A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Effects of Passive Smoking Among Old Age in a Urban Area of CHH. Sambhajinagar City

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Abstract- Smoking is the either active or passive. Passive smoking is defined as the non-smokers inhalation of tobacco smoke produced by the active smoking of others. It is equivalent to "being exposed to second-hand smoke or tobacco smoke or ETS"(Environmental Tobacco Smoke).

The present study is aimed to evaluate the effectiveness of structured teaching program on knowledge regarding effects of passive smoking among old age of urban area of Chh. Sambhajinagar (MH). A evaluative approach with one group pretest- posttest design was adopted for the study. The samples from the selected in urban areas were selected using probability random sampling technique. The sample consisted of 60 urban old ages. The tools used for data collection was structured knowledge questionnaire. For structured teaching program was developed. Development of tool and structured teaching program involved the steps of preparing first draft, content validity and reliability. Tool and teaching plan were found valid and reliable. Pilot study was conducted to find out feasibility of conducting study.

Data collection procedure: **Data was collected from selected urban areas after obtaining administrative permission. The investigator personally explained the participants the need and assured them of the confidentiality of their responses. The data analysis was done by using both descriptive and inferential statistics.**

Findings of the study:

In pretest knowledge score, respondents mean was 13.43, median was 12, mode was 13 with standard deviation 5.06 and score range was 5-26.

In post test knowledge score, respondents mean was 20.28, median was 18, mode was 17 with standard deviation 3.37 and score range was 16-28.

With regard to pretest level of knowledge it shows that, maximum 34(56.7%) respondents were having average knowledge, 18(30%) respondents were having poor knowledge and remaining 8(13.3%) of respondents were having good knowledge.

During post test, a maximum of 32(53.3%) of respondents were having average knowledge and the remaining 28(46.7%) of respondents were having good knowledge.

The findings reveal that the post-test mean knowledge scores was found higher [mean=20.26, SD of 3.36] when compared with pre-test mean knowledge score value which was 13.45with SD of 5.08.

The statistical paired't test implies that the difference in the pretest and post-test value was found statistically significant at 5% level (P<0.05) with a paired't' value of 16.85. There exists a statistical significance in the difference of knowledge score indicating the positive impact of structured teaching program

The computed Chi-square value for association between level of knowledge of old age of urban area regarding effects of passive smoking and their selected demographic variables is found to be statistically significant at 0.05 levels for religion and is not found statistically significant for other selected socio demographic variables.

Conclusion: **The findings revealed that, Knowledge of rural adults regarding effects of passive smoking was inadequate before the administration of structured teaching program. The STP was effective in increasing the knowledge of participants regarding effects of passive smoking. Since a very few studies have been conducted regarding this topic in India, so the nurse researcher can take further studies on the same topic.**

Key Words: **Structured Teaching Program, Knowledge, passive smoking, rural adults**

I INTRODUCTION

"Smokers don't grow old… they die young".

Smoking is a well-known public health problem. The

adverse health effects from tobacco smoking were confirmed in the 1951's. Around 5 010,000 premature deaths per year is estimated to be caused by tobacco smoking. Since the 1981's the adverse health effects from tobacco smoke on non-smokers spending time in environments polluted by tobacco smoke, have been known. Passive smoking is now regarded as the third health threat in the world, after smoking and alcohol abuse. Though the individual risks for disease are moderately increased, the exposure to tobacco smoke has a major health impact since almost half of the children in the world are exposed .

Society has tried to influence smoking habits in different ways during the years. Smoking has been looked upon with great indignation and was regarded as immoral in the early 20th century. Later smoking became highly accepted, and in social life many rules on how to offer cigarettes and perform smoking were included. After the reports on adverse health effects from smoking the anti smoking debate was intensified in the 1960's and was accelerated in the 80's when it was shown that also passive smoking was a health hazard. During the 90's numerous conventions, national as well as international, have dealt with the smoking issue.

