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Original Research Paper

Nursing

"AN EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING LEAD POISONING IN CHILDREN AMONG MOTHERS OF UNDER FIVE CHILDREN IN SELECTED URBAN AREAS OF THE CITY."

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ABSTRACT

Background: Children ages between the 1- 5 years are generally known as the children's. The mortality rate is high in the under five children comparatively to all deaths. This age group is high risk for many health problems.

Methods: An experimental study was done among mothers who had children under 5 years of age. Study area was urban areas of the city.60 mothers were selected for the study by non probability convenient sampling technique. A pre test and post test research design was used, pre test questionnaire was used to get the relevant information.

Results: The post-test knowledge score of mothers of under five children was higher than pre-test It reveals that 11(18.33%) of the mothers of under five children had good knowledge , 25(41.67%)of them had very good level of knowledge score and 24(40%) of them had excellent level of knowledge score.

Mean knowledge score in post-test was 22.48±3.82 and mean percentage of knowledge score in post test was 74.94±12.76.

Conclusions: The study was concluded that structured teaching programme on knowledge regarding Lead poisoning in children among mothers of under five children in selected urban areas of the city was found to be effective as a teaching strategy. Hence, based on the above findings, it was concluded undoubtedly that the educational intervention by the investigator in the form of structured teaching programme helped the mothers of under five children to increase knowledge regarding Lead Poisoning.

KEYWORDS : Lead Poisoning in children, Mothers, Under Five Children

INTRODUCTION

The birth of a child is significant event in any family. A child is a precious gift, which has lot of potentials within. The health of a growing child is always a matter of great concern, because a healthy child can become healthy citizen in future. Children are our future and outmost precious resources.

The mortality rate is high in the under five children comparatively to all deaths. This age group is high risk for many health problems. Among the health problems, the important and preventable are accidents and poisoning. Under five children are vulnerable for domestic accidents like falls, burns, poisoning and drowning. In the domestic poisoning, lead poisoning is the silent killer in children. Lead occurs naturally in the earth's crust.

The WHO estimates that there are 120 million people worldwide affected with lead poisoning. It can affect any child of either sex from any country. In INDIA more than 51.3% of children residing in cities below 12 years of age have there blood lead levels above 10mcg/dl.

The present study has been done with an objective to determine the knowledge about Lead poisoning in children among mothers of under five children and the factors associated with it.

OBJECTIVES

1. To assess the pre test knowledge regarding Lead Poisoning in children among mothers of under- five children.
2. To assess the post test knowledge regarding Lead Poisoning in children among mothers of under -five children.
3. To evaluate the effectiveness of structured teaching programme on knowledge regarding Lead Poisoning in children among mothers of under- five children.
4. To associate the knowledge score with selected demographic variables.

HYPOTHESIS

Will be tested at 0.05 level of significance

H_0: There is no a significant difference between pre test and post test level of knowledge score regarding Lead Poisoning in children among mothers of under- five children.

H_1: There is a significant difference between pre test and post test knowledge score regarding Lead Poisoning in children among mothers of under- five children.

METHODS

An experimental study was conducted from 4-11-2019 to 23-11-2019. Study area was urban areas of the city. study population includes mothers who had children under 5 years of age mothers. Sample size and sampling technique consist 60 mothers were selected for the study by non probability convenient sampling technique.

DATA COLLECTION

Informed consent was taken from the study participants prior to start the study. A pre-post test design was used. Pre test questionnaire was used to get the relevant information. It included variables like Age of mother (in years), Age of youngest child (in years), Education of mother, Occupation, Religion, Types of family, Monthly family income (in rupees), and source of information.

DATA ANALYSIS

Data entry was done using Microsoft excel. Data was summarized in percentage and proportions. Statistical associations were done using chi square test wherever necessary with $p<0.05$ considered as statistically significant.

RESULTS

The Table-1 shows that, the majority of the subjects 28(46.7%) were belonging to the age group of 28-31 years, 18 (30%) were belonging to the age group of 24-27 years, 7 (11.7%) were belonging to the age group of 32-35 years and 7 (11.7%) were belonging to the age group of 19-23 years.

Distribution of mothers of under five children according to their age of youngest child revels that, 34 (56.7%) of the children to the mothers were in the age group of 2-3 years , 14 (23.3) were of 4-5 years and 12 (20%) were in the age group of 0-1 years respectively.

Distribution of mothers of under five children according to their education revels that, 29 (48.3%) of the mothers of under five children were educated up to secondary, 14 (23.3%) of them were educated upto primary standard, 13 (21.7%) were educated up to higher secondary and 4 (6.7%) were educated upto Graduation respectively.

Distribution of mothers of under five children according to occupation revels that, 24 (40%) of the mothers were homemaker, 15 (25%) were doing business, 14 (23.3%) of them were doing private service and 7 (11.7%) were government servant.

Distribution of mothers of under five children according to their religion revels that, 31 (51.7%) of the mothers were Hindus, 22 (36.7%) of them were Buddhist 6(10%) of them were Christian and1 (1.7%) is Muslim.

