



Effectiveness of anti-smoking Program among Adolescence at Community-Based School Karachi-Pakistan

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ABSTRACT

Introduction: Tobacco smoking is one of the alarming phenomena in different societies which leads different health problems among people day by day. The study aims to evaluate the effectiveness of a prevention program of smoking at community-based school of Bhittaiabad at Karachi-Pakistan.

Methods: The quasi-experimental study conducted at community-based school of Bhittaiabad Karachi from June to December 2018. Data were collected via, structured questionnaire from 200 secondary school children through consecutive sampling technique studying in grade 8th, 9th and 10th. The validity and reliability of the questionnaire was established thoroughly. Participants were approached after signing consent forms both parents. Questionnaires were filled one-week prior of the intervention period. Post test conducted after fifteen days of the intervention. Intervention period consist of (82) eighty-two hours.

Results: In this study, 200 students showed that their level of knowledge increased after the intervention period however, the p-value shows the insignificant result. Moreover, smoking related attitude has been significantly observed after an intervention (p-value <0.05). It might be due to the changes in social pressure before and after the intervention session but not depict in the p-value. Besides, this it was observed less pressure among those students living with their parents.

Conclusion: The study revealed that smoking hindrance control program significantly improved the knowledge attitude practices among school children related to the smoking tobacco. Additionally, this study also recommends that long-term interventional plans should be intended to bring about positive change in the purpose and behavior associated with smoking.

Key Words: Effectiveness, Prevention, Tobacco Smoking, Adolescence, Community-Based School, Karachi-Pakistan

INTRODUCTION

Tobacco smoking is one of the alarming phenomena in different societies which leads different health problems among people day by day. Although, it is preventable and treatable circumstance from different life threatening and chronic diseases Lung cancer, cardiac, and lung infections are only a few examples. Despite smoke exposure, secondhand smoke is also a risk factor for active tuberculosis in both children and adolescents.¹ In the beginning of the 20th century cigarettes smoking transformed into the major form of tobacco use differently around the globe and one of the leading

cause of lung cancer worldwide.² However, in Pakistan it is estimated that cigarettes smoking consumption is about 90,000,000,000 in the year 2005.³ As indicated by World-wide Adults Tobacco Study (GATS 2014), nearly 24 million (19.1%) Adults presently use tobacco in different forms such as water pipe, hookah or shisha and smokeless tobacco etc. Among this, 3.7 million smoke tobacco in the form of water pipe, hookah or shisha and 9.6 million in smokeless tobacco form.^{1, 2}

Indeed, it is observed that tobacco used primarily begins in early adolescence just for the sake of enjoyment with friend

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circle but progressively transformed into regular practices. Furthermore, mostly it end ups into addictive form before the termination of high school.⁴ Researchers identified the psychological risk factors of smoking and categorize into two forms. First, behavior or habits and second intentionally for enjoyment. Furthermore, they explored that behavior or habits are due to the emotional related factors whereas, intentionally due to the peer pressure.⁵ Additionally, the family relationship is also one of the risk factors which made people more susceptible towards smoking. Moreover, they likewise recognized a relationship of adolescent smoking with relational issues, physical and natural variables.⁵ In Pakistan, the prevalence of smoking among females are also very common and presenting 22-23% of whole population. Similarly, the phenomena of smoking were also observed among health care professionals which ranged from 32-37%. However, different researchers proved that passive smoking is one of the major factors of tobacco exposure in the form of shisha which accounts 33% of the whole. Furthermore, researchers recognized that about 12% students are susceptible to smoking whose parents and friends are regular user of smoking.⁶ Side effects knowledge regarding smoking is continuously increasing day by day among adolescents in Asian countries. School based smoking prevention programs measured as one of the most realistic approaches in reduction of smoking prevalence among people especially in adolescences. Also, literature supported that establishment of the smoking prevention programs are more reliable and beneficial for adolescents to change their knowledge, attitude and behaviors in reduction of smoking intentions.

Global anti-Smoking program and its effectiveness

A study has been conducted to ascertain the effectiveness of smoking prevention programs at the school level. This study discloses that an average of 12% smoking reduction status has been observed among individuals.⁷ On the other hand, a qualitative study accompanied in Indonesia to measure the need, suitability and accountability of applying effectual and ethnically suitable smoking avoidance programs for youngsters at different school's level. The study determined to significant shareholders in Indonesian early days schooling approved that smoke avoidance program plays key role to educate the teenage students at school level.⁸

