

## Effectiveness of Health Teaching Program about the Knowledge of Tobacco Use Ill-Effects among High School Students

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### Abstract

**Introduction:** Tobacco use is a major factor for non-communicable diseases like cerebrovascular accidents, acute coronary syndrome, hypertension, debilitating chronic diseases like atherosclerosis and chronic obstructive pulmonary disease. Tobacco use is a bad habit that starts before the accomplishment of adulthood, and young people, specifically, are more in prone to create nicotine addiction. Nursing faculty can also teach and advice all students to change their state of mind in regards to tobacco utilization and help them to quit the use tobacco.

**Methods:** Quasi experimental study performed on 54 male high school students to evaluate the effectiveness of health teaching session about the knowledge of tobacco use ill-effects. **Results:** Findings revealed that the mean post-test mean score was significantly higher than their mean pre-test score. The calculated “t” value ( $t=-88.520$   $p<0.005$ ) was greater than the table value at 0.05 in all sections. Therefore, the null hypothesis **Conclusions:** It is concluded that the educational program is effective in enhancing the knowledge of students regarding ill- effects of tobacco use.

**Keywords-** Health Teaching Program, Knowledge, and Tobacco use ill-effects.

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### INTRODUCTION

The action of breathing in and breathing out smoke of burning tobacco in cigars, cigarette and funnel is called cigarette smoking or smoking. Initially it was begun by Native Americans and it was common in customs and for restorative procedures. Tobacco use spread slowly everywhere throughout the world by the end of 19<sup>th</sup> century. Allender’s work (Gholap, 2015).

Tobacco use is a major factor for non-communicable diseases like Cerebrovascular Accidents, Acute Coronary Syndrome, hypertension, debilitating chronic diseases like atherosclerosis and Chronic Obstructive Pulmonary Disease (WHO, 2017). It is a main source of malignancies comprises tumour of lungs, mouth cavity, larynx and pancreas (Bartwal, Awasthi, Rawat, & Arya, 2014).

Impacts of tobacco utilize contain respiratory issues, nicotine dependence and addiction to the others drugs. The carbon monoxide in tobacco smoke decreases the oxygen level in blood. Absence of Oxygen in blood at that point influences the working of body part or organs such as lungs, heart and brain (Solomon, Wu, & Gillam, 2017).

Tobacco utilize has many extreme effects on our body, mental, and financial terrible impacts. Between adolescence, students are especially prone to smoking because of educational burdens and other life related tensions (M. M. Kumar & Nageshwar, 2018).

There are 21 disease that spread due to smoking, 12 different kinds of cancers, , diabetes, chronic obstructive pulmonary disease (COPD), pneumonia and 6 classification of cardiovascular disease (Siegel, Miller, & Jemal, 2017). Tobacco utilizes is related with expanded hazards of cardiovascular and chronic respiratory diseases, stroke, and cancers of numerous organs of the body such as mouth, larynx, lungs, kidneys, cervix, and pancreas (Bartwal et al., 2014).

As indicated by WHO 6 million peoples die due to tobacco smoking and an expected 600,000 peoples lose their lives because of second hand smoking all around the world every year (Organization, 2015). Tobacco utilizes is related to significantly high rate of mortality, representing around 2 million expiries in people aged  $\geq 45$  in one year in all over the Asia. It is likely that tobacco utilize related expiries in Asia will keep on increase in future if no tobacco control programs will apply (Zheng et al., 2014)

Tobacco use is a bad habit that starts before the accomplishment of adulthood, and young people, specifically, are more in prone to create nicotine addiction. This is huge distress for nations like Pakistan, where tobacco utilization is intensely increasing among youths (Rao, Aslam, Zaheer, & Shafique, 2014).

