"The Effect Of Educational Package On Knowledge Regarding Harmful Effects Of Use Of Polythene And Plastic Materials On Environment & Health Among School Age Children."

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ABSTRACT:

Introduction: Plastics are a wide variety of combinations of properties when viewed as a whole. They are used for shellac, cellulose, rubber, and asphalt. We also synthetically manufacture items such as clothing, packaging, automobiles, electronics, aircrafts, medical supplies, and recreational items. The list could go on and on and it is obvious that much of what we have today would not be possible without plastics. **Methodology:** Research Approach : an evaluative research approach, Research Design : One Group Pre-test, Post-test Pre-Experimental Design, Setting Of The Study : The study is conducted in Village Dhulet, Gogakhedi, Dhaturiya, Ashakhedi, Mundi and Arniya rural Community area of Indore city. *Sample Size: In this study sample size is 500 School age children residing in rural area of Indore city.* Sampling Technique: In this study convenient non probability sampling technique is used to select sample. **Result:** Total mean score scored by the school age children in community area of Indore in the post-test is 11.8 and standard deviation is 2.67. These findings shows that the post-test knowledge level of all subjects were adequate. The mean post test knowledge score (11.8) is apparently less than the mean pre test knowledge score (17.9). The dispersion of post test score (SD±2.67) is less than that of their pre test score (SD ±1.13) and the computed paired „t‟ value shows that there is significant difference between pre test and post test mean knowledge score, („t‟ 499 = 46.7 P≤ 0.05) is greater than tabulated value („t‟ 499 = 8.11 P ≤0.05) thus the null hypothesis is rejected and the research hypothesis is accepted, thus there is highly significant difference between pre test and post test mean knowledge score.100% of school age children residing in rural area had scored Excellent in post test compared to pre test where 0% of school age children residing in rural area had scored Excellent, 0% gained Good score in post test where 60% of school age children residing in rural area had scored Good, 0% gained Fair score in post test and 40% scored Fair in pre test, 0% had Poor score in post test and also 0% had Poor score in pre test. It indicates a considerable gain in knowledge score and the effectiveness of educational package. The computed chi- square value for demographic variable for education status (df = 4, x^2 = 22.9, p< 0.05) is lesser than tabulated value (df = 4, x^2 = 0.001 p< 0.05) so that there is association between pretest knowledge score and education status of the school age children residing in selected Community area of community. The computed chi- square value for demographic variable for source of information (df = 2, x^2 = 65.97, p< 0.05) is lesser than tabulated value (df = 2, x^2 = 0.001, p< 0.05) so that there is association between pretest knowledge score and source of information regarding harmful effects of polythene and plastic materials on health and environment.

Keywords: M.P.: Madhyapradesh, H: Hypothesis, df: Degree of freedom

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The central government has recently passed a ruling under the provisions of the Environment Protection Act 1986, restricting the sale of some products in plastic carry bags. The Ministry of Environment, Forests and Climate Change has banned the manufacture and use of plastic carry bags less than 8inches x 12 inches in size and 40 micron7 in width. The ministry has also directed state governments to register all plastic manufacturing.

In India, few studies related to the hazards of plastic usage were conducted. Unfortunately, there are no current practices as this is the routine procedure in most places. The researcher observed that there is a less focus on the hazards of plastic usage. Children are more vulnerable to the illness. The long lasting ill effects could be brought down through an awareness and modification of the life style at the early age of their life. Use of plastic containers, bottles and other items by children has become common. It leads to many risk in life. However it could be only prevented rather repenting at the following stage. This could be possible through the education given to them in the school days

1.2 NEED FOR THE STUDY:

Plastic, one of the most preferred materials in today's industrial world is posing serious threat to environment and consumer's health in many direct and indirect ways. Exposure to harmful chemicals during manufacturing, leaching in the stored food items while using plastic packages or chewing of plastic tethers and toys by children are linked with severe adverse health outcomes such as cancer, birth defects, impaired immunity, endocrine disruption, developmental and reproductive effects etc., Promotion of plastics substituted and safe disposal of plastic waste requires urgent and definitive action to take care of this potential health hazard in future. The investigator noticed that the people of urban community dispose polythene & plastic material improperly. Though the waste collecting vehicle from Nagar Nigam was regularly running in the city. The investigator also observes that the polythene & plastic materials were scattered here & there in urban community environment.

