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Original Article

Knowledge Regarding the Impact of Passive Smoking Among Mothers of Children at Selected Rural Area of Bangalore with an Administration of Structured Teaching Program

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Abstract

Background: Passive Smoking or involuntary smoking refers to the unconscious inhalation of smoke that emerges as a result of others burning cigarettes, cigars, or pipes. This inhaled smoke is also termed as known as environmental tobacco smoke (ETS) or second-hand smoke (SHS). Mostly children are affected by passive smoking at a higher rate than adults. Aims and Objectives: The foremost objective of this study is to determine the level of knowledge among mothers of children regarding the impact of passing smoking.

Materials and Method: This is a quantitative approach with pre-experimental design-one group pre-test post-test design. Sample size of 60 mothers of children based on inclusive criteria was selected by non-probability purposive sampling techniques. Structured knowledge questionnaire was used to collect data from the participants. The pre-test was conducted followed by the administration of structured teaching program for about 45 minutes after which post-test was conducted after a period of 7 days. The data was analyzed by both descriptive and inferential statistics.

Results: Pre-test**,** the level of knowledge score among 60 mothers of children 52 (86.7%) of them had inadequate adequate knowledge, 8 (13.3%) had moderate knowledge and none had adequate knowledge whereas in post-test, none of the mothers of children had inadequate knowledge, 20(33.3%) had moderate knowledge and 40(66.7) had adequate knowledge. However, the association between Demographic variables and Pre-test knowledge level of respondents found Statistically Significant. The obtained chi-square test value for types of family, educational status of mother, sources of information was 9.057, 8.711, 7.997,6.4 are greater than the table value and was found significant at the level of 0.05.

Conclusion: This study concludes the fact that there was a significant improvement obtained following STP on Impact of Passive Smoking among mothers of children.

Keywords: Mothers of children; Knowledge; Structured Teaching Program

Introduction:

Tobacco smoke inside a room tends to hang in mid-air rather than disperse. Hot smoke rises, but tobacco smoke cools rapidly, which stops its upward climb. Since the smoke is heavier than the air, the smoke starts to descend. A person who smokes heavily indoors creates a low-lying smoke cloud that other householders have no choice but to breathe. Tobacco smoke contains around 7,000 chemicals, made up of particles and gases, over 70 of which are known to cause cancer. Second-hand smoke has been confirmed

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as a cause of lung cancer by several leading health authorities.[1]

Chemicals in second-hand smoking such as ammonia, sulphur and formaldehyde damage the eyes, nose, throat and lungs. These compounds are especially harmful to people with lung conditions such as bronchitis or asthma. Exposure to second-hand smoke can trigger or worsen symptoms[2]

Second-hand smoke (SHS) is also called as Passive smoking, or environmental tobacco smoke (ETS), by persons other than the intended "active" smoker. It occurs when tobacco smoke enters an environment, causing its inhalation by people within that environment. Exposure to second-hand tobacco smoke causing disease, disability and death The lungs are the center of the respiratory system. Every cell of the body needs oxygen to stay alive and healthy. The major function of the lungs is gas exchange between lungs and the blood. The loss of those functions can cause significant damage to the body.[3]

Biologically, a child is a person between birth and puberty, or between the developmental period of infancy and puberty. The legal definition of child generally refers to a minor, otherwise known as a person younger than the age of majority. A person under the age of 18years. Children generally have fewer rights and less responsibility than adults. They are classed as unable to make serious decisions, and legally must be under the care of their parents or another responsible caregiver.[4] Children still have a higher prevalence of second-hand smoke exposure than adults, and most exposed in the home. In 2019, an estimated 6.7 million (25.3%) of middle and high school students reported second-hand smoke exposure in the home.[5]

Early childhood (usually defined as a newborn baby until the age of 8years) is the phase of incredible growth in several aspects: physical, cognitive, social-emotional, and language skills[6,7]. During the early years, the brain develops quickly and has a high capacity for change, with the foundation set for health and well-being through- out life. Therefore, this period is critical. Protecting children from threat, including second-hand smoke exposure, is part of nurturing care that is sensitive to children's health and nutrition needs[7].

