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A study to assess the effectiveness of video-assisted teaching programme regarding the hazards of plastics and prevention of its usage among the adults residing in Arumanai at Kanniyakumari district

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ABSTRACT

“Reuse it or Refuse it. Beat Plastic Pollution.” Plastics are used on a daily basis throughout the world. Plastics are inexpensive, light weight, strong durable, corrosion-resistant materials, with high thermal and electrical insulation properties. Substantial quantities of plastic have accumulated in the natural environment and in land fills. Around 10 per cent by weight of the municipal waste stream is plastic. Pre experimental one group pretest posttest design for selecting samples. The setting of the study was rural community in Arumanai at Kanniyakumari District. The sample consists of 170 adults who met the inclusion criteria. Convenience sampling technique was used for the selected samples. Ethical aspects of the study were maintained throughout the study.

Modified structured questionnaire was used as a tool for data collection. The tool reliability tested for prior to the pilot study. First pretest was conducted to assess the level of knowledge regarding hazards of plastics and prevention of its usage. The video assisted teaching programme was implemented to the group for 25 minutes and posttest was conducted on the 7th day, to reassess the level of knowledge regarding hazards of plastics and prevention of its usage. The data gathered were analyzed by both descriptive and inferential statistics based on the objectives of the study.

The study revealed that 42.9% adults had excellent knowledge, 57.1% had very good knowledge regarding hazards of plastics and prevention of its usage. The mean level of knowledge regarding hazards of plastics and prevention of its usage increased from 11.2 to 19.8 after the implementation of video assisted teaching programme. The mean increase was statistically significant at 0.01 level ($t=59.174$, $df= 16$). There was a significant effect of video assisted teaching programme regarding hazards of plastics and prevention of its usage among adults residing in Arumanai.

Keywords: Effect, Video Assisted Teaching, Hazards of Plastics, Prevention, Usages.

I. INTRODUCTION

“Reuse it or Refuse it. Beat Plastic Pollution.” Plastics are used on a daily basis throughout the world. Plastics are inexpensive, light weight, strong durable, corrosion-resistant materials, with high thermal and electrical insulation properties. Substantial quantities of plastic have accumulated in the natural environment and in land fills. Around 10 per cent by weight of the municipal waste stream is plastic. Plastic wastes, including packaging, electrical equipment and plastics from end-of-life vehicles, are major components of both household and industrial wastes. Plastic is not biodegradable. When buried, plastic will clog the drainage and when burnt, plastics will emit poisonous gases. Exposures through ingestion, inhalation and dermal

contact are all considered important routes of exposure for the general population. Plastics are a small but a significant component of the waste stream. Over 260 species, including invertebrates, turtles, fish, seabirds and mammals, have been reported to ingest or become entangled in plastic debris, resulting in impaired movement and feeding, reduced reproductive output, lacerations, ulcers and death. As a consequence, the production of plastics has increased substantially over the last 60 years from around 0.5 million tones in 1950 to over 260 million tones today. Plastic can stay as long as 4500 years on earth. Plastic waste are major cause of environment pollution, becomes carcinogenic to human, birth defects, impaired immunity, endocrine disruption, development and reproductive effect

In India 80% of total plastic consumption is discarded as waste and official statistics say the country generates 25,940 tonnes waste daily. At least 40% is uncollected. Average plastic waste generation in country is around 6.92 percent of Municipal Solid Waste (MSW). Twelve states of country account for 97% of total hazardous waste generation. The top four waste generating states are Maharashtra, Gujarat, Andrapradesh and Tamilnadu, it is very hard to dispose of used plastic. Our plastic consumption is increasing. The plastic processing industry is estimated to grow to 22 million tonnes a year by 2020 from 13.4 million tonnes in 2015 and nearly half of this is single use plastic.

STATEMENT OF THE PROBLEM

“A study to assess the effectiveness of video assisted teaching programme regarding hazards of plastics and prevention of its usage among the adults residing in Arumanai at Kanniyakumari District”.

OBJECTIVES

- To assess the pretest knowledge about the hazards of plastics and prevention of its usage among adults.
- To assess the effectiveness of video assisted teaching programme regarding hazards of plastics and prevention of its usage among adults.
- To find out the association between pretest knowledge of adults and selected demographic variables such as age, sex, religion, education, type of family, income, marital status and source of information.

II. MATERIALS AND METHODS

Research design is overall plan for obtaining answers to the questions being studied for handling some of difficulties encountered during the research process. The research design selected for the present study is pre experimental one group pre test post test design. This study aims at assessing the effectiveness of video assisted teaching programme on hazards of plastics and prevention of its usage among people residing in Arumanai.

Sample for the study composed of 170 adults who are residing in Arumanai community. Adults who are aged between 21-50 years are selected. Convenience sampling technique will be adopted for the present study. Data were collected within given period of four weeks.

The design was described as:

O1 x O2

O1 – Pre test to assess the level of knowledge regarding hazards of plastics and prevention of its usage among adults residing at Arumanai.

X - Administration of Video assisted teaching programme on hazards of plastics and prevention of its usage

O2 - Post test to evaluate the level of knowledge about the hazards of plastics and prevention of its usage among adult after administering video assisted teaching programme.

III. RESULTS AND DISCUSSION

Table - 1: Frequency and percentage distribution of samples according to demographic variables of the adults.

