practices which has sustainable control interventions [16]. In the year 2001 a resolution was passed during the 54th World Health Assembly (WHA), with an objective (for member states) to administer anthelmintic drugs regularly to all school-aged children for the minimization of risk of morbidity due to schistosomiasis and soil-transmitted helminthiasis by 2010 [17]. World Health Organization (WHO) also assembled an expert committee to refine the global strategy for the prevention and control of schistosomiasis and soil-transmitted helminthiasis. Due to their initiative, a large number of school-aged children have received anthelmintic drugs (albendazole, mebendazole praziquantel against schistosomiasis) [18-20].

It has been observed that knowledge, attitudes and practices were insufficient in the most susceptible age group (grade 3 children). A good knowledge of worm infection among the mothers of school going children could help to improve the scenario [21, 22]. Although there were few studies, but reports were deficient from western Nepal [23-26]. The present study aimed to obtain the scenario of the knowledge, and practice of helminth infection in relation to the community's existing knowledge in a village of western Nepal.

Material and Methods

Study Period

The present research work was conducted between 01-07-2014 to 31-07-2014. Structured questionnaire was used in this study.

Study design, participants and the collection of data

The place of this work was in Arba VDC, Kaski, Nepal. The sample size was one hundred. Mothers of school going children were selected for this study.

Data collection

Questionnaires were distributed amongst the subjects by one of the study investigator. The participants were clearly instructed to put a tick in one response for each item in the printed version of the questionnaire. To avoid bias, subject's identity was kept confidential.

Questionnaire design

Multigraded questionnaire was constructed based on influential factors of knowledge and attitudes on worm infection. Subject experts of epidemiology critically evaluated and remarked based on their experience.

Questionnaire items were also checked in terms of agree or disagree related to relevance, clarity, accuracy, appropriateness and usefulness. Suggestions and recommendations incorporated in proper place. Socio-demographic details along with factors associated with knowledge and attitude assessment in Likert scale was a part of the questionnaire. In the sociodemographic proforma, different items, namely age, caste, religion, education, occupation, type of family, awareness regarding worm infestation, source of information, *etc.* was considered. Assessment of knowledge about worm infestation was based on multiple choice questions. The scoring was graded as – poor, average and good knowledge.

Inclusion criteria

All participants (mothers of school going children), willing to participate in this study were included.

Exclusion criteria

Participants not willing to take part in this research were excluded and incompletely, incorrectly filled questionnaires were not considered.

Ethical committee approval

Approval was taken from college authorities and also obtained from the chairperson of the Pokhara sub metropolitan. This research was done according to the



Table – 1 Sociodemographic variables, knowledge and attitude score among the participants (n)

Sample Characteristics		n	Knowledge Score			P Value	Practice Score			P Value
			Poor	Average	Good		Poor	Average	Good	
Age	<25 years	21	0	8	13	0.449 ^x	0	0	21	0.320 ^x
	26-30 years	41	0	11	30		0	0	41	
	31-35 years	23	0	7	16		0	0	23	
	Above 35years	15	1	7	7		0	1	14	
Caste	Brahmin	57	1	14	42	0.185 ^x	0	0	57	0.191 ^x
	Gurung	16	0	5	11		0	0	16	
	Chettri	14	0	5	9		0	0	14	
	Others	13	0	9	4		0	1	12	
Religion	Hindu	88	1	31	56	0.345 ^x	0	1	87	0.822 ^x
	Buddhist	12	0	2	10		0	0	12	
Education	Illiterate	3	0	1	2	0.709 ^x	0	0	3	0.733 ^x
	Below SLC	45	1	19	25		0	1	44	
	Above SLC	38	0	10	28		0	0	38	
	Bachelor	14	0	3	11		0	1	14	
Occupation	Housewife	64	1	19	44	0.138 ^x	0	0	64	0.263 ^x
	Farmer	13	0	6	7		0	1	12	
	Business	18	0	7	11		0	0	18	
	Others	5	0	1	4		0	0	5	
Family Income	NRS < 5000	15	0	6	9	0.846 ^x	0	0	15	0.364 ^x
	NRS 5001-10000	26	0	6	20		0	1	25	
	NRS 10001-15000	25	0	8	17		0	0	25	
	NRS 15001 above	34	0	13	20		0	0	34	
Type of Family	Nuclear	54	0	19	35	0.760 ^x	0	1	53	0.749 ^x
	Joint	46	1	14	31		0	0	46	

^xP>0.05 statistically not significant

declaration of Latest version of Helsinki. Individual consent was also obtained from the participant. Before the distribution of questionnaires study objectives clarified to the participants and they were clearly instructed to avoid name or identification symbols in the questionnaire.

Outcome variable

Knowledge and practice score, awareness were set up as outcome variable.

