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A study to assess homemakers' knowledge on domestic waste management and its effect on health and environment in rural Mangalore

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Abstract
Introduction: Effective domestic waste management is crucial for maintaining public health, preventing environmental pollution, and conserving natural resources. Homemakers play a vital role in managing household waste, as they are primarily responsible for waste generation and disposal decisions. However, inadequate knowledge and awareness about proper waste management practices among homemakers can lead to inefficient waste disposal, contributing to environmental degradation and health risks. This study investigates homemakers' knowledge, attitudes, and practices regarding waste management in rural areas. The results highlight the need for targeted education and awareness campaigns to improve waste management practices among homemakers. This study contributes to the development of evidence-based strategies for enhancing domestic waste management and promoting sustainable practices.
Objectives: To assess the level of knowledge in homemakers regarding domestic waste management and its effect on health and environment as measured by structured knowledge questionnaire. To find the association between knowledge score on domestic waste management and its effect on health and environment among homemakers with their selected baseline variables
Methodology: A descriptive method was used for this study. Purposive sampling technique was used to select 60 homemakers. This study was carried out in the rural areas of Mangaluru district. Data was collected by administering the structured knowledge questionnaire. Data was analyzed by using descriptive and inferential statistics (mean, standard deviation, chi-square test).
Results: The findings of the study indicated that 88.3%of homemakers are having good knowledge and 11.7% of homemakers are having average knowledge regarding domestic waste management and its effect on health and environment. There was no significant association between knowledge score and selected baseline variables (age, religion, family type, income, place of residence, type of waste generation, and frequency of waste collection). The obtained values in these areas were lower than the table value.
Conclusion: Findings of the study showed that homemakers shown good knowledge regarding DWM and its effects on health and environment. These findings indicate effective waste management practices are likely being implemented. Booklet distribution further enhances the knowledge particularly among younger homemakers.

Keywords: Knowledge, domestic waste management, health and environment, homemakers, rural area, information booklet

Introduction

The house in which we and our family live needs to be clean and hygienic for the good health of our family. Home is the first place from which waste management can be initiated. But the practice of basic concepts waste disposal is often neglected.[1] Homemakers play a crucial role in managing domestic waste as they are primarily responsible for household activities and decision –making related to waste disposal. Understanding their level of knowledge and practices regarding waste management is essential for developing effective educational intervention. By improving homemaker's knowledge, it is possible to foster better waste management practices, thereby reducing the adverse impacts on health and the environment[2.] Effective domestic waste management is crucial for safeguarding public health and protecting the environment. The improper disposal of household waste leads to the spread of diseases, contamination of water sources, and emission of harmful greenhouse gases. According to the World Health Organization 2 billion people globally lack access to proper waste management posing significant health issues.[3]

Objectives of the study

1. To assess the level of knowledge in homemakers regarding domestic waste management and its effect on health and environment as measured by structured knowledge questionnaires.
2. To find the association between knowledge score on domestic waste management and its effect on health and environment among homemakers with their selected baseline variables.

Methodology

This study is designed in the form of non-experimental descriptive type with the objective of describing the knowledge of homemakers regarding domestic waste management and its effect on health and environment with a view to develop an information booklet. In this study, the level of knowledge of homemakers regarding domestic waste management and its effect on health and environment is the dependent variable and the independent variables are the age, type of family, monthly family income, place of residence, frequency and type of waste collection. Target population for the present study was homemakers of rural

areas of Mangalore. The sample for the study consisted of 60 samples who resides at Ganjimutt, Mangaluru. Purposive sampling technique, a type of non-probability sampling approach was found to be appropriate for the study. The informed consent was taken from the samples. The data was collected from the study samples using the baseline proforma questions and structured knowledge questionnaire on domestic waste management and its effects on health and environment. The gathered data was examined and analyzed with the help of descriptive and inferential statistics.

Result

Section 1: Baseline characteristics of homemakers.

Table 1: Frequency and percentage distribution of the demographic characteristics n=60

Sl No	Demographic variables	f	%
1	Age of women in years		
	a)18-28	8	13.3%
	b)29-38	15	25%
	c)39-48	27	45%
	d)49 & above	10	16.7%
2	Religion		
	a) Christian	4	6.7%
	b) Hindu	18	30%
	c)Muslim	38	63.3%
	d)Others	0	0%
3	Family Type		
	a) Family	43	71.7%
	b) Joint Family	15	25%
	c)Extended Family	2	3.3%
4	Income of family per month		
	a) <10,000	29	48.3%
	b)10,001-14,999	13	21.7%
	c)15,001-19,999	11	18.3%
	d)20,001-25,000	1	1.7%
	e)>25,000	6	10%
5	Place of residence		
	a) Rural	60	100%
	b) Urban	0	0%
6	What type of waste do you commonly generate?		
	a) Organic	35	58.3%
	b) Recyclable	16	26.7%
	c)Hazardous	5	8.3%
	d)Others specify	4	6.7%
7	Frequency of waste collection		
	a) Daily	38	63.3%
	b) Weekly	16	26.7%
	c)Monthly	4	6.7%
	d)Others	2	3.3%

Section 2: Assessment of knowledge among homemakers regarding domestic waste management and its effects on health and environment.