N = 170

S. No	Demographic Variables	Frequency (f)	Percentage (%)
1.	Age in years		
	a) 21 – 30 years	60	35.3
	b) 31 – 40 years	58	34.1
	c) 41 – 50 years	52	30.6
	d) Above 50 years	0	0
2.	Sex		
	a) Male	62	36.5
	b) Female	108	63.5
	c) Transgender	0	0
3.	Religion		

	a) Hindu	78	45.9
	b) Christian	91	53.5
	c) Muslim	1	0.6
	d) Others	0	0
4.	Educational status		
	a) Primary	36	21.2
	b) Secondary	25	14.7
	c) Higher Secondary	48	28.2
	d) Degree	46	27.1
	e) Profession	15	8.8
5	Type of family		
	a) Joint Family	55	32.4
	b) Nuclear Family	79	46.5
	c) Childless Family	4	2.4
	d) Extended Family	32	18.8
6.	Income		
	a) below 25000Rupees	48	28.2
	b) 25,000 Rupees	51	30
	c) Above 30,000Rupees	71	41.8
	d) No income	0	0
7.	Marital status		
	a) Married	126	74.1
	b) Unmarried	44	25.9
	c) Divorced	0	0
8.	Sources of information		
	a) Television	31	18.2
	b) Newspaper	28	16.5
	c) Internet	24	14.1
	d) Radio	8	4.7
	e) Mobile phone	27	15.9
	f) All of the Above	52	30.6

Table II: Frequency and percentage distribution of pre test score.

Knowledge Level	Frequency (f)	Percentage (%)
Excellent	0	0
Very Good	37	21.8
Good	132	77.6
Poor	1	0.6

The data presented in the table II shows that 21.8% of adults had very good knowledge, 77.6% of adults had good knowledge and 0.6% of adults had poor knowledge.

Table III: Frequency and percentage distribution of post test score.

Knowledge Level	Frequency (f)	Percentage (%)
Excellent	73	42.9
Very Good	97	57.1
Good	0	0
Poor	0	0

The data presented in the table III shows that 42.9% of adults got excellent knowledge, 57.1% of adults got very good knowledge. No one had good and poor knowledge.

Table IV: Effectiveness of video assisted teaching programme regarding hazards of plastics and prevention of its usage among adults

Group	Mean	S.D	Paired 't' test	df	Level of significance
Pre test	11.2	2.4			
Post test	19.8	2.5	59.174	169	<0.001

The table IV reveals that there is a significant difference between pre test and post test level of knowledge regarding hazards of plastics and prevention of its usage. According to these results there is a significant effect of video assisted teaching programme regarding hazards of plastics and prevention of its usage among adults residing in Arumanai.

Table V: Association between the level of knowledge and demographic variables.

Demographic Variables	Frequency(f)	χ^2	df	Table Value
1. Age in years				
a) 21 – 30 years	60			
b) 31 – 40 years	58			
c) 41 – 50 years	52	7.977*	2	0.019
d) Above 50 years	0			
2. Sex				
a) Male	62			
b) Female	108	0.687	2	0.709
c) Transgender	0			
3. Religion				
a) Hindu	78			
b) Christian	91	0.883*	2	0.643
c) Muslim	1			
d) Others	0			
4. Education				
a) Primary	36			
b) Secondary	25	20.637*	2	0.001
c) Higher Secondary	48			
d) Degree	46			
e) Profession	15			
5. Type of Family				
a) Joint Family				
b) Nuclear Family	55			
c) Childless Family	79	0.692		
d) Extended Family	4		3	0.875
6. Income	32			
a) below 25000 Rupees				
b) 25,000 Rupees	48			
c) Above 30,000 Rupees	51			
d) No income	71	2.951*	2	0.229
7. Marital Status	0			
a) Married				
b) Unmarried	126			
c) Divorced	44	5.297*	1	0.021
8. Source of Information	0			
a) Television				
b) Newspaper				
c) Internet				
d) Radio	31			
e) Mobile phone	28			
f) All of the Above	24		2	0.001
	8	16.050*		
	27			
	52			

This table reveals that there was significant association between pre test level of knowledge and selected demographic variables such as age, religion, education, income, marital status and source of information and no association between pretest level of knowledge and demographic variables such as sex and type of family.

III. RECOMMENDATIONS

- A similar study can be extended for different population and age groups.
- A similar study can be conducted by using experimental and randomized control trial group method.
- A comparative study can be conducted in both rural and urban adults regarding knowledge and practice on hazards of

plastics and prevention of its usage.

- Replication of the study can be conducted among other adult group in the community.
- A comparative study can be conducted to find out the effectiveness between various teaching methods.

NURSING IMPLICATIONS

The findings of the study has considerable implications on Nursing services, Nursing education, Nursing administration and Nursing research.

NURSING SERVICE

- The nurses working in hospitals, public health centres, and community have to realize the responsibility to provide information regarding hazards of plastics to their clients.
- Health assistants can organize group health education to the community people regarding hazards of plastics to gain knowledge and help to develop positive attitude to reduce the plastic usage.
- Health workers should intensify health teaching regarding hazards of plastics and prevention of its usage during home visit.

NURSING EDUCATION

- Nurse educators can prepare the student nurses to provide health education regarding hazards of plastics and prevention of its usage.
- Revision of nursing curriculum can be done by incorporating the emerging problems of using plastics.
- Empowering nurses with information about hazards of plastics and prevention of its usage and expanding their role as client educators.

NURSING ADMINISTRATION

- Nurse administrators are in prime position to make use of many opportunities that present themselves in their everyday work to arrange health education programme.
- Nurse administrators should also suggest to establish various interventions like community awareness about hazards of plastic, distributing information booklets .
- Nurse administrators should also offer various in service education programmes and also continuing education programmes for all nurses, midwives, in primary health centre and sub centre to improve the knowledge on hazards of plastics and prevention of its usage.

NURSING RESEARCH

- It helps the nurse researcher to utilize the study findings in public health programmes.
- The nurse researcher can disseminate the findings to raise the awareness about hazards of plastic and prevention of its usage among the adults.

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