



“Effectiveness Of Structured Teaching Program On Knowledge Regarding Health Hazards Of Nicotine Dependence Among Security Guards Working In Selected Tertiary Care Hospital Of The City”

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Abstract: Tobacco smoking is one of the leading causes of disease burden around the globe. Based on current trends, it is estimated that tobacco smoking will account for 8.4 million premature deaths each year by 2020 (a 180% increase from 1999). Tobacco is the leading cause of preventable cancers. WHO estimated around 1.27 billion tobacco users world-wide. Tobacco consumption alone accounts for nearly 5.4 million deaths per year and one billion people may die in this century if global tobacco consumption remained at the current levels. The aim of the study was to assess the effectiveness of structured teaching program on knowledge regarding health hazards of nicotine dependence among security guards after intervention.

Methods : Quasi-experimental non randomized control group design was used to evaluate Effectiveness of structured teaching program on knowledge regarding health hazards of nicotine dependence among security guards working in selected tertiary care hospital of the city. The structured questionnaire was prepared and tested for reliability and validity. The data collection was carried out in three phases and the data was analysed by using the descriptive and inferential statistics.

Result : The study result depicted that in pre test level of knowledge in experimental group was majority 55% having poor knowledge (0-8) and 45% having average knowledge(9-17). The overall mean is 9.3+- 2.93. In experimental group the post test regarding health hazards of nicotine dependence among security guards was majority 52.5 % was having average knowledge(9-17) and 47.5 % was having good knowledge(18-25). The overall mean is 16.1+- 2.95. In pre test level of knowledge in control group regarding health hazards of nicotine dependence among security guards was majority 67.5 % was having poor knowledge(0-8) and 32.5% was having average knowledge(9-17). The overall mean is 8.7+- 1.64. In control group the post test of knowledge regarding health hazards of nicotine dependence among security guards. Majority 65% was having poor knowledge(0-8) and 35 % was having average knowledge (9-17). The overall mean is 8.7+- 1.65.

Conclusion : The study was concluded that the structured teaching program have significant improvement in knowledge about health hazards of nicotine dependence among security guards working in selected tertiary care hospital of the city .Knowledge score in post-test was significantly high as compared to that in pre-test in both control and experimental group . It is evident that the knowledge among security guards regarding health hazards of nicotine dependence improved significantly after structured teaching program

Keywords: Structured teaching program, health hazards, nicotine dependence and security guards.

INTRODUCTION

Tobacco smoking is one of the leading causes of disease burden around the globe. Based on current trends, it is estimated that tobacco smoking will account for 8.4 million premature deaths each year by 2020 (a 180% increase from 1999). Structured Teaching Program help to educate person regarding the health Hazards of nicotine dependence. Structured knowledge questionnaire can be used for data collection. ¹

According to WHO, health is state of complete physical, mental, social and spiritual well being and merely absence of disease or infirmity. Oral health as a state of being free from chronic mouth and facial pain, oral and throat cancer, oral infection and some periodontal (gum) disease, tooth decay, tooth loss and other disease and disorders that limit an individual capacity in biting, chewing, smiling, speaking and psychosocial activities. ²

Nursing personnel can educate and counsel students and general population to change their attitude regarding nicotine consumption and help them to stop consuming. Tobacco is the leading cause of preventable cancers. WHO estimated around 1.27 billion tobacco users world-wide. Tobacco consumption alone accounts for nearly 5.4 million deaths per year and one billion people may die in this century if global tobacco consumption remained at the current levels. ³

Nicotine poses several health hazards. There is decreased immune response and it also poses ill impacts on the reproductive health. It affects the cell proliferation, oxidative stress, DNA mutation by various mechanisms which leads to cancer. Tobacco use is a major risk factor for many chronic diseases, including cancer, lung disease, cardiovascular disease and stroke. ⁴

Nearly 267 million adults (15 years and above) in India (29% of all adults) are users of tobacco, according to the Global Adult Tobacco Survey India, 2016-17. The most prevalent form of tobacco use in India is smokeless tobacco and commonly used products are khaini, gutkha, betel quid with tobacco and zarda. Smoking forms of tobacco used are bidi, cigarette and hookah. ⁴