Likely, another study conducted under the umbrella of Brazilian Cancer Institute among teenagers at one of the Brazilian cities called Pelotas. It further elaborated that there is need to conduct long term smoking prevention programs in lieu to observe the sustainability among adolescents regarding attitude behavior modification.⁹ Another randomized cluster trial conducted in Germany over 6 months after smoking prevention intervention program among two schools. Significantly, lower rates of lifetime smoking observed in interven-

tional group; whereas, higher incidence observed in control group.¹⁰ Even though unpredictable long-term benefits have been observed as the effectiveness of smoking prevention programs. Moreover, researchers clinched that long term school based smoking intervention program observed more effective to control the smoking habits among adolescents if it will managed according to participants especially on the basis of their cultural and religious background.¹¹

As adolescence is exposed to the dangers of peer pressure, it can lead to the use of tobacco in a variety of ways. In Pakistan, no precautionary measures have been taken to reduce smoking and tobacco use in adolescence. Therefore, this study was done to fill the gap and prevent adolescence in the coming youth of the living environment. The current research program was to evaluate the effectiveness of the anti-smoking program in public schools in Bhattaiabad Karachi-Pakistan.

MATERIAL AND METHODS

Study setting, sample size, and participant's data

The quasi-experimental study conducted at community-based school of Bhattaiabad; Karachi from June to December 2018. Sample calculated through online software named "OpenEpi" version 3.0. It was calculated by taking a test of paired mean difference, 95% C.I, 80% power of the test, different mean and standard deviation motivation to quit smoking before and after intervention Group 1 mean $\pm$ SD 5.73 $\pm$ 1.8, group 2 difference mean + SD 3.23 $\pm$ 1.3. The total calculated sample size was 14 (07 for each group). But due to the availability of enough samples. The final sample size of this study would be 100 in each group (n=200).¹²

Study Tool, Validity, Reliability and Pilot Testing

A structured questionnaire were adopted from one of the Indonesian researches conducted by "Thail et al." in 2013⁸ and translated into Urdu language after taken the expert view. Primary author of this study took permission for utilizing this tool. However, the content validity (CV) of the tool was computed based on feedback from the experts in the field, like public health doctors and nurses, supervisory team members and a statistician. The relevancy and clarity were calculated 0.72 and 0.91 respectively for all four sections. Moreover, the reliability of the tool was calculated by used Cronbach's alpha and it was found 0.75 and 0.82, respectively, for all four sections (a) smoking-related knowledge (b) smoking related attitude (c) smoking intention and (d) smoking behavior. Furthermore, questionnaire was pre-tested on 20 secondary school children, in a nearby school that was similar to the study setting to assess its comprehension and language.

Ethical Considerations

Prior to the commencement of this study, formal ethical approval was obtained from the Ziauddin University-ERC (no. 0050218SSNUR) and also written permission was sought out from the Principal of the School. Since it was a quantitative study, and secondary school children were involved therefore consent form signed from both parents. During data collection, privacy was maintained for all the participants.

Sampling Technique

The consecutive sampling technique was utilized for recruiting the participants. After filling the eligibility criteria secondary school children were approached in their respective classrooms.

Intervention

The study conducted in three phases; pre intervention, intervention and the post intervention phase. In pre-intervention phase (pretest), the participants selected according to inclusion and exclusion criteria for routine assessment according to the questionnaire. In the intervention phase, health-based smoking prevention knowledge and skills are provided to students through lectures, demonstrations, and learning activities such as dialogue, role play, sports and story telling etc. The smoking patterns, prevalence of smoking in Pakistan, bad impacts of tobacco, smoke laws in Pakistan, and drug treatment phase behavior behavioral therapy are all covered in this eight-week interventional session. For eight weeks every day two hours' class conducted in morning and afternoon shift within the school timings. Post-interventional phase (posttest) conducted after fifteen days of the intervention using same Questionnaire.

Data analysis and management

Continuous variables were interpreted by mean $\pm$ standard deviation, and count with percentages for categorical variables. A paired t-test, was used to evaluate participants' health knowledge and behaviors before and after the anti-smoking intervention programme. The data was entered twice to minimize the chances of error. Data was analysed using SPSS 21.

RESULTS

The majority of the children in interventional group were male 70%. Similarly, control group the ration of male and female were 50% (Table 1). Mean age of student's in interventional group is 15.31 ± 1.633 and in control group is 14.32 ± 1.823 . To answer the question of "current living conditions", majority(83%) of the students lived with their parents in interventional group; whereas; 90% in control group but in both groups some of them preferred that relatives and others respectively. While, talk about physical

condition they all say their physical condition has come out good 89% in interventional whereas; 93% in control group. However, while responses to tobacco use 64% students not mentioned the consumption of cigarette ever in interventional while on the other side 80% in control group respond the same answer (Table 1).

