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A Study To Assess The Knowledge and Practices Regarding The Prevention of Worm Infestation Among The Mothers Having Children Under 12 Years in A Selected Community of Meghalaya

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Abstract

Worm Infestations continue to be among the most common diseases affecting children from low- and middle-income countries. The study titled "A study to assess the knowledge and practices regarding the prevention of worm infestation among the mothers having children under 12 years in a selected community of Meghalaya" was carried out to explore the knowledge and practices of mothers in relation to the impact of worm infestations in children.

The objectives of the study were to assess the knowledge and practices regarding prevention of worm infestation among the mothers of children under 12 years and to find the association between the level of knowledge and practice regarding prevention of worm infestation with the demographic variables.

The research approach used was the quantitative research design. The study was conducted using a systematic sampling technique among the 105 mothers having children under 12 years of age in Mawpat, Shillong who participated in the study.

Majority, i.e., 70.5% of mothers having children under 12 years of age had average knowledge regarding prevention of worm infestation, 25.7% had good knowledge and 3.8% had poor knowledge. Majority, i.e., 49.5% mothers had good practice regarding prevention of worm infestation, and 48.6% had average practice and 1.9% had poor practice regarding prevention of worm infestation.

In the present study association was found between knowledge and age and association was present between practice and occupation. The knowledge of the mothers can be enhanced through mass awareness program on prevention of worm infestation which in turn promotes the health of under twelve children.

Keywords: Knowledge, Practice, Prevention, Mother, Children and Worm infestation

Introduction and Background of the study

Worm infestation affects nearly one-fourth of the world's population particularly affecting the children from the low and middle-income countries. Based on the pooled data of 127 surveys in India, worm infestation prevalence is found to be over 20% causing the World Health Organization (WHO) to classify India as a moderate risk region in this regard. A study conducted by the Ministry of Health and Family Welfare across the country shows a wide-ranging picture with prevalence ranging from 12.5% to 85% among children under 18 years. Ascaris is the most common infestation (52%), followed by hookworm (42%) and whipworm (5%). In 2001, delegates at the World Health Assembly unanimously endorsed a resolution (WHA54.19) urging endemic countries to start seriously tackling worms, specifically soil-transmitted helminths.

Need of the study

Worm infections continue to be among the most common diseases affecting children from low and middle income countries. Major worm infections of public health importance include Ascariasis, Trichuriasis, Hookworm and Enterobiasis. In India, combined prevalence rates of worm infestation as per pooled data of 127 surveys is over 20%. Intestinal worms are a major public health problem because the worms disrupt people's ability to absorb nutrients, impeding the growth and physical development of millions of children. This study was designed to be conducted on mothers considering them to be the primary care giver of the children. The assessment of knowledge and practices regarding prevention of worm infestation among mothers will be beneficial in identifying knowledge gaps and misconceptions and in identifying various demographic factors associated with their knowledge and practices.

Objectives of the study

Primary objective

To assess the knowledge and practices regarding prevention of worm infestation among the mothers of children under 12 years.

Secondary objective

To find the association between the level of knowledge and practices regarding prevention of worm infestation with the demographic variables.

Operational definitions

Knowledge: Facts, information, and skills acquired by a person through experience or education. The theoretical or practical understanding of a subject.

Practice: To perform an activity or exercise (a skill) repeatedly or regularly in order to acquire, maintain or improving proficiency in it.

Mothers: Women who have children under 12 years.

Worm infestations: It means worms such as worms, pin worms and hook worms that infest humans and live in their intestines which may cause deterioration of health status.

Research hypothesis

There is a significant association between knowledge with socio economic variables

Methodology

Research approach

In this study, the quantitative research approach was considered appropriate in order to assess the knowledge

and practice regarding prevention of worm infestation among mothers having children under 12years of age.

Research design

A survey research design was adopted in the present study to assess the knowledge and practices regarding prevention of worm infestation among mothers having children under 12 years.

Variables

Variables are the qualities, properties, or characteristics of people, objects, situations, concepts, activities, attributes, attitudes, etc., that can change or may vary according to the stimulus. The variables can be manipulated or measured. **Independent variables** are qualities or properties that can be manipulated by the researcher to cause an effect on the **dependent variables**

Independent variable: Age, Education, Socio-economic factors (occupation and annual family income, sources of health information), Pet animals.

Outcome/Dependent variables: Knowledge and practices regarding prevention of worm infestation.

Setting of the study

The present study was conducted from 25th March 2024 to 06th April 2024 in Mawpat, East Khasi Hills District, Meghalaya.