Passive smoking is defined as the non-smokers inhalation of tobacco smoke produced by the active smoking of others. It is equivalent to "being exposed to second-hand smoke or tobacco smoke or ETS"(Environmental Tobacco Smoke).[6]

ETS is composed of the diluted tobacco smoke from the burning ends of cigarettes, pipes and cigars (side stream smoke) and the exhaled smoke from smokers (mainstream smoke). It is a complex mixture of gas and particle-phase chemicals, and the composition changes during its dilution and distribution in the environment and upon ageing. The side stream smoke is shown to contain about the same hazardous substances as mainstream smoke. Quantitatively, however, side stream smoke contains much more of the different chemical constituents, varying from double to the hundred folded amounts for the different chemical constituents. This is due to the lower burning temperature between the "puffs". More than 75% of the nicotine emitted from a cigarette is emitted into the air as side stream smoke.[7]

Passive smoking has been shown to cause lung cancer among non-smokers. Studies on other cancer sites have been conflicting and no causal relationship has been established. Studies on experimental animals have, however, shown sufficient evidence for carcinogenicity of side stream smoke condensates. IARC's conclusion from their overall evaluation that exposure to ETS is carcinogenic to humans, group 1. ETS exposure has also been causally associated to coronary heart disease and chronic respiratory symptoms. A dose-response association between cardiovascular disease and exposure level has been shown both with using frequency of exposure and objective biomarkers.[8]

Tobacco smoking remains the single greatest preventable cause of death in the world, killing more than seven million people each year. More than six million of those deaths are the result of direct tobacco use while around 890,000 are the result of non-smokers being exposed to second-hand smoke.[9]

According to the National Cancer Institute, Cigarette has a higher level of carcinogens, toxins and tar than any other substance. Our body has a stress hormone called corticosterone which lowers effect of nicotine. If you are under lot of stress you need more nicotine to get the same effect. It also cause headache and sleep problems. During smoking, nicotine enters the lungs and is absorbed quickly into the blood stream and travels to the brain in a matter of seconds. Nicotine causes addiction to cigarette.[10]

Cigarette, Cigars, and other tobacco products vary widely in their content of nicotine, cancer-causing substances, and other toxicants. In a cigarette (which contains less than 1gm of tobacco), the nicotine content can vary between 13.7 and 23.2mg /gm of dry tobacco.

In a recent survey in Mumbai, 90% of the participants knew about the benefits of health warnings and about 97% favoured pictorial warnings on all tobacco products. Moreover, in a multilingual country where over 40% of its people (42.3million) travel inter-state annually, uniform pictorial warnings would bridge the language barrier which the current text warnings fail to do. Besides, as the tobacco industry reckons, tobacco packages are an important medium for communicating with its uses.

Second hand smoke (also called environmental tobacco smoke, involuntary smoking, and passive smoking) is the combination of "side stream" smoke (the smoke given off by a burning tobacco product) and "main stream" smoke (the smoke exhaled by a smoker). In the United States, exposure to second

smoke is thought to cause about 46,000 deaths from heart disease each year. Being exposed to second hand smoke slows the children lungs and causes them to cough and wheeze, and feel breathless.[12]

The harmful effects of second-hand smoke have been recorded since 1928. Passive smoking, as defined by the World Health Organization (WHO), is the exposure to second-hand tobacco smoke (SHS) which is a mixture of exhaled mainstream smoke and side stream smoke released from a burning cigarette or other smoking device such as cigar and pipe. Second-hand tobacco smoke is also referred to as environmental tobacco smoke (ETS).[13]

There are approximately 600 ingredients in a cigarette and it creates more than 7,000 chemicals when burned. At least 69 of these chemicals are poisonous and are known to cause cancer. ETS has been classified as a known human lung carcinogen by the United States Environmental Protection Agency (EPA) since 1993. Accumulation of epidemiologic evidence has related passive smoking to cardiovascular and cerebrovascular diseases as well as respiratory diseases such as chronic obstructive pulmonary disease and asthma. ETS has also been the most widely studied risk factor of lung cancer among non-smokers.[14]

So the investigator felt that is the urban areas even educated old ages are smoking in public and work places and in the urban areas definitely uneducated old ages may not have awareness about passive smoking and its effects. So the investigator felt that there is a need for creating awareness about the affects of passive smoking among old ages.

OBJECTIVES

OBJECTIVES OF THE STUDY

The objectives of the study are;

1 To assess the knowledge of the old ages of urban area regarding the effects of passive smoking in terms of pre-test knowledge scores.

2 To determine the effectiveness of structured teaching program by comparing the pre- test and post- test knowledge scores on effects of passive smoking among old ages of urban area.

3 To determine the association between pre test level of knowledge of old age of urban area regarding effects of passive smoking with their selected demographic variables.