However, no significant difference was noted between exposure to smoking-related information interventional and control group (p-value 0.396) (Table 2). Similarly, it is important to note that information points increased after the intervention, but were not statistically significant. There was a statistical difference in the mean number of respondents in the smoking-related mindset (p-value < 0.05) (Table 2). The rate of outcome of the smoking-related condition was reduced after the intervention program. It was clear from the table above that the mean score in the pre-intervention program was 23.78 ± 6.88 and, the mean score for the post-intervention program was 20.29 ± 4.48 (Table 2). Similarly, there were differences in non-significant definitions recorded in the pre- and post-social stress interventions i.e. (p-value 0.161) other than the study was at greater danger of community stress following receiving the intervention program (Table 2). With the help of (p-value 0.211), One may conclude that there was no remarkable increase in smoking behavior pre and post intervention. The average achieve of a previous interference for the purposes is advanced than the signify of the post, this demonstrates the intervention's efficacy. According to smoking behavior (p-value 0.172) No statistically significant difference was found in between stages of tobacco activity in the baseline sessions, (Table 2). Moreover, there was no important disparity experiential among the average community force ratings in relation to smoking in the pre-interrogation. It's worth noting that parents of children experienced less public influence after having time to intervene than students without parents. This signify differentiation was considerably noted (p value 0.003) that is less than alpha 0.005 (Table 3).

DISCUSSION

The study found that student information related to smoking among adolescence had changed as a result of the intervention. This change reflects an increase in participants' knowledge. The result of the current study supported by different national and international studies.^{10,13,14} Furthermore, a long-term anti-smoking interventional session need to be conducted as stated by literature.^{15,16} A descriptive measure of smoking-related attitudes is important which has shown that the intervention was most commonly used in participants' smoking-related attitudes. The present study's results were also confirmed by the research.^{15,16,17} The psychological distress risk level was minimal, which suggests that it was low before the treatment and higher afterward. Even so, research-

ers can deduce that the survey respondents were unaware of the impact of social pressure on smoking's motivation and behavior. Therefore, it is clearly proved that after the intervention the study participants were able to identify the impact of community force. The prose clearly shows that community strain and gaze strain are closely related to the use of tobacco. Therefore, it is important to work and know about the social pressures of youth and how to overcome them.^{15,17} In the present learn, the outcome showed that there was some enhancement in participants' information and goals of smoking and the outcomes were not major for behavioral changes, the same conclusion bring into being in available writing.⁵

In the present research, the signify scale of the smoking-relevant goal has changed, which clearly indicates the effective effect of the interventional program on adolescents. The results show that the eight-week plan failed to maintain smoking regulation. Other services to regulate smoking and smoking must be in effect. Concerns and suggestions were linked to respondents' standards of living in the current research. According to study, learners who live at home are more likely to experience social stress, while students who live with other families are more likely to experience social stress. Similar, literature was supported the current study.^{15, 16}

CONCLUSION

To conclude that the current research fruitfully found the outcome of a smoke avoidance and control program occurred at a public school. Though few outcomes were statistically important, there were some significant differences. This dissimilarity on one hand reflects the efficiency of the plan, and other than lights the significance of making these kinds of programs constantly for changing students' attitudes and behaviors.

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Authors' Contribution:

Sohail Sajid. Conceived idea for the study and manuscript proof reading.

Shireen Arif. Literature search, data collection

Alia Nasir. Study design and concept.

Shahzad Bashir. Manuscript writing, Critical revision, drafting.

Arooj. Data collection and interpretation

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Table 1: Demographic Characteristics

Variables		Interventional group (n=100)	Control group (n=100)
		n (%)	n (%)
Age		15.31±1.633	14.32±1.823
Gender	Male	70	50
	Female	30	50
Current living condition	With Parents	83	90
	With Relatives	9	4
	With others	8	6
Physical Condition	Good	89	93
	Poor	11	7
Consumption of Cigarette ever	One Cigarette	14	12
	Two Cigarettes	12	6
	More than cigarettes	10	2
	Not Mentioned	64	80

Table 2: Comparison of mean score of Smoking-related attributes of study subjects

Attributes	Interventional group (Mean ±SD)	Control group (Mean ±SD)	p-value
Smoking Related Knowledge	5.17±3.32	5.27±0.94	0.396
Smoking Related Attitude	23.78±6.88	20.29±4.48	<0.05
Social Pressure over smoking	4.38±2.37	4.74±2.73	0.161
Intention of Smoking	5.53±2.91	5.17±3.32	0.211
Smoking Behavior	8.82±2.45	9.08±2.67	0.172

Table 3: Effect of Intervention Program over living condition of study subjects.

Intervention	Living Condition (Mean ±SD)		p-value
	With Parents	Without Parents	
Interventional group	4.35±2.39	4.51±2.33	0.738
Control group	4.50±2.49	6.10±3.62	0.003