It is the first international treaty negotiated under the auspices of WHO and has since become one of the most rapidly and widely embraced treaties in United Nations history. The WHO FCTC is designed to reduce the demand for tobacco products and to protect people from the harms of tobacco use. It contains a range of measures relating to tobacco control, including price and tax measures, regulation of the contents of tobacco products, regulation of tobacco product disclosures, packaging and labeling of tobacco products, protection from exposure to tobacco smoke, and regulation of tobacco advertising, promotion, and sponsorship. Currently, 182 countries are Parties to this treaty. ⁵

In India, Nicotine in the form of tobacco is used in wide variety of ways such as smoking, chewing, applying, sucking, gargling etc. The various forms of Nicotine intake e.g., Beedis:- Beedis are made by rolling dried leaves with 0.15- 0.25 gm of sun dried, flaked tobacco, Beedi smoking is the most popular

form of smoking in India. 34% of Nicotine intake in India is used in the form of Beedis, Cigarette:- Cigarettes smoking is the second most popular form of Nicotine intake used in India after Beedis.⁶

Excessive use of tobacco in the form of both smoking and smokeless tobacco is an example of modern epidemic and also known as “the brown plague.” According to the estimation of the WHO, tobacco use will cease one billion lives in the 21st century and 80% of that will occur in developing countries. Due to decreased awareness about injurious effect of tobacco among common people, poor literacy, poor socioeconomic status (SES), and less developed de-addiction services, the prevalence of tobacco use is higher among Southeast Asian countries. The use of tobacco causes temporarily pleasing effect in brain predominantly by altering the mesolimbic pathway⁷. Nicotine is the chief chemical in tobacco, which causes dependence both physical and psychological. The same is also true for smokeless forms of tobacco. Cotinine is a metabolite of nicotine, which is measured in serum/saliva/urine to find the level of nicotine dependence of an individual.⁷

The amount of nicotine in a cigarette varies considerably from brand to brand, but a typical cigarette contains 11.9– 14.5 mg of nicotine, a Medical News Today report said. Meanwhile, a study published in a BMJ journal in 2001 showed that the tobacco in bidi (hand-rolled) cigarettes has a higher concentration of nicotine than the tobacco in filtered and unfiltered commercial cigarettes. "The nicotine concentration in the tobacco of bidi cigarettes (21.2 mg/g) was significantly greater than the tobacco from the commercial filtered (16.3 mg/g) and unfiltered cigarettes (13.5 mg/g)," it said in its conclusion.¹⁵ Dr. Bhuvanesh Shukla, Urvinder Kaur (2014) conducted a quasi-experimental study to assess the effectiveness of structured teaching program on knowledge among the adolescent boys regarding ill effects of smoking in selected Government Schools of Moga, Punjab. It was found that the mean pre-test knowledge was (15.49) before imparting structured teaching program and after a structured teaching program the post-test knowledge score was (24.85). This indicated that structured teaching program was effective. The pretest and post-test mean knowledge score was statistically significant at $p < 0.05$ level. There was statistically significant effects of age and educational status of adolescent boys on pre-test and post-test knowledge score regarding ill effects of smoking.⁸

According to the Global Burden of Disease Study 2019, smoking is the leading risk factor for the death of chronic respiratory diseases (CRDs) worldwide¹. However, in low and low-middle Socio-demographic Index (SDI) areas, particulate matter pollution was the main risk factor leading to death from CRDs, while smoking was ranked first among the major risk factors in areas with middle, middle-high, or high SDI.⁹

Smoking is also the leading cause of chronic obstructive pulmonary disease (COPD) globally, and there is a growing epidemic of smokers in low- and middle-income countries as tobacco companies actively seek new customers². Around 80% of the world's 1.3 billion tobacco users now live in LMIC.¹⁰

