

Effectiveness of an Educational Program among Mothers on Household Poisoning in Children in the Rural Community

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Abstract

Introduction: Household poisoning is a worldwide problem. It is a major cause of morbidity and mortality in children which includes cleaning products, kerosene, pesticides, cosmetics and medicines. **Methods:** A quasi-experimental, quantitative, before and after study design was conducted among the mothers total (n= 60) in the community of Ali Raza Abad Raiwind Road Lahore, Pakistan from September 2018 to December 2018. The educational interventions involve four meetings about household poisoning in which the researcher educate the mothers about household poisoning in children. **Results:** A total of 60 mothers participated in the study. The total mean of mothers before the educational intervention is 13.10 (Standard deviation 2.673) and after the educational intervention is 26.18 (Standard deviation 2.175). The mean difference between the two means is 13.083. There is a statistically significant difference before and after the educational intervention. The educational intervention is highly effective because the significant value is 0.00. **Conclusions:** The result of the study shows that educational intervention in mothers can be effective to improve knowledge related to household poisoning in children.

Keywords- Household poisoning, Educational Program.

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I. INTRODUCTION

Household Poisoning happens when hazardous substances are ingested or inhaled accidentally by children's. In children, 90% of the poisoning exposures occur in the home (Gielen et al., 2015). Child poisoning is a worldwide problem. It is a major cause of morbidity and mortality in children which includes cleaning products, and medicines (Ahmadabadi et al., 2016). In young children, poisoning is a significant public health issue. Study shows that children of 1-3 years have the highest levels of poisoning risk (Schmertmann et al., 2013). Child poisoning commonly involves household products. Household products include personal care products, household cleaners, pesticides, and medications (Mowry et al., 2015). Children try to search Household products from cupboards and shelf and consume them while playing outside. Mostly, insecticides and pesticides are present in garden sheds which become the cause of poisoning in them (Shirdelpour et al., 2017). In-home household products are placed in plastic bottles of soft drinks. This leads to curiosity in children to attract towards them. Mothers should be cautious to place products out of children approach. Moreover, educational measures are considered necessary among mothers on household poisoning in children to keep children safe and out of reach of these products (Nistor et al., 2018). Ingestion was a most common route of poisonous substances comprising of 75.5% poisoning in children. Medication poisoning is the most occurring poisoning exposure among children includes 27.6% of Paracetamol. Children easily approach to medicine as it is easily accessible and used by a family in daily routine. In children, 1-7 year age is the most common vulnerable age of toxicity (74.8%). Medication poisoning among children causes hyperthermia. Also, the most presenting symptoms in the current research were GIT upset, vomiting (24.9%). Effective education programs for parents and careers regarding poisoning hazards are needed to increase awareness and reduce the incidence of poisoning among children (Ragab & Al-Mazroua, 2015). The high risk of chemical poisoning observed in children requires health education on chemical safety among mothers to prevent access to toxic agents mainly in homes (Z'gambo et al., 2016). Awareness and education about the toxicity of commonly used pesticides and drugs may help in reducing the burden of poisoning. Patterns and causal agents of poisoning vary from region to region (Gupta et al., 2016).

Pediatric unintentional self-poisoning is increasing day by day due to easy accessibility of household medicines, chemicals and pesticides. It has severe health hazards with high morbidity rate (Dayasiri et al., 2017). Children poisoning include substances that are cosmetics and personal care products (14%), analgesics (10%) and household cleaning substances also 10% (Glenn, 2015).

Household Kerosene is a common cause of Poisoning. It is a significant and preventable cause of morbidity and mortality. Kerosene oil poisoning is one of the common presentations to emergency departments among children in rural territories of developing countries. A huge amount of kerosene is uncommon because of its foul

smell and taste (Anwar et al., 2014). Child-resistant containers and safety education among mothers were effective in reducing poisoning ingestion in children (Bhatta, 2017).

II.MATERIAL & METHODS

Setting

The setting of the study was a community of Ali Raza Abad located on Raiwind Road Lahore Punjab Pakistan.

Research design

The quasi-experimental study design was used in this study by using a pre and post-test phase.

Population

The target population of the study was mothers of children of age group 1-7 year of Ali Raza Abad community, Raiwind Road Lahore.

Sampling

Convenient sampling techniques were used in this study for data.

Research instrument

A well-structured and adopted questionnaire from the study of (Raj, A., 2013) was used to collect the data from the participants.

Data gathering procedure

A formal written letter of permission to conduct the research. And the questionnaire was distributed to the mothers.