Ethical considerations

To conduct the research study, permission was obtained from the Principal, College of Nursing, NEIGRIHMS. Ethical clearance was obtained from the NEIGRIHMS Scientific Advisory Committee (NSAC) and Institutional Ethical Committee (IEC) NEIGRIHMS. The purpose of the study was explained and permission was taken from the Mawpat PHC and the Headman of Mawpat, Shillong. The Consent and Assent forms were obtained from the mothers. The participants were informed that they had the right to withdraw from the study at any point of time during the study. .

Study population

The population of the study included all the mothers having children under 12 years of age.

Sample technique: Systematic Sampling Technique.

Sample size: The sample size of the study is 105.

Criteria for sample selection

Inclusion criteria: Mothers of age 18 years or above having children under 12 years.

Exclusion criteria: a) Mothers who are not willing to participate

b) Mothers who are less than 18yeras of age

Data collection procedure

The final data collection was done in the final study 25th March to 6th April 2024. Prior permission was obtained from the Mawpat PHC and the Headman of Mawpat, Shillong to conduct the study. Consent and assent were obtained from the mothers. After receiving consent and assent from the participants, assessment of the level of knowledge and practice was taken.

The data collection was done through structured questionnaire. The maximum score is 23 for knowledge assessment and 17 for assessment of practices. For each correct answer the participant scored 1 mark and for each incorrect answer the participants scored 0 mark.

There was no negative marking.

Scoring of the tool

The score was divided into three categories, i.e., Good knowledge score, Average knowledge score and Poor knowledge score. The Good knowledge score range was from 17 to 23 marks, Average knowledge score range from 9 to 16 marks, and Poor knowledge score range was from 0 to 8 marks.

The practice score was divided into three categories, i.e., Good practice score, average practice score and Poor practice score. The Good practice score range was from 13 to 17 marks, Average practice score range was from 7

to 12 marks, and Poor practice score range was from 0 to 6 marks

Interpretation of score

Section II: Level of knowledge of the participants

For good knowledge: Category score is 17-23

For average knowledge: Category score is 9-16

For poor knowledge: Category score is 0-8.

Section III: Level of practice of the participants

For good practice: Category score is 13-17

For average practice: Category score is 7-12.

For poor practice: category score is 0-6

Analysis and interpretation

Analysis and interpretation of the data was done by using both descriptive statistical method based on the objectives of the study.

Organization of the findings

The data was analyzed, interpreted and presented under the following headings:

Section I: Demographic profile of the study participants.

Section II: Structured based questionnaire to assess the knowledge of the participants regarding the prevention of worm infestation.

Section III: Structured based questionnaire to assess the practice regarding prevention of worm infestation.

Section IV: To find association between knowledge and practice regarding prevention of worm infestation with the demographic variables.

Section-I: demographic profile of the study participants.

Table 1: Demographic profile of the study participants. N=105

Demographic variables	Frequency	Percentage (%)
Age (in years)		
18-29	40	38.1
30-40	59	**56.2**
41-51	6	5.71
Occupation		
Govt/Private job	4	3.81
Labour	3	2.86
Business	11	10.48
Unemployed	87	**82.86**
Education		
Primary school	16	15.24
Middle school	11	10.48
High school	15	14.29
Post high school	26	24.76
Graduate /PG	32	**30.48**
Illiterate	5	4.77
Annual Income (in Rs)		
>1,50,000	79	**75.24**
150000-299999	15	14.29
300000-449999	7	6.67
4,50,000-599999	0	0
600000-749999	4	3.81
Sources of health information		
Health professional	51	48.57
Mass Media	54	**51.43**
Pet animals		
Yes	16	15.24
No	89	**84.76**

The above table shows the demographic variable of the participants, out of 105 mothers, there were 59 (56.2%) mothers in the age group of 30-40 years. 87(82.86%) mothers were unemployed. 32(30.48%) mothers were Graduates. 79 (75.24%) had an annual income of more than 1,50,000/-. 54 (51.43%) mothers get health information from mass media. 89 (84.76%) did not have pet animals.

Section-II: level of knowledge of the participants regarding the prevention of worm infestation.