METHODOLOGY

RESEARCH APPROACH

The research approach indicates the basic procedure for conducting research.[21]Based on the nature of the problem and the objectives of the study the research approach chosen for the study is evaluative approach. This approach was considered as appropriate to evaluate the effectiveness of structured teaching program on knowledge regarding effects of passive smoking among old ages of urban area of Chh. Sambhajinagar City Description of the structured knowledge questionnaire

It consisted of two parts

- Section I: It included the personal and socio-demographic data which contains Age, gender, religion, educational qualification, type of family, marital status, history of smoking in family, previous exposure to educational program on passive smoking and sources of information regarding passive smoking.
- Section II: Through the thorough review of literature structured knowledge questionnaire was prepared for the present study which consists of 30 knowledge items. There were multiple alternative answer options, from which the participants have to choose one best option by encircling it. The total knowledge scores ranged from 0 – 30. The score is further divided arbitrary as follows;
  - Poor Knowledge: 0 – 10
  - Average knowledge: 11-20
  - Good knowledge: 21 -30

- Structured Teaching Program

A structured teaching program for old ages of urban area regarding effects of passive smoking of was developed with expert opinion and literature review.

RESULTS

ANALYSIS AND INTERPRETATION OF DATA

DISTRIBUTION OF KNOWLEDGE SCORES DURING PRE-TEST AND POST-TEST.

Table 2-Mean, median, mode, standard deviation and range of pre test knowledge scores of Respondents regarding effects of passive smoking

n = 60

Area of Knowledge	Number of Items	Mean	Median	Mode	Standard deviation	Range
Pre test scores	30	13.43	12	12	5.08	5-26
Post test scores	30	20.28	18	17	3.37	16-28

Table 2 reveals pre test and post test knowledge score of respondents regarding effects of passive smoking -In pretest knowledge score, respondents mean was 13.43, median was 12, mode was 12 with standard deviation 5.08 and score range was 5-26.

In post test knowledge score, respondents mean was 20.28, median was 18, mode was 17 with standard deviation 3.37 and score range was 16-28.

A.DISTRIBUTION RESPONDENT'S PRETEST AND POST TEST SCORES ACCORDING TO THEIR LEVEL OF KNOWLEDGE

Table 3- Frequency and Percentage distribution of respondents according to level of Knowledge regarding effects of passive smoking

n=60

Level of Knowledge					
Pre test			Post test		
Poor f (%)	Average f (%)	Good f (%)	Poor f (%)	Average f (%)	Good f (%)
18 (30%)	34 (56.7%)	8(13.3%)	00	32 (53.3%)	28 (46.7%)

The data presented in the Table 3 depicts the respondent's level of knowledge during pretest and post test regarding effects of passive smoking; With regard to pre test level of knowledge it shows that, maximum 34(56.7%) respondents were having average knowledge, 18(30%) respondents were having poor knowledge and remaining 8(13.3%) of respondents were having good knowledge.

During post test maximum 32(53.3%) of respondents were having average knowledge and remaining 28(46.7%) of respondents were having good knowledge.

