A Study to assess the knowledge regarding health hazards of plastic in domestic use and attitude towards the use of eco-friendly alternatives among women residing at selected urban area, Tirupati

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Background: An ecosystem is a community (or) combination of living and non-living things that work together. It can be as large as desert (or) a lake (or) as small as a tree. Environment is one of the determinants of health of an individuals, family and community at large. People health is affected by the quality of place they live and work, the air they breathe, the water they drink and food they consume etc.

Objectives:

1. To assess knowledge regarding health hazards of plastic in domestic among thewomen.

2. To assess the attitude towards the use of eco-friendly alternatives among thewomen.

3. To find out relation between the knowledge regarding health hazards of plastic in domestic use and attitude towards the use of eco-friendly alternatives among the women.

4. To find out the association between the knowledge regarding health hazards of plastic use with their socio demographic variables.

5. To find out the association between the attitude towards the use of eco-friendly alternatives with their socio demographic variables.

Methods: Non experimental approach and descriptive research design was chosen which involves data collection knowledge regarding health hazards of plastic in domestic use and attitude towards the use of eco-friendly alternatives among women. The study was conducted at Nehru nagar urban area, Tirupati. The sample for the study was chosen by non probability convenient sampling technique, which includes 100 women the age group of 20-51 years and above. The data collection consists of 3 sections, which includes socio- demographic variables, structured questionnaire related to knowledge regarding health hazards of plastic in domestic use and 5 point Likert scale to assess the attitude towards use of eco-friendly alternatives among women.

Results: The findings of the study showed that the level of knowledge on health hazards of plastic in domestic use, out of 100 women 44 per cent had moderate knowledge, followed by 29 per cent women had adequate knowledge and 27 per cent had inadequate knowledge regarding health hazards of plastic in domestic use. Regarding the attitude towards the use of eco-friendly alternatives, out of 100 women 61 per cent were had positive attitude, 29 per cent were had neutral attitude and only 10 per cent were had negative attitude towards the use of eco-friendly alternatives. The mean knowledge score was 12.85 and standard deviation score was 3.424 The mean attitude score was 47.27 and standard score was 11.694. The Pearson correlation coefficient between the knowledge and attitude was significant at 0.01 level.

Conclusions: These findings suggested that health education and awareness programme to be conducted at Nehru nagar urban area in order to improve knowledge regarding health hazards of plastic in domestic use and attitude towards the use of eco-friendly alternatives among Women.

Keywords: domestic waste, knowledge, eco-friendly alternatives, health hazards.

INTRODUCTION

An ecosystem is a community (or) combination of living and non-living things that work together. It can be as large as desert (or) a lake (or) as small as a tree. Ecology is the study of ecosystem. It includes abiotic

components like sunlight, temperature, precipitation, water (or) moisture, soil and biotic components like primary producers, herbivores, carnivores, omnivores and detritivores. All the parts of ecosystem work together to make a balanced system. They have energy flows and ecosystem cycle materials.[1]

The Worldwide production of plastics reached a staggering 400.3 million metric tons in 2022.This marks an increase of about1.6 percent from the previous year. Plastic production has soared since 1950s.The incredible versatility of this group of materials account for the continued growth in production year after year. The theme of World environmental day was "Beat plastic pollution".[2] The world is coming together to combat single use of plastic pollution. India is emerging as a leader, given its one of the highest recycling rates in the world plastic products have tremendous environmental and human health effects.[3]

The increase in consumption of plastic products and its negative impact on health put urgency to this problem. Since in 1800s, the industrial revolution has been raised and it leads to increase the plastic pollution. According to World Health Organization plastic accounts for 10 percent of all of the waste generation. Every year close to five hundred billion plastic bags are used around the World.[4]

In response to these challenges, there has been a growing emphasis on promoting ecofriendly alternatives to plastic, including biodegradable materials and reusable products.[5-6] Given these considerations, Researcher want to study the women's knowledge regarding the health hazards of plastic in domestic use. Recognizing that informed individuals may prevent health hazards by fostering positive attitudes towards alternative options.

MATERIALS AND METHODS

The present study was conducted at urban area Nehru nagar, Tirupati. The research design selected for the present study was descriptive research design. Women between the age of 20-51 years and above residing at Nehru Nagar, urban area, Tirupati were considered as samples of the present study. Sampling technique adopted for the study is Non-probability convenient sampling technique based on inclusion criteria.

Sample size formula: The following sample size formula was adopted, A = n / (1 + (n-1) / p), to calculate sample size.

A = assumed women residing at urban area, Nehru nagar, n = number of sample size,
P = total women (accessible population 660). A = n / (1+n-1) / p)
A = 100 / (1+ (100-1) / 600
A = 100 / (1+ (99) /660
A = 100.15

Tools for data collection:

The Tool consists of 3 sections:

Section-A: It consists of socio-demographic variables like Age, education, occupation, religion, marital status, education of husband, occupation of husband, type of family, monthly income and source of information.
Section-B: It consist of 20 structured questions on knowledge regarding health hazards of plastic in domestic use.
Section-C: It consists of 5 point Likert scale to assess the attitude towards the use of eco-friendly alternatives among women.