Table 2: Frequency and percentage distribution of sample according to their level of knowledge. n =60

		Pretest	
Grading of knowledge	**Range**	**Frequency**	**%**
Poor	0-6	0	0%
Average	7-12	7	11.7%
Good	13-20	53	88.3%

Maximum score = 16

Data in table 2 shows that in the pretest 11.7% had average knowledge and 88.3% had good knowledge regarding domestic waste management and its effects on health and environment.

Table 3: Mean and SD Of pretest knowledge score n=60

Area	Mean	SD
Pretest	14.9	1.87

Data presented in table 3 shows that the obtained mean value is 14.9 and standard deviation is 1.87.

Section 3: Association between mean and pre-test knowledge score with selected baseline variables.

Table 4: Chi-Square test to find out the association between mean pretest knowledge score and selected baseline variables.

SI No.	variables	f	%	x^2
1	Age of Women in years			
	a) 18-28	8	13.3%	
	b)29-38	15	25%	0.03
	c) 39-48	27	45%	
	d) 49 & above	10	16.7%	
2	Religion			
	a) Christian	4	6.7%	
	b) Hindu	18	30%	1.13
	c) Muslim	38	63.3%	
	d) Others	0	0%	
3	Family Type			
	a) Family	43	71.7%	
	b) Joint family	15	25%	1.8
	c) Extended Family	2	3.3%	
4	Income of Family per month			
	a) <10,000	29	48.3%	
	b) 10,001-14,999	13	21.7%	
	c) 15,001-19,999	11	18.3%	2.41
	d) 20,001-25000	1	1.7%	
	e) >25,000	6	10%	
5	Place of Residence			
	a) Rural	60	100%	
	b) Urban	0	0%	0
6	What types of waste do you commonly generate?			
	a) Organic	35	58.3%	
	b) Recyclable	16	26.7%	
	c) Hazardous	5	8.3%	0.002
	d) Others specify	4	6.7%	
7	Frequency of Waste collection			
	a) Daily	38	63.3%	
	b) Weekly	16	26.7%	0.09
	c) Monthly	4	6.7%	
	d) Others	2	3.3%	

Df =1 t=3.84, Df=2 t=5.99, Df=3 t=7.82, Df=4 t=9.4

It is evident from the table 4 that there was no significant association between age, religion, family type, income, place of residence, type of waste generation, and frequency of waste collection. The obtained values are 7.82, 7.82, 5.99, 9.49, 3.84, 7.82, 7.82, were lower than the table value. There null hypothesis was retained and research hypothesis was rejected.

Discussion

Section1: Description of the baseline characteristics

- The study revealed that most of the sample (45%) was in the age group of 39-48years, 25% in 29-38 years, 16.7% and 13.3% belonging to the age group of above 49 and 18-28 years respectively.
- Then majority of the population practices Islam (63.3%), followed by Hinduisms' (30%) and Christianity (6.7%).
- Most families are nuclear (71.7%), with a significant proportion being joint families (25%) and a small percentage being extended families (3.3%)
- The majority of families (48.3%) earn less than 10,000 per month, 21.7% earn between 10,001-14999, 18.3% earn between 15,001-19,999, 1.7% earn between 20,001-25,000, and 10% earn more than 25,000 per month.
- All samples (100%) were resides in rural area.
- The most common type of waste generated was organic (58.3%), followed by recyclable (26.7%), hazardous (8.3%), and other types (6.7%).
- The majority of family's waste collected daily (63.3%), 26.7% of families waste collected weekly, 6.7% monthly and 3.3% of families waste collected in other frequencies.

Section 2: Description of knowledge level of homemakers regarding domestic waste management and its effect on health and environment.

The findings of the study indicated that 88.3%of homemakers are having good knowledge and 11.7% of homemakers are having average knowledge regarding domestic waste management and its effect on health and environment.

Section 3: Association between the mean knowledge score and selected baseline variables.

The finding of the study showed that there was no significant association between age, religion, family type, income, place of residence, type of waste generation, and frequency of waste collection.

Summary

This chapter has dealt with the significant finding of the study in relation to other similar studies. This helped the researcher to prove that the findings were true and the information booklet was effective in improving the

knowledge of homemakers regarding domestic waste management and its effect on health and environment.

Conclusion

Many housewives are unaware of the proper domestic waste disposal and its harmful effects on the health and environment. That is patent for developing diseases in man as well as other living things. Comprehensive research on domestic waste management contributes to efficient, community-driven waste management systems, mitigating health risks and promoting environmental sustainability. Addressing this critical issue protects public health, conserves natural resources, and ensures a cleaner environment for future generations.

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