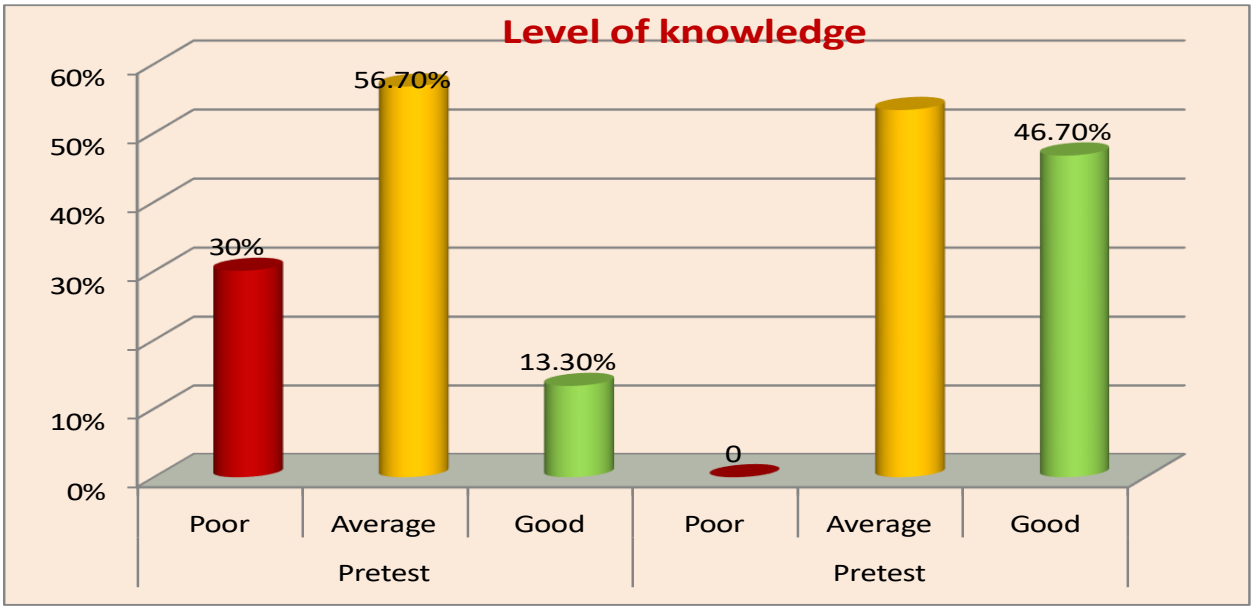

Figure 13. Pre test and post test level of knowledge of respondents regarding effects of passive smoking

A. EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM

Paired 't' value was computed to find out the significance of difference between means of pre-test and post test knowledge scores of respondents. The data is presented in Table 4. To test statistical significance following research hypothesis was stated-

H1: The mean post test knowledge scores of adults of rural area exposed to structured teaching program on effects of passive smoking will be significantly higher than the mean pre test knowledge scores at 0.05 level of significance

Table 4 Mean, standard deviation, standard error of difference and 't' value of pre-test and post-test knowledge scores regarding effects of passive smoking

N =60

Aspects	Mean	Sd	SEMD	Paired t Test
Pre-test	13.45	5.08		
Post-test	20.26	3.36	0.40	16.85*

* Significant at 5 % level

Table 4 indicates the overall mean knowledge scores of pre-test and post-test scores regarding effects of passive smoking among old age of urban area.

The findings reveal that the post-test mean knowledge scores was found higher [mean=20.26, SD of 3.36] when compared with pre-test mean knowledge score value which was 13.45 with SD of 5.08.

The statistical paired 't' implies that the difference in the pretest and post-test value was found statistically significant at 5% level ($P<0.05$) with a paired 't' value of 16.85. There exists a statistical significance in the difference of knowledge score indicating the positive impact of structured teaching program.

Hence, the research hypothesis H_1 is supported. This indicates that the enhancement in knowledge is not by chance and the respondents who exposed to structured teaching program on effects of passive smoking, significantly improved in their knowledge.

B. Association between level of knowledge and selected socio demographic variables

To find out the association between the levels of knowledge and selected personal variables, Chi square was computed and the following hypothesis is stated-

H2: There will be statistical association between the mean pretest level of knowledge of adults of rural area regarding effects of passive smoking and their selected demographic variables at 0.05 level of significance.

DISCUSSION

Part I: Description of demographic characteristics.

- Majority 23 (38.3%) of the respondents belong to the age group of 52-58 years
- Majority 32 (53.3%) of the respondents were males
- Majority 37 (61.7%) of the respondents were belonged to Hindu religion
- Majority 23(38.3%) of the respondents were had primary education
- Majority 31(51.7%) of respondents were belonged to nuclear family
- Majority 37(61.7%) of respondents were had history of smoking in family
- Majority 31(51.7%) of respondents exposed to educational program
- Majority 24(40%) of respondents source was books/journals

Part II: Analysis of knowledge score of respondents regarding effects of passive smoking among participants

In pretest knowledge score, respondents mean was 13.45, median was 13, mode was 12 with standard deviation 5.08 and score range was 4-25.

In post test knowledge score, respondents mean was 20.26, median was 19, mode was 19 with standard deviation 3.36 and score range was 15-27.

With regard to pre test level of knowledge it shows that, maximum 34(56.7%) respondents were having average knowledge, 18(30%) respondents were having poor knowledge and remaining 8(13.3%) of respondents were having good knowledge.

During post test maximum 32(53.3%) of respondents were having average knowledge and remaining 28(46.7%) of respondents were having good knowledge.