Different variables impact tobacco use among youthful students. Dependence on tobacco items and other substance of abuse among relatives and companion gatherings, family clashes, weak school performance, absenteeism and school failures has been observed to be related with smoking at an early age (Bagchi, Ganguly, Pal, & Chatterjee, 2014)

In Pakistan, youths were estimated to be the weakest people to pick up practice of tobacco use, 9 – 14% of school kids were habitually involved in this bad habit (Shah & Siddiqui, 2015). Among the age group of 13–19 years, a person is most likely to get involved in smoking habit and become an addict for the rest of his or her life. This age characterizes as the growth of maturity where teens make decision for their life and plan where they want to see themselves in the upcoming life (Mohanan, Swain, Sanah, Sharma, & Ghosh, 2014).

## LITERATURE REVIEW

According to WHO Tobacco use is related to about 20% adult mortality around the world. It is estimated that tobacco use will cause the death of 8 million people every year by 2030 and 80% of these deaths will occur in low and middle income countries. It is estimates that about 21% of Pakistan's population smoked (approximately 23,652,300 persons). If tobacco control efforts continue at the same intensity, WHO projects that in 2025 around 24% of the population (approximately 36,724,600 persons) will be smokers (WHO, 2015).

According to Adult tobacco survey 2014 in Pakistan showed that 19.1% adults were currently using tobacco products and among them, 12.4% smoked tobacco, and 7.7% smokeless tobacco. Exposure to second hand smoke was seen in 86% in a restaurant while it was 76% on public transportation (Saqib et al., 2017).

In 2014 Surgeon General's report estimates that cigarette smoking causes more than 480,000 deaths each year in the United States. Study concluded, that cause-specific mortality in a large population identified associations between smoking and increased mortality from several diseases that are not currently established as caused by smoking. Results suggest that the number of persons in the United States who die each year as a result of smoking cigarettes may be greater than currently estimated (Health & Services, 2014).

According to WHO Tobacco smoking is the leading cause of preventable disease and death in the United States, resulting in approximately 480,000 premature deaths and more than \$300 billion in direct health care expenditures and productivity losses each year (WHO, 2015).

A study conducted to evaluate the smoking and associated psychosocial factors among adolescent students, gave results as the prevalence of smoking was found 37% among males and 13.5% among females, with overall prevalence was 29.6%. Smoking by father and peer group and conflict among parents were positively associated with smoking by students (Bagchi et al., 2014).

A research conducted to assess the various reasons for smoking among teenagers of age 14–17 years. Results showed that majority of 76.4% of the study subjects agreed that smoking habit gives psychological pleasure, 77.5% agreed that smoking starts because of friends, and 65.7% felt that smoking starts as an inspiration for outlook and personality. Study concluded that, there are various psychological factors, personal factors, and social factors are attached with smoking habit (Anjum et al., 2016).

This study conducted to find the demographic and socioeconomic correlates of hookah use among high school seniors in the United States, gave the result as adolescents of higher socioeconomic status appear to be at particularly high risk for hookah use in the United States (Palamar, Zhou, Sherman, & Weitzman, 2014).

According to a survey regarding knowledge of harmful effect of smoking among the adult in the rural area less than half (39.6%) of the Adults had average knowledge, more than half (54.4%) of the Adults had low knowledge and no any person had the high level of knowledge (Gholap, 2015).

Noreen Shah and Saad Siddiqui conducted a research with the aim to assess smoking practices across Pakistan. Result of study shows that majority of studies reported adolescence as time of initiation. Average national prevalence was 21.6%. A significant portion of smokers comprised of females. The prevalence of smoking in healthcare professionals ranged from 32 – 37%. Passive smoking was a major contributor of tobacco exposure. Study concluded that smoking continues to be a major public health issue in Pakistan. The prevalence in healthcare professionals and adolescents is alarming (Shah & Siddiqui, 2015).