Nicotine is a remarkable product when considering the number of diseases to which it can reliably be linked as a casual aspect or as a factor which is partially responsible for the occurrence of disease. The country has

a long history of tobacco use. Tobacco is used in a variety of ways in India; Tobacco is the single greatest cause of preventable death globally. Male and female smokers lose an average of 13.2 and 14.5 years of life, respectively. Each cigarette that is smoked is estimated to shorten life by an average of 11 minutes. Nicotine dependence is not only a risk factor but is also related with low health related quality of life and high psychiatric co-morbidity.³ Smokers are three times as likely to die before the age of 60 or 70 unlike nonsmokers.⁵ India is the third largest producer and consumer of tobacco in the world. According to the WHO, tobacco consumption is responsible for death of more than 8 million people each year out of which More than 6.5 million deaths are the result of direct tobacco use while around 1.2 million are the result of passive smoking or non-smokers being exposed to second-hand smoke. Around 80% of the world's 1.1 billion smokers live in low- and middle-income countries.¹¹

Cheng HG Knowledge about the harms of smoking is a key element for smoking cessation and prevention. According to the knowledge–attitude–practice model, change in behaviour involves acquiring relevant knowledge ,changing related attitudes and, finally, altering practices. However, studies from China have found only weak associations between knowledge about smoking and actual smoking behaviour. Studies from Western countries report that ex-smokers are twice as likely as current smokers to be aware of the harms of tobacco smoking, but similar studies in China find a much weaker (or non-existent) relationship between smoking status and knowledge of the health risks of smoking.¹¹

PROBLEM STATEMENT

“Effectiveness of structured teaching program on knowledge regarding health hazards of nicotine dependence among security guards working in selected tertiary care hospital of the city”.

OBJECTIVES OF THE STUDY:

The objectives of the study were -

1. To assess the pretest knowledge score regarding health hazards of nicotine dependence among security guards.
2. To assess the effectiveness of structured teaching program on knowledge regarding health hazards of nicotine dependence among security guards after intervention.
3. To find the association between study findings with selected demographic variables.

MATERIALS & METHODS

Researcher methodology defines what the activity of research is, how to proceed, how to measure progress and what constitutes success.

Research Design: Quasi-experimental non randomized control group design

Research Approach: Quantitative Research Approach

Sample: Security guards in selected tertiary care hospitals of the city.

Sample Size: The sample size was 80 security guards who fulfil the required inclusion and exclusion criteria.

Sampling Technique: Non Probability Convenience sampling.

Data collection tool: Self structured knowledge questionnaires was used for data collection.

Criteria for Sample selection:

a. Inclusion criteria:

1. Age between 20-58 years.
2. Both male and female will be included.
3. Who are willing to participate in the study and will provide written informed consent.
4. Who can understand English, Marathi language.
5. Both male and female addicted as well as non addicted included

b. Exclusion criteria:

1. Security guards who have adequate knowledge regarding nicotine dependence and its health hazard.
2. Security guards who have attended workshop and conference regarding health hazard due to Nicotine.
3. Security guards who are having psychiatric co -morbidity. 4. Security guards who are not present during data collection

HYPOTHESIS

HO -There is no significant effect of structured teaching program on knowledge among security guards regarding health hazards of nicotine dependence in selected tertiary care hospital of the city.

H1-There is significant effect of structured teaching program on knowledge among security guards regarding health hazards of nicotine dependence in selected tertiary care hospital of the city.

H2-There is significant association between study findings with selected demographic variables.

The researcher approached the subjects, informed regarding the objectives of the study and obtained informed consent after assuring the subjects about the confidentiality of the data. Purpose and important of research study explain before collection of data. The knowledge was assessed by Self structured knowledge questionnaires. Descriptive and inferential statistics was used for data analysis. The collected data was organized and tabulated by using descriptive statistics, i.e. frequency, percentage, mean and SD. The inferential statistics i.e., paired t test was used to assess effectiveness of structured teaching program on knowledge regarding health hazards of nicotine dependence in security guards in selected tertiary hospital of the city, and one way ANOVA test was used to find the association between knowledge score with their selected demographic variables. The data was planned and presented in the form of tables and figures.

RESULT

The data collected is entered in the master sheet for tabulation and statistical processing. In order to find out relationship, the data was tabulated, analyzed and interpreted using descriptive and inferential statistics.