Appropriate knowledge of plastic disposable would be a soul step in controlling harmful effect of use of polythene & plastic material on health & environment. Thus the investigator felt that a educational package for rural areas school age children on harmful effects of use of polythene & plastic materials on health & environment will enhance their knowledge. Hence there is a need for assessing the knowledge on harmful effect of use of polythene & plastic materials on health & environment among school age children in selected community area of Indore city.

1.3 STATEMENT OF THE PROBLEM

"An evaluative study to assess the effectiveness of educational package on knowledge regarding harmful effects of use of polythene and plastic materials on environment & health among school age children residing in selected community areas of Indore M.P."

1.4 OBJECTIVES OF THE STUDY

- To assess the pre test knowledge score regarding harmful effects of use of polythene and plastic material on health & environment among school age children residing in community areas of Indore city.
- To assess the post test knowledge score regarding harmful effects of use of polythene and plastic material on health & environment among school age children residing in community areas of Indore city.
- To evaluate the effectiveness of educational package on knowledge regarding harmful effects of use of polythene and

plastic material on health and environment among school age children residing in community areas of Indore city.

- To find out the association between the pre test knowledge score and selected demographic variables.

1.5 HYPOTHESIS

RH₁:- There was a significant difference between pre-test and post-test level of knowledge regarding harmful effects of use of polythene & plastic materials on environment & health among school age children at the level of P≤0.05.

RH2:-There was a significant association between the pre-test levels of knowledge with selected socio-demographic variables at the level of P≤0.05.

1.6 ASSUMPTION

1   It is assumed that, use of polythene & plastic materials on may be commonly affecting to children.

1.7 DELIMITATION

- The study is limited for school age children residing in rural area of Indore city.
- 500 school age children's from different home residing in rural of Indore city who wereavailable at the time of data collection.
- The school age children residing in rural areas of Indore city who were ready to be part of   the research during the time of covid 19 situation.
- The study was limited to particular period of time.

2. REVIEW OF LITERATURE

The literature review has been presented under following heading:

Section – I : Literature on knowledge related to hazards of use of polythene and plastic materials.

Section – II : Literature on effects of use of polythene and plastic materials on environment and health.

Section – III : Literature on effectiveness of Educational Packages.

3. RESEARCH METHODOLOGY

RESEARCH APPROACH : an evaluative research approach

RESEARCH DESIGN : One Group Pre-test, Post-test Pre-Experimental Design

VARIABLES

INDEPENDENT VARIABLE :-

In the present study the independent variable is the Educational Package regarding harmful effects of polythene and plastic materials on environment and health among School age children residing in rural area of Indore.

DEPENDENT VARIABLE :-

In the present study the dependent variable is the knowledge of School age children residing in rural area of Indore city regarding harmful effects of polythene and plastic materials on environment and health.

DEMOGRAPHIC VARIABLES:-

Age, Gender, Education status, Source of information regarding harmful effects of polythene and plastic materials, Methods of disposal of plastic waste.

SETTING OF THE STUDY : The study is conducted in Village Dhulet, Gogakhedi, Dhaturiya, Ashakhedi, Mundi and Arniya rural Community area of Indore city.

SAMPLE SIZE: In this study sample size is 500 School age children residing in rural area of Indore city.

SAMPLING TECHNIQUE: In this study convenient non probability sampling technique is used to select sample.

POPULATION:-

In this study population is the School age children residing in rural area of Indore city.

TARGET POPULATION:

In this study target population is all School age children residing in rural area of Indore city.

ACCESSIBLE POPULATOION:

In this study accessible population is the School age children residing in rural area of Indore city who will fulfill the inclusion criteria of present study.