## METHODOLOGY

**Setting:** The research was conducted Govt. High School for Boys, Ali Raza Abad Lahore-Pakistan. **Research design:** Quasi experimental design was use in this study. **Population:** All students of 9<sup>th</sup> and 10<sup>th</sup> classes in High School Ali Raza Abad were the target population of this study. **Sampling:** Convenient sampling technique used for the selection of subjects. **Research instrument:** Questionnaire: which contains two parts, first part demographic data and the second part contain questions related knowledge regarding tobacco use ill-effects. **Data Gathering Procedure:** The data collected through structured questionnaire. The pre data collected through questionnaires were saved as baseline and then, health teaching program conducted in classes at Govt. High School Ali Raza Abad. The interventions were done in four weeks. After that, post data collected again from students regarding tobacco use ill-effects.

## RESULTS

This section presents the outcomes of the study, Profile of the respondents and outcome of questionnaire regarding knowledge of tobacco use ill-effects and also represents the result of paired t-test comparison before and after intervention and results for objective of this study “To evaluate the Effectiveness of health teaching program about the knowledge of tobacco use ill-effects among high school students.

S#	Demographic Characteristic	N	%
		54	100%
<b>1</b>	<b>Q:Occupation of parents</b>		
	Service in private sector	14	25.92%
	Service in government sector	15	27.77%
	Business	17	31.48%
	Agriculture	08	14,81%
<b>2</b>	<b>Q: History of Tobacco use in Family</b>		
	Yes	16	29.1%
	No	36	69.1%
<b>3</b>	<b>Q: Recreational facility at home</b>		
	Television	33	60%
	Magazines and newspapers	04	07%
	Internet	06	10%
	Play with peers	11	20%
<b>4</b>	<b>Q: Previous knowledge regarding the ill-effects of tobacco</b>		
	Yes	13	23.3%
	No	41	74.7%

According to this table total of 54 respondents participated in the study it also represents the demographic characteristics of participants this table this shows that about 31.48% of parents have their own business, 69.1%have no history of tobacco use in their family 60% have television as recreational facility at home and 74.7% have Previous knowledge regarding the ill-effects of tobacco.

	Mean	Mean%	SD	SE	N
<b>Knowledge score Pre intervention</b>	14.37	41.05%	2.72	.37	54
<b>Knowledge score Post intervention</b>	28.15	80.00%	14.80	2.01	54

Following table shows the mean, standard deviation, standard error of mean and mean percentages of pre-post score of knowledge and practice, illustrate that the knowledge and practice score mean improved in post intervention phase. That was 14.37 pretest knowledge and improved at 28.15 level in post intervention phase, similarly the practice mean also improved from 41.05% to 80.00% in post test phase.

**Table No: 3 Knowledge ill effects of Tabaco use by respondents**

Variables	Knowledge pre-intervention		Knowledge post-intervention	
	N	%	N	%
The age when tobacco use usually begins is around 10years.	05	9.25%	34	62.96%
Tobacco use in adolescence is influenced by peer group.	39	72.22%	49	90.74%
Smoking variety and smokeless variety are two types of tobacco use.	13	24.07%	15	27.77%
Zarda, gutkha and snuff are the examples of smoking variety.	22	40.74%	29	53.70%
One cigarette/beedi reduces seven minutes of your life.	06	11.11%	41	75.92%
Giving up tobacco use improves self-confidence.	31	57.40%	47	87.03%

**Paired Samples Test**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Pre-Test - Post-Test	-13.778	1.144	.156	-14.090	-13.466	-88.520	53	.000

Findings revealed that the mean post-test mean score was significantly higher than their mean pre-test score. The calculated “t” value ( $t=-88.520$   $p<0.005$ ) was greater than the table value at 0.05 in all sections. **Testing Hypothesis:** As the calculated “t” value was greater than the table value at 0.05 in all sections. Therefore, the null hypothesis (**H<sub>0</sub>**: There is no effectiveness of health teaching program about the knowledge of tobacco use ill-effects among high school students) was rejected and alternate research hypothesis (**H<sub>1</sub>**: There is effectiveness of health teaching program about the knowledge of tobacco use ill-effects among high school students) was accepted. Hence it is concluded that there is significant gain in knowledge of students through health teaching program on tobacco use ill-effects.

**Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre	.074	52	.200*	.990	52	.950
Post	.079	52	.200*	.985	52	.729

Following table showed that according to Shapiro-wilk’s test the ( $p>.05$ ) and the visual inspection of histogram, normal Q-Q plots and box plot showed that the score of knowledge and practice in pre and post phase were normally distributed.

**DISCUSSION**

The role of nursing professionals is vital in giving health teaching and creating awareness among the community. The nurse must deliver health teaching in schools and colleges for the students. They need to be facilitated to breakdown the chain of shame and improve awareness among themselves and give importance to their health. The present study was conducted to evaluate the effectiveness of health teaching program on ill-

effects of tobacco among high school students with a purpose to develop their knowledge about the ill-effects of tobacco use. The findings of the study are discussed as following.

**Description of demographic variables of the student:** Majority (70%) of the students had no family history of smoking and tobacco use and only (30%) of the sample have family history of smoking or tobacco use. The analysed data regarding recreational facility of the students reveals that highest percentage (61%) of the students were using TV, 7% had magazines, 11% had internet and 21% were playing with peers.

Similar findings were found in another study among 13- 15 years of students and the result revealed that current tobacco users (90.4%) were likely to watch actors chewing tobacco on TV, video, or movies (Sinha, 2005).

In contrast, demographic variable related findings of a previous study shows that 40% of the respondents have no history of smoking in their family and 60% of the respondents got the information regarding ill effects of smoking through newspaper/magazines (Tuppad, 2017).

**Analysis of the pre-test knowledge of the students regarding ill-effects of tobacco use:** Item-wise analysis of the correct responses regarding ill-effects of tobacco use revealed that the majority of students had weak knowledge related to following items, only 5 (9%) students gave the right answer to the item that age when tobacco use usually begins is around 10 years, 11 students gave the right answer to the question that children of tobacco users rarely follow their parents in their habits and only 6 students knew that one cigarette/beedi reduces seven minutes of your life. Present study shows that the overall mean percentage knowledge score in the pre-test was 41% which shows lack knowledge regarding ill effects of smoking in high school students. The findings of the study was similar that the overall mean percentage knowledge score in the pre-test was 33.8% which shows lack knowledge regarding ill effects of smoking in high school students (Tuppad, 2017).

Present study shows that 37 (65%) students knew that tobacco use can lead to oral cancer and lung cancer. In contrast the findings of a study shows that all students (100%) knew that smoking is injurious to health and cancer was caused by tobacco consumption (Singh & Gupta, 2006).

**Effectiveness of health teaching program and testing hypothesis:** Findings of present study reveals that highest effectiveness (10% to 71%) was observed for the item "One cigarette/beedi reduces seven minutes of your life. Overall mean score in pre-test was 14.37 and in post-test overall mean score was 28.15 and the mean difference between pre-test score and post test score was 13.77. Findings revealed that the mean post-test mean score was significantly higher than their mean pre-test score. The calculated "t" value ( $t=-88.520$   $p<0.005$ ) was greater than the table value at 0.05 in all sections. Overall mean percentage of knowledge score in the pre-test was 41% and after health teaching interventions overall mean percentage of knowledge score in the post-test was 80.4%.

A similar study shows that the overall mean percentage knowledge score in the pre-test was 33.8% and 69.28% in the post test. The overall findings of the study clearly showed that the educational program against tobacco was significantly effective in improving the knowledge scores of high school students regarding ill effects of smoking (Tuppad, 2017).

Another similar study analysed the results of pre-test and post-test knowledge score using paired t-test which revealed that there was significant improvement ( $t=27.61$ ,  $p=0.001$ ) in knowledge regarding harmful effects of alcohol and tobacco use (B. Kumar, Prakash, Prakash, & Muthuvenkatachalam, 2013).

## CONCLUSION

Overall mean percentage knowledge score in the pre-test was 41% which shows lack knowledge regarding ill effects of smoking in high school students, after health teaching interventions overall mean percentage of knowledge score in the post-test was 80.4%. Mean post-test score was significantly higher than their mean pre-test score. Hence Study concluded that the health teaching program against tobacco was significantly effective in improving the knowledge of high school students regarding ill effects of smoking.

