

## The effectiveness of an integrative video tutorial and assertiveness behavior skills in cigarette consumption and awareness of its harmfulness among male high school students in Ilam

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**Abstract:** Smoking cigarettes, as a drug, threatens the smoker's health. The present study is aimed to measure the effectiveness of an integrative video tutorial and assertiveness behavior skills in cigarette consumption and awareness of its harmfulness among male high school students in Ilam. The research is an experimental research using the Solomon four-Group Design and follow period. The sample was drawn from all public high schools in Ilam. Having selected four schools using cluster random samplings, a second grade class was randomly selected from each school and they were randomly assigned to experimental and control groups. The participation was conducted through a group discussion and role play by showing photo, video of the effects of smoking along with a short description text and photos, videos and texts of assertiveness behavior. The assessment tools used in the study were self-reporting through questionnaires and urine samples testing. Data were analyzed by one way and two way analysis of variance and Esquire, McNemar, Kruskal-Wallis and T test.

The awareness of smoking effects significantly increased and remained constant during follow period and as a result, cigarette consumption was significantly reduced among the experimental group. Using inexpensive, short-term and research-oriented procedures along with the combination of knowledge and skills, students' awareness of smoking effects was fostered and cigarette consumption was reduced among smokers. A primary model, based on these results, was presented to prevent smoking among students in five steps.

**Key words:** Video tutorials; Assertiveness behaviors; Cigarettes; Awareness; High school students

### 1. Introduction

The nicotine being in cigarette as an addictive substance (Kaplan and Sadock, 2003), endangers the health of the consumer (Sanderson, 2004), so that it takes the life of nearly six million people every year, (WHO, 2013), due to causing heart and pulmonary diseases and different types of cancer (Baum and Contrada, 2011).

There are one million smokers in the world who annually smoke six trillion cigarettes (Azar and Nuhi, 1389). In Iran, 21% of the men, and almost 1% of the women smoke cigarettes (WHO, 2013), and 19% of the students from ten cities of the country have consumed cigarettes and alcoholic drinks at least once and 14% of whom have smoked cigarettes (Mohammadkhani and Sarami, 1391), 29% of Tehran high school students; (31% of which comprise boys and 26% girls) occasionally, and 5% (6% of the boys and 2% girls) smokes cigarettes daily (Heidari et al., 1383). With respect to this contagion degree of cigarettes consumption in country, and by virtue of the fact that 33% of 7-14

year old students and 25% of 15-18 year old students are unaware of drugs abuse (Serajzadeh, 1383, quoted by Mohammadkhani and Serami, 1391), and that 23/3 of the students are susceptible to the danger of smoking cigarettes (Sarvestani, 1382, quoted by Mohammadkhani and Serami, 1391), this can add fuel to the fire and compound the problem, and negative presumption about the future comes to mind which necessitates doing preventive interventions in this field.

Since high school period is a dangerous era in that the consumption of drugs such as cigarettes, alcohol, and drugs can spread among young students (Amico, et al., 2005, LD Johnston, et al., 2005, Simon-Morton, et al., 1999 quoted by woo, Kiting, 2008), and also 89% of the adults who smoke have started smoking cigarettes before 19 years old (Mash & Wolfe, 2010), and those interventions which have been exercised in the field of prevention of cigarettes consumption so far via multi-media and school-oriented instructional programs conducted have proved effective (Brian et al., 1992; Brain and Fly, 1957). And that through courageous behavior skill, students will learn to resist the temptation of accepting friends offering them cigarettes (WHO,

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2001). But in spite of doing different preventive interventions that have been mainly conducted in the form of lecture and emphasized more the effects of smoking cigarettes, the consumption of this drug has increased so that, in 2005, the percent of the whole active and inactive smokers was 17.5% (Mehrabi et al., 1384), but it climbed to 25.6 % in 2011 (Montazeri et al., 1390). For the older reasons, most intervention programs, in order to avoid drugs abuse and dependence, concentrated more on the instruction-oriented programs. But, nowadays, in addition to these instructions, Life skills related programs to avoid or resist against social pressures (such as coevals), or environmental pressures such as visual media can be more effective (Durand & Barlow, 2012). So this investigation aims to measure the degree of effectiveness of combinatory intervention including visual display and courageous behavior skills on cigarettes consumption and awareness of its harmful effects in the population of male high school students in Ilam City.

## 2. Method

This study was done in an experimental way, and it made use of Solomon's four-group design in a period of one academic year. The studied community of this investigation comprised all the junior public high school male students in Ilam who were studying in different courses like Arts (humanities), Sciences, and Physics-Mathematics fields in the academic years 92-93. Sampling of the study has been fulfilled in two phases in a bunch manner. In the first phase, Ilam City was divided into four geographical areas (West, South, East, and City center, and in the second phase, one high school was selected randomly from each area based on the addresses of the studied high schools; Finally, two first grade classes in every high school was chosen, and all the classes were placed into quadruplet groups (two experimental groups and two control groups) randomly. After receiving a written consent from the study samples, first a pretest (Questionnaire and urine sampling) was administered to an experimental group and a control group, and for the experimental group, four 2-hour sessions in the field of instruction intervention including visual display of harmful effects of cigarettes and the instruction of courageous behavior skills through the use of picture, movie, short scientific texts, role play and group discussion were held. Two months after conducting the intervention programs, a post-test was administered to all four groups, and the studied groups were taken into investigation. In this study, two main instruments were used to collect data consisting of a Questionnaire including 42 questions, and the questions, in turn, were divided into three parts: Individual characteristics, the precedence of smoking cigarettes, awareness measurement, and urine sample test were used as measures to collect data. The content of the questionnaire was confirmed by the experienced and eminent professor, and the stability rate of the awareness

measurement questionnaire was estimated as equal to 0/74, and the degree of sensitivity and specificity of the urine sample test was estimated to be 100%. The analysis of the data was made by making use of statistical and analytical tests of one-way and two-way variance, Chi Square's goodness of fit, MakNamar, and T-test.