Table 1 : Description of the security guards according to their demographic Variables**n=40,40**

| Demographic Variable | Experimental Group | | Control Group | |
|---------------------------------------|---------------------------|--------------------|----------------------|--------------------|
| | Frequency | Percentages | Frequency | Percentages |
| Age in years | | | | |
| 20-30years | 7 | 17.5 | 3 | 7.5 |
| 31-40years | 15 | 37.5 | 13 | 32.5 |
| 41-50years | 14 | 35 | 19 | 47.5 |
| 50–58years | 4 | 10 | 5 | 12.5 |
| Gender | | | | |
| Female | 9 | 22.5 | 12 | 30 |
| Male | 31 | 77.5 | 18 | 45 |
| Religion | | | | |
| Hindu | 36 | 90 | 29 | 72.5 |
| Muslim | 4 | 10 | 8 | 20 |
| Christian | 0 | 0 | 3 | 7.5 |
| Others | 0 | 0 | 0 | 0 |
| Marital Status | | | | |
| Married | 37 | 92.5 | 32 | 80 |
| Unmarried | 0 | 0 | 2 | 5 |
| Widow | 3 | 7.5 | 6 | 15 |
| Divorce | 0 | 0 | 0 | 0 |
| Education Status | | | | |
| Illiterate | 3 | 7.5 | 2 | 5 |
| Primary school | 6 | 15 | 6 | 15 |
| Secondary | 4 | 10 | 8 | 20 |
| HigherSecondary | 27 | 67.5 | 24 | 60 |
| Total Income | | | | |
| Rs.10000-Rs.15000 | 21 | 52.5 | 22 | 55 |
| Rs.15000-Rs20000 | 19 | 47.5 | 18 | 45 |
| Any family history of nicotine | | | | |
| No | 22 | 55 | 22 | 55 |
| Yes | 18 | 45 | 18 | 45 |
| Any consume of nicotine | | | | |
| No | 20 | 50 | 22 | 55 |
| Yes | 20 | 50 | 18 | 45 |
| Frequency of tobacco | | | | |
| 2 to 5 times | 19 | 47.5 | 17 | 42.5 |
| Not addicted | 16 | 40 | 12 | 30 |
| Single Use | 5 | 12.5 | 11 | 27.5 |

| Previous Knowledge Of Nicotine Health Hazards | | | | |
|---|----|------|----|----|
| No | 27 | 67.5 | 24 | 60 |
| Yes | 13 | 32.5 | 16 | 40 |

The above table 1 shows that the age of security guards shows majority 47.5 % were 41-50years old, 32.5% were 31-40 years old, 12.5% were 50-58 years old and 7.5% were 20-30 years old. The according to gender majority 45% were male & 30 % were female. In religion majority 72.5 % were Hindu, 20% were Muslim and 7.5 % were Christian. The Marital status of security guards shows that Majority 80% were married, & 15% were widow and 5% were unmarried. according to Education status of security guards majority 60% were educated till higher secondary, 20 % were secondary,15% were primary school & 5 % were illiterate. The Income status of security guards shows that majority 55% income was 10000-15000rs & 45 % income was 15000-20000rs. Majority 55% had no family history & 45% had family history of nicotine. Majority 55% never consume nicotine & 45 % consumed. Majority 42.5% frequency of tobacco for 2-5 times, 27 % single used & 30 % were not addicted to tobacco. Previous Knowledge Of Nicotine Health Hazards of security guards, shows 40 % had previous knowledge & 60 % had no Previous Knowledge Of Nicotine Health Hazards.

Table 2 : Level of knowledge score of security guards in pre test and post test in experimental group and Control group

n=40,40

| Level of Knowledge Score | Experimental group | | | | Control group | | | |
|--------------------------|--------------------|----|-----------|------|---------------|------|-----------|----|
| | Pre test | | Post test | | Pre test | | Post test | |
| | F | % | F | % | F | % | F | % |
| Poor | 22 | 55 | 0 | 0 | 27 | 67.5 | 26 | 65 |
| Average | 18 | 45 | 21 | 52.5 | 13 | 32.5 | 14 | 35 |
| Good | 0 | 0 | 19 | 47.5 | 0 | 0 | 0 | 0 |

The above table 2 depicts that in pre test level of knowledge in experimental group regarding health hazards of nicotine dependence among security guards. Majority 55% were having poor knowledge and 45% were having average knowledge in experimental group and 67.5 % were having poor knowledge and 32.5% were having average knowledge in control group. Whereas, in Majority 52.5 % were having average knowledge and 47.5% were having good knowledge in experimental group and 65% were having poor knowledge and 35 % were having average knowledge in control group.