Analyze data

Data analysis was done by comparing pretest and a post-test score of the questionnaire with the use of paired t-test in SPSS version 21 statistical software for data analysis, in pre and post-test results. A 95% confidence level is used for the study and a $P \leq 0.05$ was considered statistically significant.

Scoring and Grading of knowledge Responses

There were twelve stem questions on knowledge of food safety and hygiene with fifty responses. Only thirty-three of those responses were correct. One mark awarded for every correct response and no mark for wrong or I don't know the response and a total of thirty-three most possible scores were used for knowledge of food safety and hygiene. A score of 0-11 marks out of thirty-three marks was graded be poor knowledge, a score of 12-22 marks out of thirty-three marks was graded as honest knowledge and a score of 23-33 marks out of thirty-three marks was graded pretty much as good knowledge.

Ethical consideration

All the rules and regulations administered by the ethical committee of Lahore School of Nursing, The University of Lahore all the informed consent taken from all the participants. All the data kept confidential.

Study timeline

Duration of the study was 4 month (September 2018 to December 2018)

III.RESULT

This section presents the outcomes of the study.

PROFILE OF THE RESPONDENTS

Respondents were taken from the rural community of Ali Razaabad.

Research Question 1 – To evaluate the effectiveness of an educational program among mothers on household poisoning in children in the rural community.

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre	13.10	60	2.673	.345
	Post	26.18	60	2.175	.281

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	Pre & Post	60	.125	.000

Paired Samples Test						
		Paired Differences				
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	
					Lower	Upper
Pair 1	Pre – Post	-13.083	3.227	.417	-13.917	-12.250

Paired Samples Test				
		T	df	Sig. (2-tailed)
Pair 1	Pre - Post	-31.400	59	.000

The total mean of mothers before the educational intervention is 13.10 (Standard deviation 2.673) and after the educational intervention is 26.18 (Standard deviation 2.175). The mean difference between the two means is 13.083. There is a statistically significant difference before and after the educational intervention. The educational intervention is highly effective because the significant value is 0.00 and that is why the null hypothesis will be rejected and alternative hypotheses will be accepted.

IV.DISCUSSION

The present study shows that health education has a great impact among mothers on household poisoning in children as is evident through the post data result in which the p-value indicated the positive effect which is (0.00). Mean before the educational intervention was 13.10 which is significantly increased after the effective educational intervention to 26.18 that is why the null hypothesis is rejected in favour of the alternative hypothesis. The results of the similar study show that mothers knowledge were correct after the program regarding definition, risk factors and prevention of household poisoning respectively compared to 66%, 56%, 64% before the program that reflects statistical significant difference ($X^2= 18.9$ with $p<.05$) pre and post the program. Regarding the total score of correct studied mothers' knowledge was 94% after program implementation compared to 38 % before the program with statistically significant difference ($(X^2= 29.8, P= <.05)$ (Mona Ali Kunswa., 2018).

The study shows the majority of the educational status of mothers is primary education (30%), (26%) secondary education, only (4%) are graduate. In another study the educational level of the studied mother was secondary education, this result was in contradiction with this study (Dayasiri et al., 2017).

This study shows occupation of mothers that majority (43%) are housewife's, (5%) of the subjects have a private occupation, 7% have government occupation, (3%) self-employed. Only (2%) have a semi-government occupation. In another study 74.5% of the mothers were housewives and 19.3% were civil servants. (SIvrl & OzpuLat, 2015).

This study shows that educational interventions were effective. The knowledge among mothers on household poisoning of children was increased. A similar study conducted shows through a survey that 48% of poisoning in children occurred at home. Educational interventions are performed in 22 out of 35 houses. Whereas in 7 houses no education was given on child poisoning to parents. (SIvrl & OzpuLat, 2015).

This study shows that through education and preventive measures children were safe from poisonous substances at home. Through active preventive measures such as by using child-resistant packaging for medicines and household products and giving education to the mothers reduces exposures to poisonous products as children do not have access to them (Nistor et al., 2018).

This study evaluates that safe storage and health education among mothers are effective interventions for reducing unintentional poisoning risk in children of the community. The similar study evaluates that safe storage

and health education among mothers are effective interventions for reducing unintentional poisoning risk in children of the community (Mansori et al., 2016).

Limitations

A more comprehensive study needs to be examined with more generalizability by increasing sample size because this study has a small sample size and conducted in only one community.

Conclusion

It is concluded that educational intervention in mothers is much effective to improve knowledge and appropriate behaviour related to household poisoning in children. Educational intervention related to household poisoning in children has the potential to make a great impact on the health of children. The motivation of mothers is needed for their role to prevent household poisoning in children. In this study, the educational program accomplishes a significant effect on mothers

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