Part III: Analysis of effectiveness of structured teaching program regarding effects of passive smoking

The findings reveal that the post-test mean knowledge scores was found higher [mean=20.26, SD of 3.36] when compared with pre-test mean knowledge score value which was 13.45 with SD of 5.08.

The statistical paired 't' implies that the difference in the pretest and post-test value was found statistically significant at 5% level ($P<0.05$) with a paired 't' value of 16.85. There exists a statistical significance in the difference of knowledge score indicating the positive impact of structured teaching program

These findings can be compared with the findings of the other Quasi-experimental one group pre-test post-test research conducted at Challaghatta Village, Bangalore, Karnataka State, India it showed that, paired t value 9 which shows statistically significant at $p>0.05$ level.

These findings can be compared with the pre experimental study conducted among 60 old ages from selected urban areas ofVadodara district it revealed that, T calculated value of -20.948 which is less than the tabulated value of 2.00 at 0.05 level of significance. It is found that from the entire variable only one variable that is domicile significantly associated with pre test knowledge score hence the hypothesis (H2) was partially accepted for these variables.

Part IV: Association between pre test knowledge and attitude score with selected socio-demographic variables.

The computed Chi-square value for association between level of knowledge of adults of rural area regarding effects of passive smoking and their selected demographic variables is found to be statistically significant at 0.05 levels for religion and is not found statistically significant for other selected socio demographic variables.

CONLUSION

The conclusions drawn from the study were as follows: All old ages of urban area included in the study from selected urban areas were willingly participated in the study. The participants had average knowledge before structured teaching program and it has increased after exposure to structured teaching program. They gave free and frank responses. The investigator adopted the conceptual framework based on the concepts of "King's Goal Attainment Theory (1971)". Imogen King assumed that human beings are open system in constant interaction with the environment, that nursing focus in human being interacting with their environment. The findings of the study includes:

1. Knowledge of adults of urban areas regarding effects of passive smoking during pretest was average and is increased as good after structured teaching program.
2. Structured teaching program was effective to enhance knowledge of old ages of urban area regarding effects of passive smoking.
3. There was significant association found between the knowledge scores of participants and their religion.

IMPLICATIONS

The findings of the present study have implications for nursing practices, nursing education, nursing administration and nursing research

Nursing Practice

The findings of the study revealed that old ages of urban area minimum knowledge on effects of passive smoking and review of literature shown that prevalence of tobacco smoking and its disorders are more among people. Nurses can play a pivotal role in organizing and executing creative awareness programs for all vulnerable sections of society to improve knowledge and develop positive attitude towards ill effects of tobacco smoking. According to findings of the study structured teaching program was effective educating strategy for students regarding ill effects of tobacco smoking. As the nursing practice is based on thorough theoretical basis, these educational methods can be used to educate the people in primary settings for prevention of diseases and promotion of health.

Nursing Education

Nursing students should be provided with learning experiences in planning and organizing health education programs on prevention, causes and management of ill effects of tobacco smoking and passive smoking. The findings of the study paved the way for an innovation in Nursing Education. Different teaching methods can be suggested as teaching methods in nursing education to enhance the learning outcomes of the students in more creative way instead of monotonous traditional teaching methods.

Nursing Administration:

The nurse administrators can use teaching programs for conducting In-service education programs and continuing nursing education program. Nursing administrator should take interest to plan, organize and conduct planned teaching programs on ill effects of tobacco smoking and passive smoking in schools, colleges, rural and urban community areas to help the people in improving their knowledge and attitude, for prevention ill effects of tobacco smoking and promotion of positive health. The study reveals that teaching programs were effective strategies to enhance knowledge rural adults. Therefore, the nurse administrator should implement structured teaching programs in their educational activities.

Nursing Research

This topic has great importance to the present days as prevalence of tobacco smoking and its complications on health are high. This study helps to reduce the incidence of tobacco smoking among rural adults and prevent feature complications. The findings of this study points out the importance of further researches on teaching strategies in nursing. Evaluation of the effectiveness of teaching programs stimulate the need for research studies in Nursing education to analyze more about these methodologies to apply among learners in Nursing. Obviously the present study can support future research efforts to emerge with similar results.

LIMITATIONS OF THE STUDY

- The study did not use any control group.
- The study did not assess the attitude and practice of participants regarding effects of passive smoking.
- Small number of subjects limits generalization of the study.
- The sample for the study was limited to only 60 participants.
- Single setting limits the generalization of the findings.

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