SAMPLING CRITERIA

Inclusion criteria:

1. School age children residing in rural area of Indore city who is interested in study.
2. School age children residing in rural area of Indore city who is available at the time of data collection.

Exclusion criteria:

1. School age children residing in rural area of Indore city who is interested in the study.
2. School age children residing in rural area of Indore city who is physically or mentally disable.

PILOT STUDY:- After obtaining the formal administrative approval pilot study was conducted in Bawaliya Khurd, Indore from 01/03/2021 to 30/06/2021 The pilot study was aimed at evaluate the effectiveness of educational package regarding harmful effects of use of polythene and plastic materials on environment and health among School going children in Community area Bawaliya Khurd Indore.

RESULT:

Frequency and percentage distribution of variable according to their age

(N = 500)

S.NO.	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE
1.	Age in years		
a.	06-08 years	200	40 %
b.	09-11 years	140	28 %
c.	11-13 years	100	20 %
d.	14 years and above	60	12 %
	TOTAL	500	100%

2.	Gender	Frequency	Percentage
a.	Male	100	20 %
b.	Female	400	80 %
	Total	500	100%

3.	EDUCATION	FREQUENCY	PERCENTAGE
a.	Illiterate	50	10 %
b.	1st – 2nd class	50	10 %
c.	3rd – 4th class	50	10%
d.	5th – 6th class	250	50%
e.	7th class and above	100	20%
	TOTAL	500	100%

4.	SOURCE OF INFORMATIONREGARDING HARMFUL EFFECTS OF POLYTHENE AND PLASTIC MATERIAL	FREQUENCY	PERCENTAGE
a.	Television	150	30 %
b.	Mobile and social media	200	40 %
c.	Internet	150	30%
d.	Other	00	00%
	TOTAL	500	100%

5.	Methods Of Disposal Polythene And Plastic Waste	Frequency	Percentage
a.	In appropriate dustbins	400	80
b.	Reuse	50	10
c.	Dump in surrounding	50	10
d.	Other	0	00
	TOTAL	500	100

Section II

Frequency and percentage distribution of pre test knowledge score regarding harmful effects of polythene and plastic materials on health and environment among School age children residing in selected Community rural area of Indore.

(N =500)

S.NO.	SCORE	GRADING	FREQUENCY	PERCENTAGE
1	0-5	Poor	0	0 %
2	6-10	Fair	200	40 %
3	11-15	Good	300	60 %
4	16-20	Excellent	0	0%
	TOTAL		500	100

Pre test mean score =17.9, SD= 1.13

INTERPRETATION:

The data shows in the table no.4.6. that 0% of sample had Excellent and Poor knowledge score ranging between (16-20) and (0-5) respectively, 40% sample had fair knowledge score ranging between (6-10) and 60% sample had good knowledge score ranging between (11-15)regarding harmful effects of polythene and plastic materials on health and environment.