At least one person (among family member) is most likely to cause asthma leading to asthma attacks, likely develops infection like pneumonia or bronchiolitis, ear infections wheeze and cough and at risk of SIDS (sudden infant death syndrome) and take up smoking themselves[8] Smoking by parents causes respiratory symptoms and slow lung growth in children. Eliminating smoking indoor spaces fully protects non-smokers from exposure to second-hand smoke. Separating smokers from non- smokers, cleaning the air, and ventilating buildings cannot eliminate exposures of non-smokers to second-hand smoke.[9]

Parents can help protect their children from second-hand smoke by do not allow anyone to smoke anywhere in or near home and in the car even with the window open. Make sure children's day care centers and school are tobacco-free. If the state still allows smoking in public areas, look for restaurants and other places that do not allow smoking. "no smoking sections" do protect you and your family from second-hand smoke. Treatment for second-hand smoke consists of avoidance of environmental tobacco smoke (ETS). This single step, although difficult for many families, can be facilitated with education about ETS effects and assistance with smoking cessation. Self-care, group programs, commercial smoking cessation programs, mass media or community programs, behavioral programs and work site smoking programs or policies[10]

The objective of the study was to assess the knowledge regarding impact of passive smoking among mothers of children and to administer them a structured teaching program –on how to manage and prevent from passive smoking. Results of this study may help us to scrutinize significant knowledge among mothers of children regarding the impact of passive smoking.

Hypothesis:

H_1– There will be significant difference between the mean pre-test and post-test knowledge levels of mother of children regarding impact of passive smoking. **H2** – There will be significant association between the mean pre-test score of mothers of children regarding the impact of passive smoking with their selected Socio Demographic variable.

Materials and Methods:

This was an experimental design based quantitative

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research approach, conducted in rural area of Kadusonnapanahalli, Bangalore, India during the period october to november 2023. Mothers of children (6-12 years) were the study participants. Sample size was calculated based on the expected population size and confidence interval. The calculated sample size of 60, were finally enrolled in the study using purposive sampling technique.

To achieve the objectives of the study, Structured Knowledge Questionnaire to assess the knowledge regarding the impact of passive smoking among the mothers of mother in rural area was used.

The tool consisted of three sections. Part I consisted of socio- demographic variables, consists of 9 selected socio-demographic variables, that provide the baseline data regarding Age (in years) of children and mother, religion, educational status of mother, occupational status of parent, type of family, Family monthly income, family's habit of smoking, source of information. Part II consisted of Structured Knowledge Questionnaire regarding impact of passive smoking with 35 items was made. There are three sections under part II MCQ questions, section A consisted of 9 questions related to general information on passive smoking, section B consisted of 14 questions related to impact of passive smoking and section C consisted of 12 questions related to management and prevention of passive smoking. The reliability of the tool was checked by the half test method i.e., Karl Pearson's correlation coefficient formula and Spearman's Brown Prophecy formula and it was found reliable at r = 0.97. Data were entered in Microsoft Excel and analyzed using Statistical Package for Social Sciences (SPSS) version 21. Mean, standard deviation and percentages were calculated and Chi square test was used to study association.

Results: According to the study, among 60 samples, 29 (48.3%) were in the age of 25 to 30 years, 11 (18.3%) were in the age group of 40 and above, 9 (18.3%) were in the age group of 31 to 35 years and remaining 11 (15.0%) were in the age group of 36 to 40 years. In relation to the age of the child, 32 (53.3%) samples were having a child age group of 9 to 12 years and 28 (46.7%) samples were having a child age group of 6 to 8 years. The total number of study participants in our study was 60. Out of them, 29(48.3%) of mothers of children were found to be in the age group 25-30 years, 11(18.3%) mothers were 40 and above, 9(18.3%) were 31-35 years and remaining 11(15%) were 36-40 years. In relation to age of child, 32(53.3%) samples were having a child age group of 9-12 years and 28(46.7%) samples were having a child age group of 6-8years. About religion, the vast majority of participants identify as Hindu 44 (73.3%), while a smaller proportion are Muslim 16 (26.7%). Regarding types of family, nuclear families are the most common 32 (53.3%), followed by extended families 19 (31.7%) and joint families 9 (15.0%). Based on educational status of mother, it was observed that 42 (70%) were having primary education, 13 (21.7%) were having secondary education, 4 (6.7%) were graduate and 1 (1.6%) was postgraduate and above. According to the occupation of mother, most mothers are homemakers 50 (83.3%), while a small percentage are Self-employed 9 (15.0%) and private job is 1 (1.7%). There are no mothers employed in Government jobs. With regard to occupation of father, the majority of fathers are Self-employed 41 (68.3%), followed by those in Private jobs 9 (15.0%) and Government jobs 7 (11.7%). A smaller percentage are Unemployed 3 (5.0%). With regard to family monthly income, the largest proportion of families have a monthly income between 10000 to 20000 29 (48.3%), followed by 21000 to 30000 21 (35.0%) and 31000 to 40000 10 (16.7%). None of the families have a monthly income above 41000. It was observed that smoking habit of family members, a minority of families have members (husband) who smoke 13 (21.7%), while the majority do not 47 (78.3%). Regarding information about impact of passive smoking, most participants have received information about the impact of passive smoking, from mass media were 19 (31.7%) and from family and friends were 13 (21.6%), from health personnel were 4 (6.7%) and from other sources was 1 (1.7%), while a smaller percentage have not received information were 23 (38.3%).