**Table 3 : Significance of knowledge score regarding health hazards of nicotine dependence among security guards before and after Structured Teaching Programme of Experimental group
n=40**

| Overall | Mean | Standard deviation | DF | t-value | p-value |
|-----------|------|--------------------|----|---------|--------------|
| Pre Test | 9.3 | 2.93 | 49 | 13.8 | 0.000 |
| Post Test | 16.1 | 2.95 | | | S, p<0.05 |

The above table 3 depicts that the effectiveness of structured teaching program on knowledge regarding health hazards of nicotine dependence among security guards to determine the interventional effectiveness. The Mean and SD of pre test in experimental group is 9.3 and SD is 2.93 and of post test of experimental group mean is 16.1 and SD is 2.95. The Paired T Test was applied to assess the effectiveness and t calculated was 13.855 which is more than table value with degree of freedom 49. And p value is 0.00001 which is less than 0.05 level of significance so it shows that structured teaching program was effective on knowledge regarding health hazards on nicotine dependence among security guards.

**Table 4 : Significance of knowledge score regarding health hazards of nicotine dependence among security guards before and after Structured Teaching Programme of control group
n=40**

| Overall | Mean | Standard deviation | DF | t-value | p-value |
|-----------|------|--------------------|----|---------|---------------|
| Pre Test | 8.7 | 1.64 | 49 | 1 | 0.32 |
| Post Test | 8.7 | 1.65 | | | NS, p>0.05 |

The above table 3 depicts that the effectiveness of structured teaching program on knowledge regarding health hazards of nicotine dependence among security guards to determine in control group. The Mean and SD of pretest in control group is 8.7 and Sd is 1.64 and of posttest of control group mean is 8.7 and Sd is 1.65. The Paired T Test was applied to assess the effectiveness and t calculated was 1 which is less than table value with degree of freedom 49. And p value is 0.32347 which is less than 0.05 level of significance so it shows that structured teaching program was not effective on knowledge regarding health hazards on nicotine dependence among security guards

DISCUSSION

Description of Socio demographic data of experimental group

In the present study, the demographic variables of experimental group shows in age majority that is 37.5% were 31-40years old, 35% were 41-50 years old, 17.5% were 20-30 years old and 10% were 50-58 years old. The gender shows majority 77.5% were male and 22.5% were female. In religion majority 90% were Hindus, 10% were Muslims. According to the Marital status of security guards, majority 92.5% were married, & 7.5% were widow. The Education status of security guards was that the majority 67.5% were educated till higher secondary, 15% were having primary education and 7.5% were illiterate. Distribution of Participants according to income status of security guards shows that majority 53.75% income was 10000-15000rs &

46.25% income was 15000-20000rs. According history of nicotine of security guard majority 55% had no family history & 45% had family history of nicotine. According to the consume of any nicotine of security guards. Majority 50 % consume nicotine & 50 % never consumed. The frequency of tobacco for security guards shows that majority 47.5 % frequency of tobacco for 2-5 times, 40 % were not addicted & 12.5 % were single use. According to previous Knowledge of Nicotine Health Hazards of security guards the majority 67.5% had no previous knowledge & 32.5 % had Previous Knowledge of Nicotine Health Hazards.