PRETEST KNOWLEDGE SCORE
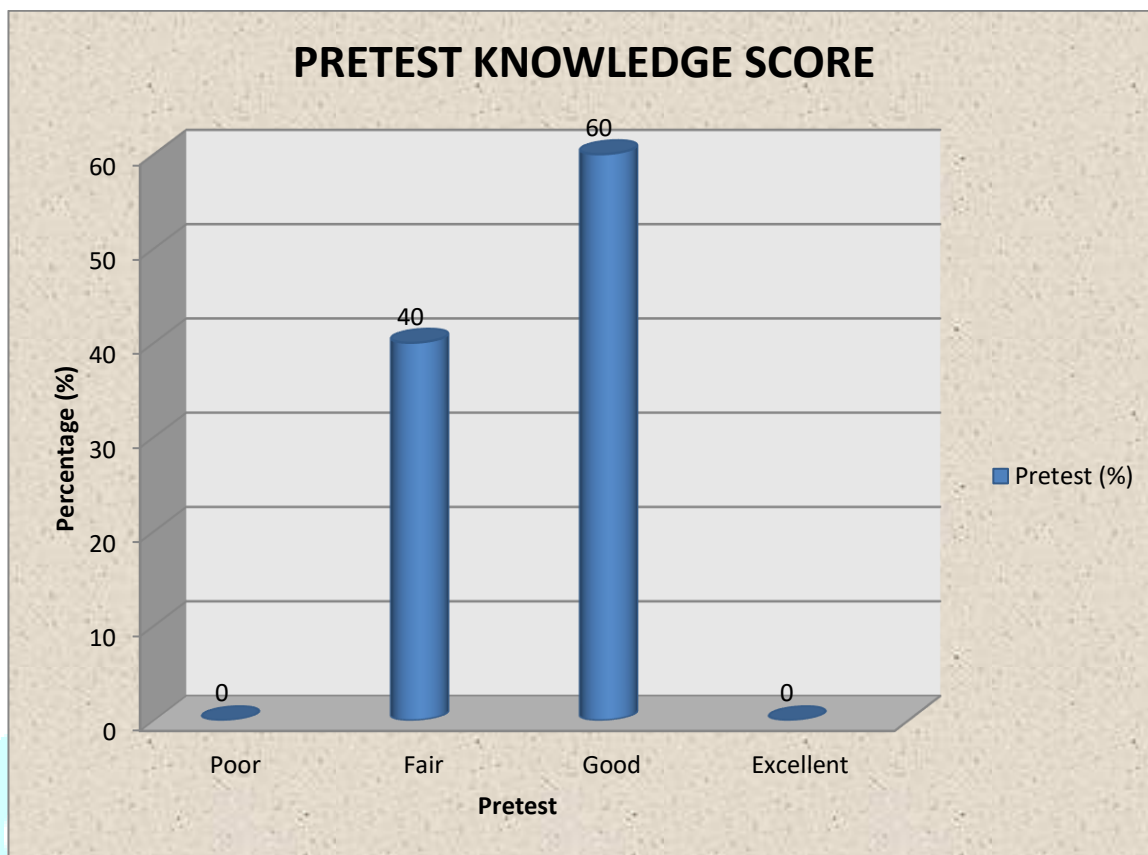
Bar diagram depicting pretest knowledge score regarding harmful effects of polythene and plastic materials on health and environment among School age children residing in selected Community rural area of Indore.
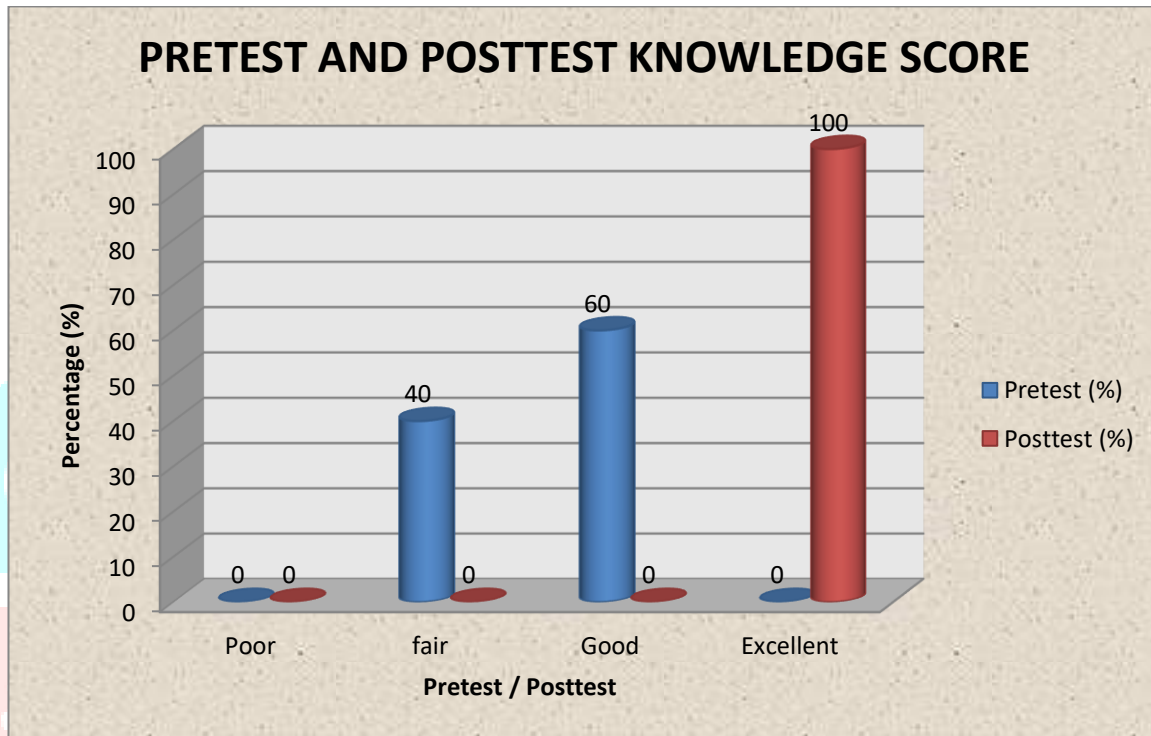
Section III

