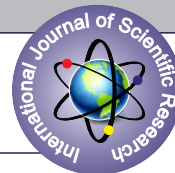


A PRE-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING ABOUT KNOWLEDGE AND ATTITUDE REGARDING USE OF PLASTIC, ITS HAZARDS AND SAFE DISPOSAL AMONG HOUSEWIVES IN SELECTED RURAL AREA.



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ABSTRACT

The community has been described together of the foremost fruitful areas for improving the health of the people. It is an incontrovertible fact that social, physical and cultural aspects of the community have a serious influence on an individual's health status. One among the most risky assembling is the plastic which are used on a day to day throughout the planet.

OBJECTIVE: To evaluate the effectiveness of planned teaching about knowledge and attitude regarding use of plastic, its hazards and safe disposal among the housewives in selected rural area. **METHODOLOGY:** Quantitative research approach with pre-experimental one group pre-test and post-test research design was adopted to conduct the study among 80 housewives in selected rural area, dist wardha, Maharashtra. Through non probability convenient sampling technique. A structured questionnaire and 5 points Likert scale was used for assessing knowledge and attitude regarding use of plastic, its hazards and safe disposal. **RESULT:** the finding of study reveals that post-test mean knowledge score was 23.88 with standard deviation ($SD \pm 1.99$) and the respondent knowledge were significantly higher than, the overall mean pre-test knowledge score which was 13.63 with standard deviation ($SD \pm 3.17$). And the calculated "t" value i.e., 25.36 were much higher than the tabulated value at 5% level of significance. Likewise the post-test mean attitude score was 59.03 higher with $SD \pm 2.15$ and the respondent knowledge was significantly higher than, the overall mean pre-test attitude score which was 45.15 with $SD \pm 6.65$. And the calculated "t" value i.e., 17.50 are much higher than the tabulated value at 5% level of significance. Hence planned teaching on knowledge and attitude regarding use of plastic, its hazards and safe disposal was effective and statistically significant. **CONCLUSION AND RECOMMENDATION:** The study emphasis for effective implementation of legislation to minimize the use of plastic, its hazards and safe disposal in housewives. There is need to create awareness for betel quid seller and In-service education programme for teachers about hazards of plastic use so that they can create more awareness among students regarding hazards of plastic use.

KEYWORDS

Effectiveness, Planned teaching, Use of plastic, Hazards, Safe disposal

INTRODUCTION

Plastic is everywhere in today's lifestyle. It is used for packaging, protecting, serving, and even removing all types of commodity with the economic revolution, production of products started and plastic appeared to be a less expensive and effective staple.¹ The term "plastic" springs from a Greek word "plastikos" which suggests "fit for moldings". Plastic bags are light, sturdy And straightforward to hold.² Maharashtra government on 23 March 2018 banned the manufacture, usage, sale, transport, distribution, wholesale and retail sale and storage, import of plastic bag with or without handle and disposable products made out of plastic and thermocol. Citing the environmental risks and harm caused to wild animals from ingestion or entanglement in plastic, the government enforced the ban with immediate effect.³ Maharashtra environment minister Aditya Thackeray on 04 February 2020 set target of May 1, 2020 for complete ban on single use plastic in the state. He said that single use plastic is more dangerous to our environment.⁴ currently in India the Centre has notified the Plastic Waste Management Amendment Rules, 2021, prohibiting manufacture, import, stocking, distribution, sale and use of identified single-use plastic (SUP) items, including candy sticks, plates, cups and cutlery, from July 1, 2022. The thickness of plastic carry bags will be increased from 50 microns to 75 microns from September 30, 2021, and to 120 microns from December 31, 2022, according to the notification dated August 12. This will also allow the plastic carry bags to be reused, it stated. Non-woven plastic carry bags should not be less than 60 gram per square meter (GSM) with effect from September 30, 2021.⁵

MATERIAL AND METHODS

Statement Problem

"A pre-experimental study to assess the effectiveness of planned teaching about knowledge and attitude regarding use of plastic, its hazards and safe disposal among housewives in selected rural area."

OBJECTIVES OF THE STUDY

A. Primary Objective

To evaluate the effectiveness of planned teaching about knowledge and attitude regarding use of plastic, its hazards and safe disposal among the housewives in selected rural area.