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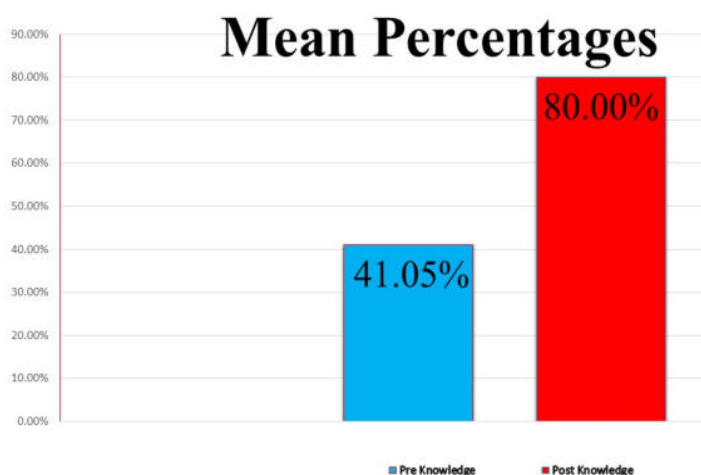
**NOTES:**

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<b>Table No:1</b>			
<b>S#</b>	<b>Demographic Characteristic</b>	<b>N</b>	<b>%</b>
		54	100%
<b>1</b>		<b>Occupation of parents</b>	
	Service in private sector	14	25.92%
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	Television	33	60%
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<b>4</b>		<b>Previous knowledge regarding the ill-effects of tobacco</b>	
	Yes	13	23.3%
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According to this table total of 54 respondents participated in the study it also represents the demographic characteristics of participants this table this shows that about 31.48% of parents have their own business, 69.1% have no history of tobacco use in their family 60% have television as recreational facility at home and 74.7% have Previous knowledge regarding the ill-effects of tobacco.

<b>Table No: 2 Mean Percentages</b>					
	<b>Mean</b>	<b>Mean%</b>	<b>SD</b>	<b>SE</b>	<b>N</b>
<b>Knowledge score Pre intervention</b>	14.37	41.05%	2.72	.37	54
<b>Knowledge score Post intervention</b>	28.15	80.00%	14.80	2.01	54



Following table and figure shows the mean, standard deviation, standard error of mean and mean percentages of pre-post score of knowledge and practice, illustrate that the knowledge and practice score mean improved in post intervention phase. That was 14.37 pretest knowledge and improved at 28.15 level in post intervention phase, similarly the practice mean also improved from 41.05% to 80.00% in post test phase.

<b>Table No: 3</b>				
<b>Knowledge ill effects of Tabaco use by respondents</b>				
<b>Variables</b>	<b>Knowledge pre-intervention</b>		<b>Knowledge post-intervention</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
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One cigarette/beedi reduces seven minutes of your life.	06	11.11%	41	75.92%
Giving up tobacco use improves self-confidence.	31	57.40%	47	87.03%



Table No: 4 Paired T-test								
	Paired Differences				t	DF	Sig. (2-tailed)	
	Mean	SD	SE	C I				
				Lower				Upper
Pre-Post	-13.77	13.60	1.83	-17.5	-10.0	7.39	53	.00

Findings revealed that the mean post-test score was significantly higher than their mean pre-test score. The calculated  $t$  value ( $t=7.395$   $p<0.005$ ) was greater than the table value at 0.05 in all sections. Therefore, the null hypothesis ( $H_0$ : There is no effectiveness of health teaching session about the knowledge of tobacco use ill-effects among high school students) was rejected and alternate research hypothesis ( $H_1$ : There is effectiveness of health teaching session about the knowledge of tobacco use ill-effects among high school students) was accepted. Hence it is concluded that there is significant gain in knowledge of students through health teaching program on tobacco use ill-effects.

Tests of Normality						
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