Effectiveness of Educational package regarding harmful effects of polythene and plastic materials on health and environment among school age children residing in selected Community Rural area of Indore city.

(n =500)

S.NO.	SCORE	GRADING	PRE TEST SCORE		POST TEST SCORE	
			FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
1	0-5	Poor	0	0 %	0	0%
2	6-10	Fair	200	40 %	0	0%
3	11-15	Good	300	60 %	0	0%
4	16-20	Excellent	0	0%	500	100%
TOTAL			500	100	500	100

INTERPRETATION:

Data in table No.4.7. shows that 100% of school age children residing in Community area had scored Excellent in post test compared to pre test where 0% of school age children residing in Community area had scored Excellent, 0% gained Good score in post test where 60% of school age children residing in Community area had scored Good, 0% gained Fair score in post test and 40% scored Fair in pre test, 0% had Poor score in post test and also 0% had Poor score in pre test. It indicates a considerable gain in knowledge score and the effectiveness of educational package.
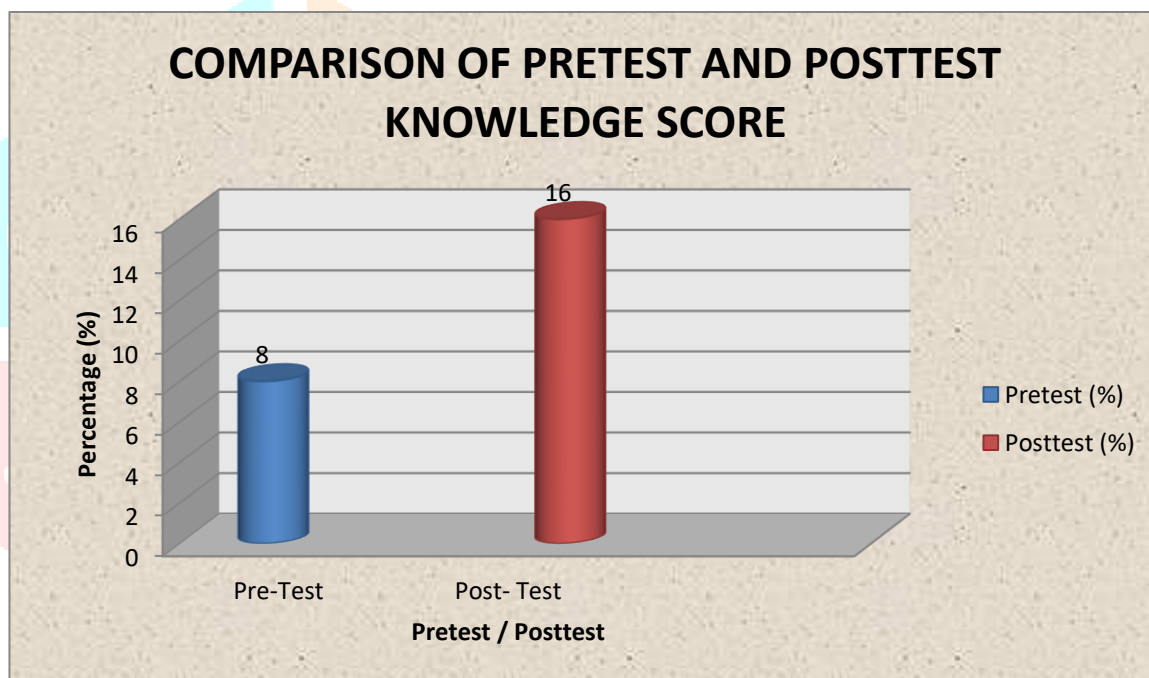