B. Other Objectives

- To assess the existing knowledge and attitude regarding use of plastic, its hazards and safe disposal among housewives residing in rural area.

- To associate the level of knowledge score regarding use of plastic, its hazards and safe disposal among housewives residing in rural area according to their demographic variable.
- To associate the level of attitude score regarding use of plastic, its hazards and safe disposal among housewives residing in rural area according to their demographic variable.

Hypothesis

H₁: There is significant difference between the pre-test and post-test knowledge score regarding use of plastic, its hazards and safe disposal among housewives which is measured by structured knowledge questionnaire at $p < 0.05$ level of significance.

H₂: There is significant difference between pre-test and post-test attitude score regarding use of plastic, its hazards and safe disposal among housewives which is measured by Likert Scale at $p < 0.05$ level of significance.

H₃: There is significant association between post-test knowledge score regarding use of plastic, its hazards and safe disposal among housewives with their selected demographic variables.

H₄: There is significant association between post-test attitude score regarding use of plastic, its hazards and safe disposal among housewives with their selected demographic variables.

Methodology:

A pre experimental one group pre-test and post-test research design with quantitative research approach was used to assess the knowledge and attitude regarding use of plastic, its hazards and safe disposal. Sample of 80 housewives (age between 25 to 40 yrs) of selected rural area, dist wardha were selected for conducting the study. Non probability convenient sampling technique was used for selecting the sample. The study was conducted in month of February 2021 among housewives in selected rural area, dist wardha, Maharashtra. A structured knowledge questionnaire and 5 points Likert scale was used for assessing knowledge and attitude regarding use of plastic, its hazards and safe disposal.

Ethical Consideration

Institutional Human Ethical Committee clearance was obtained. Administrative Permission was obtained from Sarpanch of Gram panchayat to conduct the study in the selected rural area, dist wardha, Maharashtra. Participants were informed about the study and written consent was obtained from the individual participants and all the safety measures of COVID 19 ruled by government of India were followed while conducting study.

Validity

In order to obtain content validity, the tool was given to 11 expert experts from community health department and one statistician and one english editor. Out of these 11 validated contents of the tools were received from expert with their valuable suggestion and comments. Their suggestions were taken into consideration and necessary modifications were incorporated in the final preparation of the structured knowledge questionnaires and planned teaching.

Reliability

In this study, the reliability of the tool was determined by administering the questionnaire to 10 subjects. The reliability of the tool was assessed using Test-Retest method and the "r" value was computed. So, Test-Retest method and the PEARSON Formula was applied to find out the reliability coefficient for structured knowledge questionnaires was $r = 0.9$ and attitude at $r = 0.9$ the tool was found to be highly reliable to conduct the study.

Method Of Data Collection

The main study data gathering process began from 5th February 2021 to 22nd February 2021. Pre-test was conducted on alternate day i.e., on 05/02/2021, 07/02/2021, 09/02/2021, 11/02/2021 as there was problem in assembling housewives on consecutive days. Post-test was conducted on 12/02/2021, 14/20/2021, 16/02/2021, 18/02/2021, keeping the seven day gap between the pre-test and post-test. The investigator visited the selected rural area and obtained the necessary permission from the concerned authority.

The investigator introduced herself and informed them about the nature of the study to ensure better cooperation during data collection. The investigators personally approached each housewife and explained the purpose of the study and explain how it will be beneficial for them. The investigator confirmed their willingness to participate in the study. The investigator collected the group of housewives, made them comfortable and orients them to study and administered questionnaire, and instructed them not to interact with each other and their doubts were clarified. Paper and pencil test was used for data collection once the questionnaire was completed, the investigator collected them back. The housewives require 45 minutes of duration to complete the structured questionnaire. After the pretest planned teaching was initiated by the investigator.

Post-test was administered with same questionnaire on 7th day. The collection of data was performed within the stimulated time. After the data gathering process, the investigator thanked all the study samples as well as the authority for their cooperation.

RESULT**Organization Of Findings**

The analysis and interpretation of the observations are given in the following section:

Section A: Distribution of subjects with regard to demographic variables.

Section B: Assessment of level of pre-test and post-test knowledge regarding use of plastic, its hazards and safe disposal among housewives in selected rural area.