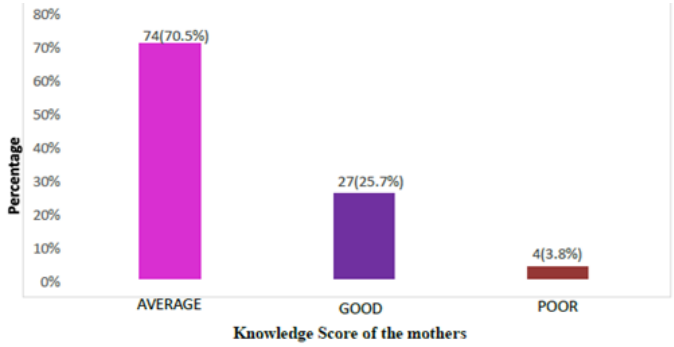
Table 2: Frequency and percentage distribution of knowledge regarding prevention of worm infestation N=105

RANGE OF SCORE	KNOWLEDGE CATEGORY	FREQUENCY (f)	PERCENTAGE(%)	MEAN	SD
17-23	Good	27	25.7	14.4	3.07
9-16	Average	74	70.5		
0-8	Poor	4	3.8		

Maximum Score: 23

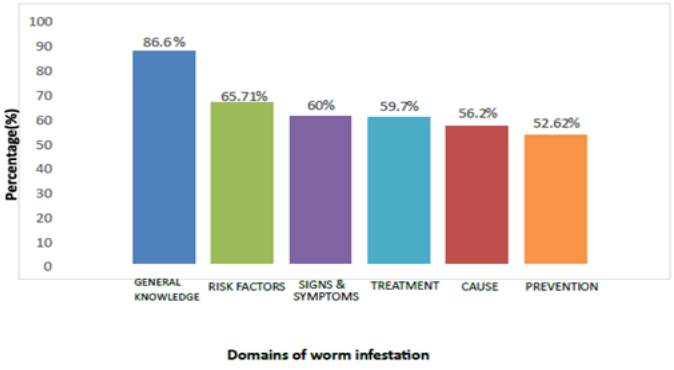
The above table shows the knowledge category of the mothers regarding prevention of worm infestation. It shows that the poor knowledge category includes 4 (3.8%) mothers, the average knowledge category includes 74 (70.5%0) mothers and the good knowledge category includes 27(25.7) mothers. The mean score of knowledge is 14.4±3.07 , indicating that the data is normally distributed, as the mean is more than twice the standard deviation.

Figure 1: Bar diagram depicting the knowledge of the mothers N =105



The above figure shows that out of 105 mothers 70.5% have average knowledge, 25.7% have good knowledge, and 3.8% have poor knowledge.

Fig 2: A bar diagram depicting the knowledge of mother's domain wise N =105



The above figure shows that the level of knowledge on general knowledge of worm infestation is 86.6%, risk factors is 65.71%, signs & symptoms is 60%, treatment is 59.7%, cause is 56.2%, and prevention is 52.62%.

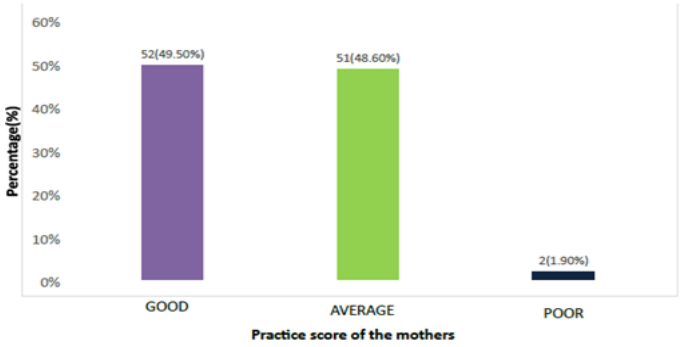
Section-III: practices of mothers regarding prevention of worm infestation

Table 9: Frequency and percentage distribution of practices regarding prevention of worm infestation N=105

RANGE OF SCORE	PRACTICE	FREQUENCY(f)	PERCENTAGE (%)	MEAN	SD
13-17	Good	52	49.5	12.36	3
7-12	Average	51	48.6		
0-6	Poor	2	1.9		

The above table shows the practice category of the mothers regarding prevention of worm infestation. It shows that the poor practice category includes 2(1.9%) mothers, the average practice category includes 51(48.6%) mothers and the good practice category includes 52(49.5%) mothers. The mean score of practice is 12.36±3, indicating that the data is normally distributed, as the mean is more than twice the standard deviation.

Figure 3: A bar diagram depicting the practice of the mothers regarding prevention of worm infestation N=105



The above figure shows that out of 105 mothers, 49.5% have good practice, 48.6% have average practice, and 1.9% have poor practice regarding prevention of worm infestation

Section-IV: association between the level of knowledge and practices regarding prevention of worm infestation with the demographic variables.