Bar diagram depicting grading of sample based on pre-test and post-testknowledge score regarding harmful effects of polythene and plastic materials on health and environment among School age children residing in selected Community rural area of Indore

Comparison between Mean, Standard deviation and " t " value of pre test and posttest knowledge score.

Mean, Mean difference, Standard deviation and „t" value of pre test and post test knowledge score

knowledgeScore	Mean	Standard deviation	Mean difference	D. F.	"t" value	At 0.05 level	Result
Pre test	17.9	1.13	6.1	499	46.7	8.11	S
Post test	11.8	2.67					

Paired „t" value 499 = 46.7, P≤. 05S: Significant

COMPARISON OF PRETEST AND POSTTEST KNOWLEDGE SCORE

Bar diagram depicting comparison between pre test and post test mean score regarding harmful effects of polythene and plastic materials on health and environment among school age children residing in selected Community rural area of Indore M.P.

Section IV: Association between the pre test knowledge score with the selecteddemographic variables.

Chi-Square value showing association between pre test knowledge score andselected demographic variables (n = 500)

S.NO.	Demographic Variable	Poor	Fair	Good	Excellent	df	x^2 value	At p <0.05 level	Result
1.	**Age in years**								
a.	06-08 years	0	100	100	0	3	33.73	2.25	**NS**
b.	09-11 years	0	40	100	0				
c.	11-13 years	0	50	50	0				
d.	14 years and above	0	10	50	0				
2.	**Gender**								
a.	Male	0	50	150	0	1	31.25	2.27	**NS**
b.	Female	0	150	150	0				
3.	**Education**								
a.	Illiterate	0	50	0	0				
b.	$1^{st} – 2^{nd}$ class	0	50	0	0				
c.	$3^{rd} – 4^{th}$ class	0	0	50	0	4	22.9	0.001	**S**
d.	$5^{th} – 6^{th}$ class	0	50	200	0				
e.	7th class and above	0	50	50	0				

4.	Source of information regarding harmful effectsof polythene And plasticmaterials								
a.	Television	0	50	100	0				
b.	Mobile and social media	0	50	150	0	2	65.97		S
c.	Internet	0	100	50	0			0.001	
d.	Other	0	0	0	0				
5.	Methods of disposal of polythene and plastic waste								
a.	Inappropriate dustbin	0	200	200	0				
b.	Reuse	0	0	50	0	2	83.33	0.001	S
c.	Dump in surrounding	0	0	50	0				
d.	Other	0	0	0	0				

S : Significant, (*)Non significant

CONCLUSION

After the detailed analysis, this study leads to the following conclusions. That people residing in selected rural community did not have 100% knowledge regarding harmful effects of polythene and plastic materials on environment and health. They require further education and information because all of them need to enhance their knowledge regarding harmful effects of polythene and plastic materials on environment and health. There was a highly significant increase in the knowledge of the subjects after the introduction of educational package, the paired „t‟ test computed between mean pretest knowledge score (17.9) and mean post test knowledge score (11.8), which indicates a post test knowledge score (11.8), which indicates a highly significant. Thus, it is concluded that the educational package regarding harmful effects of polythene and plastic materials on environment and health is effective as a teaching strategy selected demographic variables do not show a major role in pretest knowledge score. Hence, on the basis of above cited, findings, it could be concluded undoubtedly that the written material prepared by the investigator in the form of educational package helped the community school age children to improve their knowledge regarding harmful effects of polythene and plastic materials on environment and health will also serve as a ready reference for the subjects.