Distribution of mothers of under five children according totheir type of family revels that, 35 (58.3%) of the mothers of under five children were from nuclear families 23(38.3%) of them were from joint families and 2 (3.35%) them were belong to extended family.

Distribution of mothers of under five children according to their monthly family income revels that, 46 (76.7%) of the mothers had monthly family income of >20,000 Rs. 11(18.3%) of them had between 15001-20000 Rs and 3(5%) of them between 10001-15000 Rs. respectively.

Distribution of mothers of under five children according to their knowledge about Lead poisoning revels that, 38 (63.3%) of the mothers of under five children had no knowledge aboutLead poisoning and, 22(36.7%) have knowledge about Lead poisoning.

Distribution of mothers of under five children according to their source of knowledge about Lead poisoning revels that, 14 (63.3%) of the mothers of under five children are health workers,5(22.7%/) had information from relatives, and 3 (13.6%) from them had information from their friends.

Table1: Table showing percentage wise distribution of mothers according to their demographic characteristics.

n=60

Demographic Variables	No. of mothers	Percentage (%)
Age(yrs) of mother		
19-23 yrs	7	11.7
24-27 yrs	18	30
28-31 yrs	28	46.6
32-35 yrs	7	11.7
≥36 yrs	0	0
Age(yrs) of youngest child		
0-1 yrs	12	20
2-3 yrs	34	56.7
4-5 yrs	14	23.3
Education of mother		
Primary	14	23.3
Secondary	29	48.3
Higher Secondary	13	21.7
Graduation	4	6.7
PG	0	0
Occupation		
Homemaker	24	40
Govt. Service	7	11.7
Pvt Service	14	23.3
Business	15	25
Other	0	0
Religion		
Hindu	31	51.7
Muslim	1	1.7
Christian	6	10
Buddhist	22	36.6
Others	0	0
Type of family		
Nuclear	35	58.3
Joint	23	38.3
Extended	2	3.3
Monthly family income(Rs)		
<10000 Rs	0	0
10001-15000 Rs	3	5
15001-20000 Rs	11	18.3
>20000 Rs	46	76.7
Knowledge about lead poisoning		
Yes	22	36.7
No	38	63.3
Source of knowledge		
Mass Media	0	0
Health Workers	14	63.6
Relatives	5	22.7
Friends	3	13.7
Others	0	0

Table No. II(A): Table showing comparison of pre test and post test level of knowledge score

n=60

Level of knowledge score	Pre-test		Post-test	
	Frequency(n)	Percentage (%)	Frequency (n)	Percentage (%)
Excellent	0	0	24	40
Very good	0	0	25	41.67
Good	9	15	11	18.33
Average	38	63.33	0	0
Poor	13	21.67	0	0

Table No III(A): Table showing effectiveness of structured teaching programme on knowledge score in pre and post test of mothers of under five children regarding Lead poisoning in children

n=60

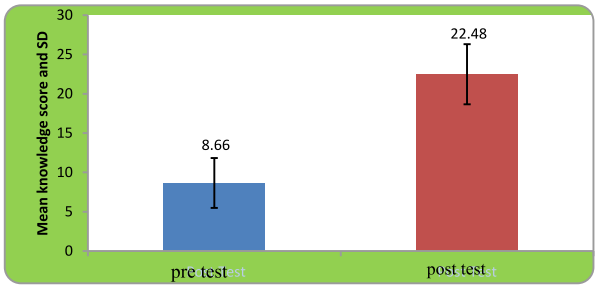
Test	Mean	SD	Mean Difference	Calculated t-value	df	Table value	p-value
Pre Test	8.66	3.17	13.81±3.27	32.67	59	2.00	0.0001 S,p<0.05
Post Test	22.48	3.82					

*S-Significant

This above table depicts the overall mean pre test and post test knowledge scores of mothers of under five children from selected urban areas of the city which reveals that post test mean knowledge score was higher 22.48 with SD of ±3.17 when compared with mean pre test knowledge score which was 8.66 with SD of ±3.82.

The statistical Student's paired t test implies that the difference in the pre test and post test knowledge among mothers of under five children from selected urban areas of the city found to be 32.67 which is statistically significant at 0.05% level of significance.

Hence it is statistically interpreted that the Structured Teaching Programme on knowledge regarding Lead poisoning in children among mothers of under five children was effective. Thus the H1 is accepted and H0 is rejected.



Bar diagram representing the effectiveness of knowledge scores in pre and post test of mothers of under five children regarding Lead poisoning in children

ASSOCIATION OF LEVEL OF POST TEST KNOWLEDGE SCORE REGARDING LEAD POISONING IN CHILDREN AMONG MOTHERS OF UNDER FIVE CHILDREN

The study reveals mean pre test knowledge score 8.66 and the mean post test knowledge score was 22.48. The calculated value 32.67 is greater than tabulated value 2.00 at 0.05 level of significance. Hence it is statistically interpreted that the Structured Teaching Programme on knowledge regarding Lead poisoning in children among mothers of under five children was effective. Thus the H_1 is accepted.Analysis also reveals that there is association of knowledge score with age of youngest child,education of mother, religion, and monthly family income while none of the other demographic variable were associated with knowledge score.