LEVEL OF KNOWLEDGE: Pre-test level scores of Knowledge of mothers of children regarding Impact of passive smoking, it reveals that 52 (86.7%) mothers had inadequate level of knowledge, 8 (13.3%) had moderate level of knowledge. Post test level of scores of knowledge, it shows that majority of the samples 40 (66.7%) had gained adequate level of knowledge, 20 (33.3%) had moderate level of knowledge and none of them had inadequate level of knowledge

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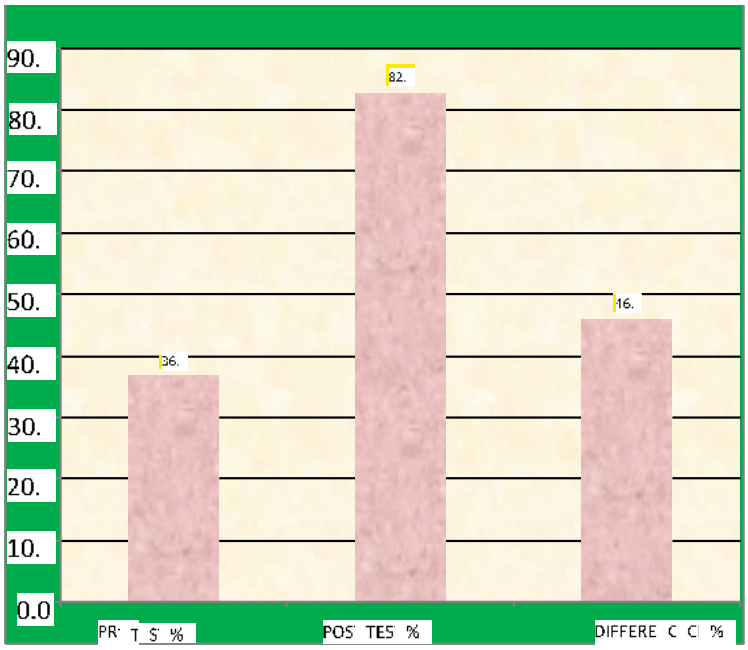

Fig. 01: Comparison of pre-test and post-test level of knowledge score representing effectiveness

Item wise analysis: The Mean, SD, Median score regarding Impact of Passive Smoking of Pre-test knowledge score of Mothers of children is 12.87, ± 4.069 and 13
respectively, Maximum score was 21 and minimum score was 3 with the range of score was 18 and mean percentage score was 36.80%. However, Mean, SD, Median score of post-test knowledge score of Mothers of children is 28.97, ± 2.379 and 29 respectively, Maximum score was 34 and minimum score was 21 with the range of 13 and mean percentage was 82.80%.

Association between Pre-test Knowledge score and selected Socio-Demographic Variables: Depicts that the calculated type of family, educational status and source of information as the obtained chi square ($\chi 2$) value (9.057, 8.711,7.997) is greater than the table value at 0.05 level of significance. Thus, it was inferred that there was a significant association between level of knowledge regarding impact of Passive Smoking among the mothers of children in a selected rural area of Bangalore at $p \leq 0.05$.

KNOWLEDGE EVALUATION CRITERIA		
SCORE LEVEL (N= 60)	PRE-TEST f (%)	POST-TEST f (%)
Inadequate knowledge. (0-17)	52(86.7%)	0(0%)
Moderate knowledge. (18-28)	8(13.3%)	20(33.3%)
adequate knowledge. (29-35)	0(0%)	40(66.7%)

Table 1: reveals that in Pre-test 86.7% had inadequate knowledge and 13.3% had moderate knowledge, however, in Post-test 33.3% had moderate knowledge and 66.7% had adequate knowledge.

Paired T Test	Mean±S.D.	Mean%	Range	Mean Diff.	Paired T Test	P value	Table Value at 0.05
Pretest knowledge	12.87±4.069	36.80	3-21	16.10	40.074 *Sig	<0.001	2.00
Posttest knowledge	28.97±2.379	82.80	21-34	46.00			

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Table 2: Comparison of descriptive statistics of pre-test and post-test Scores of knowledge

Demographic Variables	Options	Knowledge		χ2 values	P value	Df	Table χ2 value
		Moderate	Inadequate				
Types of Family	Nuclear	2	30	9.057	0.011	2	5.991
	Joint	4	5				
	Extended	2	17				
Educational status of Mother	Primary	4	38	8.711	0.033	3	7.815
	Secondary	3	10				
	Graduate	0	4				
	Post graduate and above	1	0				
If yes, source of information	Family and friends	2	11	7.997	0.046	3	7.815
	Mass media	1	18				
	Health personnel	1	3				
	Any other source	1	0				

Table 3: Association between Pre-test Knowledge level and selected Demographic Variables.