Data collection procedure:

The investigator obtained prior formal permission from Dr .D. YUVA ANVESH, MBBS, MD, Municipal health officer, Tirupati, for conducting the study 100 samples were selected by non probability convenient sampling technique with minimum 15 samples per day from 9 am to 1 pm on every day for data collection. The investigator initially established rapport with the study subjects and purpose of the study was explained to them. Written consent from the subject was obtained and confidentiality was maintained throughout the study.

The investigator collected the data by structured interview schedule. The data collection took 15-20 minutes for completion from each participants. After the completion of data collection, information booklet was distributed to participants for future references. The procedure was followed for all 100 samples.

RESULTS AND DISCUSSION

A total of 100 women were participated in the study. The socio demographic variables shown that in relation to age among 100 women, the 36 per cent were in the age group of 31 - 40 years, next being 23 per cent in the age group of 41 - 50 years, 21 per cent were in the age group of 51years and above, the

women least percentage (20%) were in the age group between 20-30 years respectively. Regarding the type of family, majority (65%) were belonged to nuclear family and 35 per cent were belonged to joint family. Related to source of previous knowledge on hazards of plastic use, majority (62%) were gained knowledge from mass media, 18 per cent were gained knowledge by friends and relatives, 17 per cent were gained knowledge by print media and 3 per cent were gained knowledge by health professionals.

DISTRIBUTION OF LEVEL OF KNOWLEDGE REGARDING HEALTH HAZARDSOF PLASTIC IN DOMESTIC USE

Table: 1 Frequency and percentage distribution of level of Knowledge regardinghealth hazards of plastic in domestic use. n=100

S.NO	Variables	Inadequate knowledge		Moderate knowledge		Adequate Knowledge	
		(f)	(%)	(f)	(%)	(f)	(%)
1	Knowledge	27	27	44	44	29	29

The table: 1 shown that out of 100 women, 44 per cent had moderate Knowledge regarding health hazards of plastic in domestic use followed by only 29 per cent of women had adequate knowledge and remain (27%) of women had inadequate knowledge regarding health hazards of plastic in domestic use.

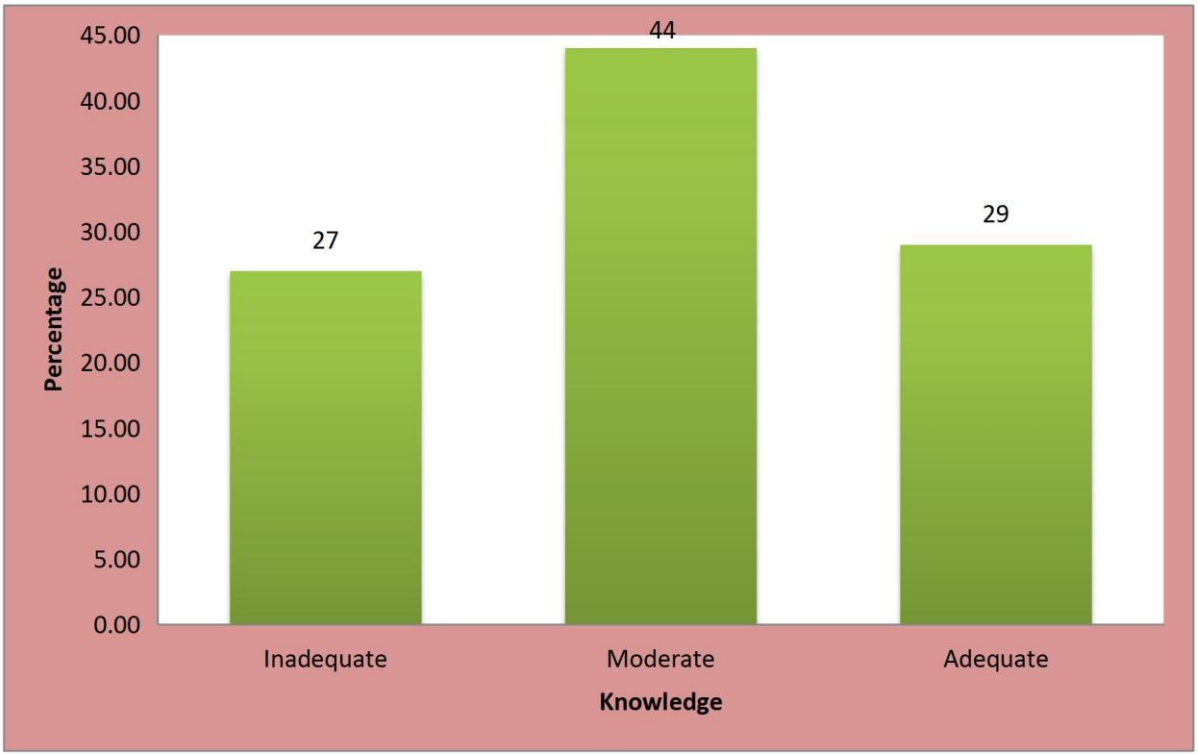

Fig NO: 1 PERCENTAGE DISTRIBUTION OF WOMEN ACCORDING TO LEVELOF KNOWLEDGE ON HEALTH HAZARDS OF PLASTIC IN DOMESTIC USE

SECTION – III

THE DISTRIBUTION OF LEVEL OF ATTITUDE TOWARDS THE USE OF ECOFRIENDLY ALTERNATIVES AMONG WOMEN

TABLE NO: 2 Frequency and percentage distribution level of attitude towards theuse of eco-friendly alternatives n=100