DISCUSSION

The study was undertaken with the main purpose of assessing the level of knowledge regarding childhood Lead poisoning in children among mothers of under five children in selected urban areas of the city.

In the present study post-test knowledge score of mothers of under five children was higher than pre-test. It shows that post-test 11 (18.33%) of the mothers of under five children had good knowledge, 25(41.67%) of them had very good level of knowledge score and 24 (40%) of them had excellent level of knowledge score. The mean and standard deviation SD of the result revels that mean score is 8.66 and SD is 3.17 in pre-test and mean score is 22.48 and SD is 3.82 in post-test.

New Zealand; the Dunedin Multidisciplinary Health and Development December (2012),.A Prospective cohort study was conducted onKnowledge regarding Lead poisoning in children among mothers of under five children from a urban area of Rangared by district, New Zeland . study was done among mothers who had children of 1 years to 5 years of age. Study area was urban health, Department of Child health nursing, The researcher has taken 100 mothers were selected for the study by convenient sampling technique. A pre designed, pre tested questionnaire was used to get the relevant information. Mean score of age of the mothers and standared deviation was 28.45±4.7 years with majority belonged to Hindu religion, one fourth government job and remaining were home makers. About two thirds (82%) were aware about the Lead poisoning. this study reveals that there is association of religion of mother.Hence it can be concluded that the planned teaching programme was effective in improving knowledge and prevention of lead poisoning in children.[59]

In above study mean post test score and standraed deviation was 28.45±4.7. the above study shows that the planned teaching programme was effecrtive in increasing the knowledge of under five mothers .and also religion of mothers is highly significant associated with pre test knowledge score ($p<0.001$).

Dewi U. Iriani , Takehisa Matsukawa Indonesia (2012) A cross sectional study conducted on the Effects of Socioeconomic Factors on Lead Exposure in Children. The socioeconomic factors influencing lead exposure in elementary school children by gender 108 children (56 male, 52 female), aged 6–7 years, were randomly selected from 39 elementary state schools in Serpong, Banten, Indonesia. Their parents were interviewed to obtain information on sociodemographic characteristics. The result showed that Among the 108 children examined, 56 were male and 52 were female. For males and females separately. The mean ± standard deviation (range) of BPb concentrations were 6.4 ± 2.0 (2.9–12.5) μg/dL, for all children, 6.8 ± 2.0 (2.9–12.5) μg/dL for males and 5.9 ± 1.9 (3.1–11.7) μg/dL for females. BPb concentrations were significantly higher in males than in females ($p < 0.05$). Eight children (7.5%) had BPb of ≥ 10 μg/dL, with the highest value being 12.5 μg/dL. This study concluded that the Lower socioeconomic status associated with well water-drinking increased the exposure of children in Serpong to lead. gender differences in exposure levels were possibly related to differences in behaviour of the two genders.[32]

The above study shows that the effects of lead poisoning in low socioeconomic status was highly significant .hence it can be concluded that the Lower socioeconomic status associated with well water-drinking increased the exposure of children.In present study also structured teaching programme was effective in improving the knowledge of under five mothers regarding lead poisoning in children.

LIMITATION:

The study was conducted only on mothers of under five children of selected urban areas.

The sample size was small to generalize the findings of the study.

The study was limited to measure the knowledge of mothers of under five children in selected urban areas of the city.

The tool for data collection was prepared by investigator herself. Standardized tool was not used.

RECOMMENDATION

A similar study can be replicated on a larger population for a generalization of findings.

A comparative study can be done to assess the knowledge on Lead poisoning in children among mothers of under five children in rural and urban areas.

A descriptive study can be conducted on the awareness regarding Lead poisoning in children among mothers of under five children.

A similar study can be carried out to evaluate the effectiveness of video assisted teaching programme on Lead poisoning.

CONCLUSION: -

After the detailed analysis, this study leads to the following conclusion:

The mothers of under five children have average, good and poor level of knowledge regarding Lead poisoning in children. There was a significant increase in knowledge of under five mothers after the introduction of structured teaching programme. To find the effectiveness of Structured teaching programme paired't' test was applied and post-test score was significantly higher at 0.05 level that that of pretest score. It revels that 11(18.33%)of the mothers of under five children had goodknowledge,25(41.67%) of them had very good level of knowledge score and 24(40%) of them had excellent level of knowledge score.

Thus it was concluded that structured teaching programme on knowledge regarding Lead poisoning in children among mothers of under five children in selected urban areas of the city was found to be effective as a teaching strategy. Hence, based on the above cited findings, it was concluded undoubtedly that the educational intervention by the investigator in the form of structured teaching programme helped the mothers of under five children to increase knowledge regarding Lead poisoning in children.

Analysis reveals that there is association of knowledge score with age of the youngest child (in years), educational level, religion and monthly family income and there is no association of knowledge score with age of the mother (in years), occupation, type of family, knowledge about Lead poisoning and source of knowledge respectively.

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