Table 4: Descriptive statistics of mothers of children knowledge score

DISCUSSION: Present study was conducted among purposively selected 60 mothers of children from the rural area in Kadusonnapanahalli in Bangalore for assessing the knowledge among mothers of children. In order to attain the objectives, pre-test and post-test was done using structured knowledge-based questionnaire. Post test was conducted after 7 days with the same questionnaire.

In our study out of 60 study participants, 48.3% aged 25-30 years, 18.3% mothers were around 31-35 years, 15.0% were 36-40 years and 18.3% were 40 and above.

The level of Pre-test Knowledge scores of mothers of children regarding Impact of Passive Smoking, it reveals that 52(86.7%) had inadequate knowledge,8(13.3%) had moderate knowledge and none of them (0%) had adequate knowledge. However, Post-test knowledge scores majority of them 40 (66.7%) had adequate knowledge about impact of passive smoking, 20 (33.3%) had moderate knowledge and none of them (0%) had inadequate knowledge. Similar study was conducted by Rohini U K Nair1, G Sarojini2 (pre-test) level of knowledge among samples shows 86% had poor knowledge whereas 14% had average knowledge score and 0% no one had good knowledge level. Post-test level of knowledge among samples show 48% had good knowledge level, 5.2% had average knowledge and 0% no one had poor knowledge level.

Comparison of knowledge score of pre and post-test was done to evaluate the effectiveness of structured teaching program regarding impact of smoking. The result indicated that mean pre-test knowledge score of the respondents was 12.87 and the mean post-test knowledge score of respondents after providing structured teaching program was 28.97. The enhancement of knowledge from pre-test to post test was 16.100 and found to be significant revealing the effectiveness of structured teaching program. A study conducted by Sivasubramanian N, Mahalakshmi B, Patel Shivani Arvind bhai and Ramalakshmi , results revealed that the mean of pre-test score was 12.33 and mean of post-test score was 21.5. The mean difference was 9.17.

The association between mean pre-test knowledge level and selected socio demographic variable. Association was obtained with variables like age of mother and a child, religion, type of family, educational level of mothers, occupation of mother and father, family monthly income, smoking habits of family members, information received regarding impact of passive smoking and source of information. The obtained chi square value was 9.057 for types of family, 8.711 for educational status of mother and 7.997 for source of information which were the higher

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value respectively for P≤0.05 level of significance. A study was conducted by Mrs. Sandra, Ms Bashisha manar, the data represents that the occupation of a mothers, obtained 't' value of 11.274 was significantly higher than the table value 0.011 at p < 0.05 level of significant There was a significant association found between the knowledge and occupation of the mothers at p< 0.05 level of significance.

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Conclusion: This study was conducted to evaluate the effectiveness of structured teaching program regarding the impact of passive smoking among mothers of children at selected rural areas of Bangalore. In the present study, 60 mothers were selected by using purposive sampling technique. For this study, pre-experimental design was adopted as a research design with a view to measure the pre-test knowledge level and the effectiveness associated with post-test knowledge level following a structured teaching program on impact of passive smoking among mothers of children. The study findings revealed that among 60 mothers, who were the participants,29 (48.3%) were 25 to 30 years of age, 9 (18.3%) were 31 to 35 years of age and 11 (15.0%) were 36 to 40 years of age and 11 (18.3) 40 and above respectively. As per the knowledge score of pre-test among 60 mothers, 52(86.7%) had inadequate knowledge, 8 (13.3%) had moderate knowledge. As per the post-test knowledge, majority of them 40 (66.7%) had adequate knowledge and 20 (33.3%) had moderate knowledge. Comparison of knowledge score of pre and post-test was done to evaluate the effectiveness of STP regarding the impact of passive smoking. The mean score in pre-test was 12.87 ±4.07 whereas in post-test the mean score as 28.97±2.379, the obtained 't' value was 40.074, which was higher than the table value 2.00. therefore, it is significant at a level of P≤0.05. The mean post-test knowledge scores were significantly higher than mean pre-test knowledge scores at P≤0.05 level of significance. There was a significant difference between the mean Pre-test and Post-test knowledge level of mothers of children regarding impact of passive smoking. Hence, Hypothesis (H1) was accepted for the respondents.

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