Description of Socio demographic data of control group

The present study shows that the age of security guards shows majority 47.5 % were 41-50years old, 32.5% were 31-40 years old, 12.5% were 50-58 years old and 7.5% were 20-30 years old. The according to gender majority 45% were male & 30 % were female. In religion majority 72.5 % were Hindu, 20% were Muslim and 7.5 % were Christian. The Marital status of security guards shows that Majority 80% were married, & 15% were widow and 5% were unmarried. according to Education status of security guards majority 60% were educated till higher secondary, 20 % were secondary,15% were primary school & 5 % were illiterate. The Income status of security guards shows that majority 55% income was 10000-15000rs & 45 % income was 15000-20000rs. Majority 55% had no family history & 45% had family history of nicotine. Majority 55% never consume nicotine & 45 % consumed. Majority 42.5% frequency of tobacco for 2-5 times, 27 % single used & 30 % were not addicted to tobacco. Previous Knowledge Of Nicotine Health Hazards of security guards, shows 40 % had previous knowledge & 60 % had no Previous Knowledge Of Nicotine Health Hazards.

Description of pretest and post test knowledge of experimental group and control group

Present study result shows that the pre test level of knowledge in experimental group was majority 55% having poor knowledge and 45% having average knowledge. The overall mean is 9.3+- 2.93. In experimental group the post test regarding health hazards of nicotine dependence among security guards was majority 52.5 % was having average knowledge and 47.5 % was having good knowledge. The overall mean is 16.1+- 2.95. In pre test level of knowledge in control group regarding health hazards of nicotine dependence among security guards was majority 67.5 % was having poor knowledge and 32.5% was having average knowledge. The overall mean is 8.7+- 1.64. In control group the post test of knowledge regarding health hazards of nicotine dependence among security guards. Majority 65% was having poor knowledge and 35 % was having average knowledge. The overall mean is 8.7+- 1.65.

Description of Effectiveness of structured teaching program on knowledge regarding health hazards on nicotine dependence among security guards.

In the present study the effectiveness of structured teaching program on knowledge regarding health hazards of nicotine dependence among security guards was determined by the interventional effectiveness. The Mean and SD of pre test in experimental group was 9.3 and Sd was 2.93 and of post test of experimental group mean was 16.1 and Sd is 2.95. The Paired T Test was applied to assess the effectiveness and t calculated was 13.855 which is more than table value with degree of freedom 49. And p value is 0.00001 which is less than

0.05 level of significance so it shows that structured teaching program was effective on knowledge regarding health hazards on nicotine dependence among security guards.

A similar study was done by Baskaran .M (2019) on structure teaching program on effects of tobacco abuse among adult construction workers in tertiary hospitals Coimbatore. This study includes 100 construction workers and then the setting for the study conducted from PSG Hospital in Coimbatore. The analysis revealed that the among 100 construction workers, 92% had adequate knowledge, 8% had moderate knowledge and no one had inadequate knowledge in assessment of tobacco abuse. And among them 30% have heavy nicotine dependence, 32% have moderate nicotine dependence, 38% have light nicotine dependence. Thus, it concludes that the structure teaching program has helped the construction workers to know about the effects, complication of tobacco and they gained knowledge about tobacco and nicotine abuse.¹²

A another study shows that Gaunkar R, et. al (2022) conducted a study on Cognizance towards implementation and adherence of Cigarette and other Tobacco Products Act (COTPA) directives - A descriptive cross-sectional study among security guards in Goa. The results shows that mean age of the study participants was 29.93 ± 6.93 years. Overall, 68.6% of the study participants were aware of any tobacco control law in India. It was observed that 71% of the subjects had adequate knowledge of the COTPA. The participants with higher secondary educational levels had significantly higher knowledge scores. The overall awareness of the security guard was good but there is a need to provide in-depth knowledge on certain key aspects of the COTPA. Efforts should be made to train the security personnel to increase their awareness of the act.¹³

Description of association between knowledge score with selected demographic variables

Present study shows no significant association between knowledge score with demographic variable such as age, religion, type of family, family income, marital status, educational status. Similar study shows results that there is no association between knowledge score with demographic variable.

CONCLUSION

Present study concluded that the structured teaching program have significant improvement in knowledge about health hazards of nicotine dependence among security guards working in selected tertiary care hospital of the city .Knowledge score in post-test was significantly high as compared to that in pre-test in both control and experimental group . It is evident that the knowledge among security guards regarding health hazards of nicotine dependence improved significantly after structured teaching program.

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