Section C: Analysis of level of pre-test and post-test attitude regarding use of plastic, its hazards and safe disposal among housewives in selected rural area.

Section D: Assessment of effectiveness of planned teaching programme on knowledge and attitude regarding use of plastic, its hazards and safe disposal among housewives in selected rural area.

Section E: Association of post-test knowledge and attitude regarding use of plastic, its hazards and safe disposal among housewives in selected rural area according to their demographic variable.

Section A: Distribution Of Subjects In Relation To Their Demographic Variables

Table 1: Distribution Of Subjects According To Their Demographic Variables. (n=80)

Demographic variable	Frequency(f)	Percentage(%)
Age (yrs)		

20-25 yrs	8	10.0
26-30 yrs	33	41.3
31-35 yrs	31	38.8
36-40 yrs	8	10.0
Type of family		
Nuclear Family	21	26.3
Joint Family	40	50.5
Extended family	19	23.8
Educational status		
Primary	29	36.3
Secondary	24	30.0
higher secondary	17	21.3
graduate and above	10	12.5
Occupation of responder		
Farmer	0	0
Daily wages	0	0
Government servant	0	0
Housewives	80	100
Knowledge regarding plastic		
Yes	66	82.5
No	14	1.75
Source of information about plastic.		
Television	43	53.8
News paper	14	17.5
Health care Provider	8	10.0
Internet	2	2.5

Section B: Assessment Of Pre-test And Post-test Level Of Knowledge Regarding Use Of Plastic, Its Hazards And Safe Disposal Among Housewives In Selected Rural Area.

In pre-test Majority 61.30% of the subjects had good level of knowledge score, 35.00% had average, 0.0% had poor, 1.30% had very good and 2.50% of the subjects had excellent level of knowledge score. Whereas in post-test Majority 55.00% of the subjects had very good level of knowledge score, 40.00% were having excellent and 5.00% of the subjects had good level of knowledge score.

Section C: Analysis Of Level Of Attitude Regarding Use Of Plastic, Its Hazards And Safe Disposal Among Housewives In Selected Rural Area.

In pre-test Majority 83.75 % of the subjects had positive attitude towards use of plastic, its hazards and safe disposal and 16.25 % had negative attitude towards use of plastic, its hazards and safe disposal. Mean attitude score in pre-test was 45.15 ± 6.65 and mean percentage of attitude score in pre-test was 60.20 ± 8.87 . Whereas, in post-test All 100% of the subjects had positive attitude towards use of plastic, its hazards and safe disposal. Mean attitude score in post-test was 59.03 ± 2.14 and mean percentage of attitude score in post-test was 78.70 ± 2.86 .

Section D: Analysis Of Effectiveness Of Planned Teaching About Knowledge And Attitude Regarding Use Of Plastic, Its Hazrds And Safe Disposal Among Housewives In Selected Rural Area.

Table 2: Significance of difference between knowledge score in pre-test and post-test of subjects. (n=80)

Overall	Mean	SD	Mean Difference	t-value	p-value
Pre-Test	13.63	3.17	10.25 ± 1.18	25.36	0.001
Post-Test	23.88	1.99			$S, p < 0.05$

Overall mean pre-test and post-test knowledge score of subjects which reveals that post-test mean knowledge score was higher 23.88 with SD ± 1.99 when compared with mean pre-test knowledge score which was 13.63 with SD ± 3.17 . The statistical student's paired "t" test was applied at 5% level of significance. The tabulated value for $n=80-1$ i.e, 79 Degrees of freedom was 1.98. The calculated "t" value i.e, 25.36 were much higher than the tabulated value at 5% level of significance.

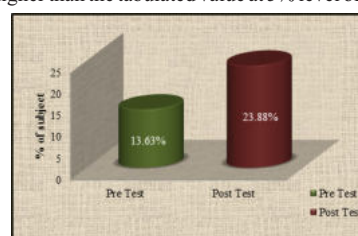


Figure 1: Significance Of Difference Between Knowledge Score In

Pre-test and Post-test Of Subjects Regarding Use Of Plastic, Its Hazards And Safe Disposal.