Table 10: Findings related to association between knowledge and demographic variables N=105

DEMOGRAPHIC VARIABLES	KNOWLEDGE SCORE			df	TABULATED VALUE	CALCULATED VALUE
	Good	Average	Poor	4	9.49	9.576
AGE (in years)						
18-29	6	30	4			
30-40	19	40	0			
41-51	2	4	0			
OCCUPATION				6	12.59	2.548
Govt/Private Job	1	3	0			
Labour	0	3	0			
Business	4	7	0			
Unemployed	22	61	4			
INCOME(Annual)				6	12.59	5.432
>1,50000	4	55	20			
1,50000-299999	0	9	6			
300000-449999	0	7	0			
45,0000-599999	0	0	0			
600000-749999	0	3	1			
EDUCATION				10	18.31	10.816
Primary school	1	12	3			
Middle school	1	5	5			
High school	0	11	4			
Post high school	1	15	10			
Graduate/PG	1	26	5			
Illiterate	0	5	0			
SOURCE OF HEALTH INFORMATION				2	5.99	1.006
Health professional	1	36	14			
Mass media	3	38	13			
PET ANIMALS				2	5.99	0.307
Yes	1	11	4			
No	3	63	23			

The data in the above table shows that there is significant association between knowledge and age as the calculated value of age is greater than tabulated value.

Table 11: Findings related to association between practice and demographic variables N=105

DEMOGRAPHIC VARIABLES	KNOWLEDGE SCORE			df	TABULATED VALUE	CALCULATED VALUE
	Good	Average	Poor	4	9.49	7.952
AGE (in years)						
18-29	19	21	0			
30-40	27	30	2			
41-51	6	0	0			
OCCUPATION				6	12.59	21.368
Govt/Private Job	2	2	0			
Labour	1	1	1			
Business	9	2	0			
Unemployed	40	46	1			
INCOME(Annual)				6	7.82	3.636
>1,50000	39	39	1			
1,50000-299999	8	6	1			
300000-449999	4	3	0			
45,0000-599999	0	0	0			
600000-749999	1	3	0			
EDUCATION				10	18.31	15.638
Primary school	6	9	1			
Middle school	8	2	1			
High school	7	8	0			
Post high school	17	9	0			
Graduate/PG	13	19	0			
Illiterate	1	4	0			
SOURCE OF HEALTH INFORMATION				2	5.99	2.406
Health professional	26	23	2			
Mass media	26	28	0			
PET ANIMALS				2	5.99	5.439
Yes	11	4	1			
No	41	47	1			

The data presented in the above table shows that there is a significant association between Practice and occupation as calculated value of occupation is greater than tabulated value.

Discussion

The present study is titled "A study to assess the knowledge and practice regarding prevention of worm infestation among mothers having children under 12 years in a selected community of Meghalaya."

In the present study, Majority i.e, 70.5% of mothers having children under 12 years of age had average knowledge regarding prevention of worm infestation, 25.7% had good knowledge, and 3.8% had poor knowledge. Similarly, a study conducted by E Kalaivani, G Ambujan (2020) found that out of 150 mothers having children under 12 years, 37% had good knowledge, 40% had average knowledge, and 23% had poor knowledge.

In the present study, majority i.e., 49.5% mothers had good practice regarding prevention of worm infestation, 48.6% had average practice, and 1.9% had poor practice regarding prevention of worm infestation. Similarly, in a study conducted by Patel Disha D et.al (2017) found that 85% mothers had good practice and 15% of the mothers were having average practice.

In the present study, association was found between knowledge and age. Similarly, a study conducted by Nosha I. Bahago, Emmaneaul O. Oyewole (2022) found that there was a significant association between mother's age with the level of knowledge.

In the present study, association was present between practice and occupation. Similarly, a study conducted by Sharma Lucky et.al (2022) found out that demographic variables(occupation) have significant influence on practices of mothers regarding prevention of worm infestation.

Recommendations

1. It is recommended to use the findings of this present study to guide future health education programmes for mothers on deworming .
2. This study can be replicated in future studies with larger samples for better generalization.
3. A comparative study can be conducted on knowledge of mothers regarding prevention of worm infestation in other communities**.**

Conclusion

The study shows that majority of the mother had average knowledge regarding prevention of worm infestation and majority of the mothers had good practice regarding prevention of worm infestation. Association is found between knowledge and age, practice and occupation.

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