Explanatory variables

The demographic factors age, caste, religion, education, occupation, family type, income, awareness regarding worm infestation, source of information etc. were considered as explanatory variables.

Data management and statistical analysis

Data was analyzed and interpreted by descriptive statistics with the use of Statistical Package for Social Science (SPSS), version 16.

Results

Table - 1 clarifies majority of the mothers were in the age group of 26-30 years, followed by 31-35 years and <25 years. Among the age group <25 years had good and average types

of knowledge and their practice score was also good. Among the 26-30 years age group mothers, knowledge score was relatively good. Among all the groups poor quality of knowledge was almost nil. Practice score was good amongst all age groups.

Considering the caste, majority was Brahmin followed by Gurung, Chettri and others. Among all of them Brahmins had highest good knowledge score followed by Gurung and Chettri. Practice score was good for all the castes. Among all participates, majority was Hindu others all Buddhist. Among Hindus knowledge score was more comparing with Buddhists.

Considering the level of education, most of them was below SLC, followed by above SLC and bachelors. Among participants, most were housewife, followed by business and farmer and other occupations. Good score of knowledge was relatively more among the farmers and business women, comparing with housewife. Practice score for all are good.

Most of the participant's family income was NRS 15001 above followed by NRS 5001-10000 and NRS 10001-15000. Except the income group "NRS 5001-10000" other all had relatively better knowledge score. Considering the practice score among all groups showed good results.



Table - 2 Awareness and source of information (n)

Awareness regarding worm Infestation?	Yes	87
	No	13
If yes what is the sources of information?	Mass media	24
	Health Workers	30
	Family/ Friends	24
	School Teacher	9

Table - 2 explains about the awareness and source of information among the participants. 87% of the respondents told that they were aware about worm infection. sources of information was mainly health workers, family friends and mass media.

Discussion

This study was to intend to reveal the present scenario of the knowledge and practice of parasitic worm infections a village of Kaski district. Special emphasis was given on interviewing these individuals.

Influence of age

<25 years had good and average types of knowledge with a relative good practice score. We observed in this present study, among the 26-30 years age group mothers, good knowledge score, which may be due to the experiences they obtained from either discussing with others or from their personal experiences. We cannot ignore the role of mass media and other governmental programs running in these areas which may contribute some added benefit to these age groups. There were other studies in Nepal where, it was observed that awareness of worm infection among school children was associated with type of school and knowledge, where influence of parent's age and education cannot be ignored [24].

Influence of caste and religion and education level

In this study, we observed Brahmins had highest good knowledge score followed by Gurung and Chettri. Practice score was good for all the castes. Knowledge score among Hindus relatively more comparing with Buddhists. There may be reason that, education level is higher among these population, which affected the knowledge and practice. Considering the level of education, most of them were below SLC, followed by above SLC. In the previous studies, significant statistical association was observed amongst the children with the increasing educational status of their mother and decreased rate of worm infestation rate [25].

Role of occupation

In the present research, good score of knowledge was relatively more among the farmers and business women, comparing with housewife. There may be a reason, that farmers works in the fields and they are prone for the infections. Their early exposure to these kinds of infections may make them good knowledgeable and also intended to have a good practice in worm infections. Among the business women's, interactions with different other people were more comparing with house wife, so both the knowledge and practice score was more. Earlier studies in Nepal found significant association between infection and personal hygiene of people, where profession was an influential factor [24].

Awareness and source of information

We found 87% of the respondents were aware about worm infection. Sources of information were mainly health workers, family friends and mass media. There are recent studies considering both individual and community perceptions for the attitudes, prevention and treatment of worm infection as influential factors [27].

Conclusion

In conclusion, this study has clearly demonstrated a need for more awareness of worm infections. Although we found that a less population had poor quality of knowledge or practice, but still improvement is required for a better health. Governmental policies regarding health education to increase knowledge of worm infections is valuable in this context. Based on current findings, it is clear that, adoption of healthy practices is necessary amongst mothers of school going children which may reduce the risk of helminthic infections.

Limitations & future scope of the study

The present research was cross-sectional type with a limited number of subjects. So, for the future researchers it will be a good opportunity for conducting broad spectrum multi-centric studies which should include a larger population, to obtain a better scenario. Another weakness of this study was considering only mothers of school going children, so males knowledge and practice about should also be considered in the future studies.

Abbreviations

School Leaving Certificate examination (SLC)



Competing interests

Authors declare that they do not have any competing interest.

Authors' contribution

Ms. Gnanakshi, Dayanand and Mrs. Sakun Singh designed the study, constructed the questionnaire, interpreted the data, drafted the manuscript, and revised it. Ms. Gnanakshi, Dayanand and Ms. Sunita Pandit conducted the research formulated and analyzed the data. All authors took part in critical revision and finally approved the manuscript.

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