Table 3: Significance of difference between attitude score in pre-test and post-test of subjects regarding use of plastic, its hazards and safe disposal. (n=80)

Overall	Mean	SD	Mean Difference	t-value	p-value
Pre Test	45.15	6.65	13.88 ± 4.5	17.50	0.001 S _p <0.05
Post Test	59.03	2.15			

Overall mean pre-test and post-test attitude score of subjects which reveals that post-test mean attitude score was 59.03 higher with SD ± 2.15 when compared with mean pre-test attitude score which was 45.15 with SD ± 6.65. The statistical student's paired "t" test was applied at 5% level of significance. The tabulated value for n=80-1 i.e., 79 degrees of freedom was 1.98. The calculated "t" value i.e., 17.50 are much higher than the tabulated value at 5% level of significance.

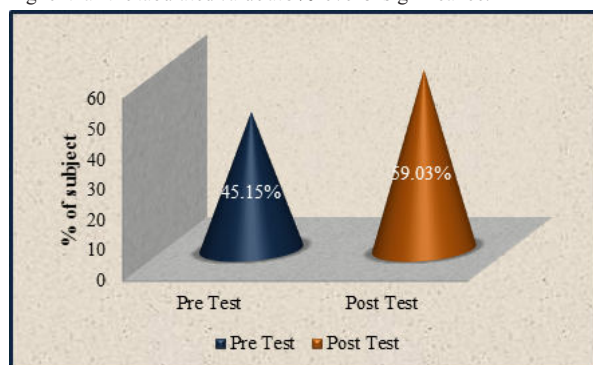


Fig. 2: Significance Of Difference Between Attitude Score In Pre And Post-test Of Subjects Regarding Use Of Plastic, Its Hazards And Safe Disposal.

Section E: Association Of Knowledge And Attitude Score Regarding Use Of Plastic, Its Hazards And Safe Disposal Among Housewives In Relation To Their Selected Demographic Variables.

The Chi-square " χ^2 " value was 33.92 (df=22) which was much less than the calculated Chi-square " χ^2 " i.e., 577.55 at 5% level of significance. Also, the calculated "p"=0.046 was less than the acceptable level of significance i.e., "p"=0.05. Hence it was interpreted that age in years of subjects was statistically associated with their post test knowledge and attitude score of their selected demographic variable.

DISCUSSION

Present study was undertaken to assess the effectiveness of planned teaching about knowledge and attitude regarding use of plastic, its hazards and safe disposal among housewives in selected rural area, dist wardha, Maharashtra, India. The study shows that planned teaching regarding use of plastic, its hazards and safe disposal was effective and there was a significant association between the post test knowledge and attitude of housewives with their selected demographic variable such as Age.

A cross-sectional study was conducted on topic to assess the knowledge, attitude and practice on uses of plastic products, their disposal and environmental pollution was undertaken in one of the senior secondary schools of wardha city in 2018. The objective of this study was to assess the knowledge, attitude, and practice on uses of plastic products, their disposal and environmental pollution among school-going adolescents. Purposive sampling was done by using 95 samples. A pretested semi structured questionnaire was used for data collection; Seventh standard students who were present on the day of data collection and willing to participate were instructed to fill up the proforma. In their opinion the hazards of plastics could be reduced by their reduced usage (75.78%) and reuse at home (41.05%) followed by segregation and proper disposal (12%). Students (26.32%) told that plastics were not biodegradable. (37.89%) Students had knowledge regarding plastic bags banned in wardha city. (35.79%) Students knew about fine imposed for using plastic bags. Main source of information was school. (83.15%) followed by television and radio 19 (80%) and parents (24.21%). (65.26%) Students agreed for ban on plastic bag usage, whereas 69.48% of students agreed to campaign for harmful effect of plastics in daily use. Hence, proper disposal of plastic waste

reflected the habit of family is a thrust area which needs to be improved. Good thing is that students are having attitude to give up the use of plastic bags and to aware others about the ill health of using plastics.⁶

CONCLUSION AND RECOMMENDATION

The study emphasis for effective implementation of legislation to minimize the use of plastic, its hazards and safe disposal in housewives. There is need to create awareness for betel quid seller and In-service education programme for teachers about hazards of plastic use so that they can create more awareness among students regarding hazards of plastic use.

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