S.NO	Socio demographic	Negative attitude	Neutral attitude	Positive attitude

	variables						
1	Attitude	(f)	(%)	(f)	(%)	(f)	(%)
		10	10	29	29	61	61

The table no:2 showed that out of 100 women, majority 61 per cent were had positive attitude towards the use of eco-friendly alternatives, followed by 29 per centwomen were had neutral attitude and least percentage10 per cent women were hadnegative attitude towards the use of eco-friendly alternatives.

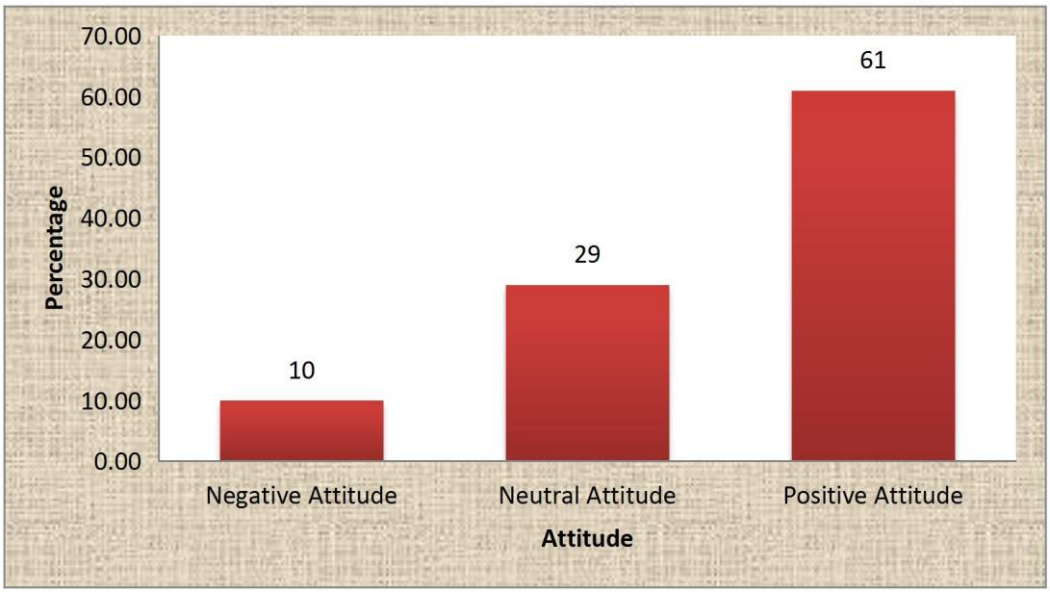

Fig NO: 2 PERCENTAGE DISTRIBUTION OF WOMEN ATTITUDE TOWARDS THE USE OF ECO FRIENDLY ALTERNATIVES

TABLE: 3 THE MEAN AND STANDARD DEVIATION FOR KNOWLEDGE REGARDING HEALTH HAZARDS OF PLASTIC IN DOMESTIC USE AND ATTITUDE TOWARDS THE USE OF ECOFRIENDLY ALTERNATIVES AMONG WOMEN

n= 100

S.NO	Category	N	Mean ($\bar{X}$)	Standard deviation (σ)
1	Knowledge	100	12.85	3.424
2	Attitude	100	47.27	11.694

The table no: 7 showed that the mean score of knowledge was 12.85 and standard deviation score was 3.424. Regarding attitude towards the use of eco-friendly alternatives the mean score was 47.27 and standard deviation score was 11. 694.

TABLE NO: 4 PEARSON CORRELATION COEFFICIENT BETWEEN THE KNOWLEDGE AND ATTITUDE

n=100

	CORRELATION		
		Knowledge	Attitude
Knowledge	Pearson Correlation	1	.855**
	Sig. (2-tailed)		0
Attitude	Pearson Correlation	.855**	1

	Sig. (2-tailed)	0	

The table no: 4 showed that the Pearson correlation coefficient between theknowledge and attitude was correlation significant at the 0.01 level. there was significant association between attitude towards the use of eco-friendly alternatives among women with the education of the women, education of the husband, occupation of the husband and monthly family income in rupees significant at 0.01 level. Age of the women was significant at 0.05 level.

Limitations: The limited sample size places a limitation on the generalization of the study findings.

- The study is limited to women in Nehru nagar, urban area, Thirupati.
- The study is limited to women in the age group of 20 years - 50 years and above.

Conflict of Interest: The authors confirm that they have no conflicts of interest for this study.

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