## 3. Findings

99% of the participants took part in the study with complete consent, and, in the course of doing research, only 2.8% of the students were absent. The findings of the study revealed that, the intervention in this research could raise students' awareness, in the experimental groups of the study, about the harmful effects of smoking cigarettes in comparison with the control groups. So that the average of students' awareness in the second experimental group was 13.86 in the pretest, but, it reached 16.13 in the posttest, whereas, in the control group, the average of awareness of the harmful effects of smoking cigarettes was 13.48, but it decreased to 14 in the posttest. In general, 30% of the students in the pretest didn't have enough and awareness of harmful effects of smoking cigarettes.

The average of students' awareness, who received instructional intervention, about the harmful effects of cigarettes equaled 17.58, but, in the control groups in which students had not received training intervention, the average of awareness was equaled to 13.47, and this difference was considerable and meaningful. The posttest degree of awareness of the second experimental group and the first control group in which students had received pretest was examined and compared to that of the posttest of the first experimental group and second control groups who had not taken pretest. The findings showed that the average of awareness about the harmful effects of smoking cigarettes in the two groups who had taken pretest was 16.36, but, in the two groups who had taken pretest, it was 14.72, and this difference was statistically meaningful. There was no considerable and meaningful difference between the degree of awareness of the posttest and investigation phases of the two experimental groups.

The percentage of cigarettes consumption in the pretest of the second experimental groups and the first control group, and the posttest of the second control group, who had not received instructional intervention, amounted to 31%. The findings of the study also showed that 7.4 % of the experimental groups, in the posttest, had smoked cigarettes, but 29.4 of the control groups, had smoked cigarettes which is statistically considerable and meaningful. But about the effect of pretest about cigarettes, the findings of the statistical analysis revealed that this factor failed to influence cigarettes consumption considerably, and no considerable difference between cigarettes consumption in the posttests of the second experimental first control groups, and that in the posttests of the first experimental and

second control groups. In both experimental groups, cigarettes consumption had reduced in comparison to that of posttest, and also, compared to the pretest, cigarettes consumption reduced in the second experimental group.

This study showed that education would raise students' awareness of smoking harmful effects and that this awareness would continue for one year if intervening variables (education level & parents' job) were controlled.

**4. Discussion**

**Table 1:** Findings of 2-way variance analysis in pretesting and post-testing in awareness of smoking harmful effects in study groups

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Interventoin factors	Pre-testing	1.8	1	1.8	.174	.678
	Post-testing	116.4	1	116.4	5.800	.020
Pretesting factors	Pre-testing	9064.6	1	9064.6	892.540	.000
	Post-testing	10317.3	1	10317.3	513.9	.000
Intervening and pretesting factors	Pre-testing	1.8	1	1.8	.174	.678
	Post-testing	116.4	1	116.4	5.8	.020
Error	Pre-testing	477.3	47	10.2		
	Post-testing	943.6	47	20.1		
Total	Pre-testing	9613.0	49			
	Post-testing	11261.0	49			

**Table 2:** descriptive indices of awareness variable in proportion to smoking harmful effects in research groups

follow	Post-testing	pretesting	data	Research groups	row
29	31	-	Number of sample	First experiment	1
18.11	18.61	-	mean		
2.1	1.26	-	SD		
20	21	21	Number of sample	Second experiment	2
16.7	16.13	13.83	mean		
3.44	4.45	2.63	SD		
-	28	28	Number of sample	First control	3
-	13.03	13.48	mean		
-	3.52	4.51	SD		
-	22	-	Number of sample	Second control	4
-	14.000	-	mean		
-	3.40	-	SD		

**Table 3:** the mean of the SD of scores obtained from the first and second control group post testing and the first and second experimental group post testing in awareness of smoking harmful effects. T test findings

sig	df	t	Std. Error Mean	Std. Deviation	mean	N	variables
%0001	100	5.71	576	4.036	13.47	49	Post-testing control groups
			443	3.225	17.58	53	Post-testing experimental groups

**Table 4:** mean and SD of post testing scores obtained from experimental groups and experimental group follow in awareness of smoking harmful effects. T test findings

sig	df	t	Std. Error Mean	Std. Deviation	mean	N	variables
%91	99	.107	433	3.225	17.58	53	pretesting
			399	2.767	17.52	48	follow

Table 5: Frequency and Percentage of smoker and nonsmoker students in experimental and research control groups in pretesting, post-testing and phase

follow		Post testing		Pretesting		Cigarette consumption position	group
Percentage	Frequency	Percentage	Frequency	Percentage	frequency		
93	27	90	27	-	-	Non smoker	First experimental group
7	2	10	3	-	-	smoker	
100	29	100	30	-	-	total	
100	20	95	19	76.2	16	Non smoker	Second experimental group
0	0	5	1	23.8	5	smoker	
100	20	100	20	100	21	total	
-	-	67.8	19	60.7	17	Nonsmoker	First control
-	-	32.2	9	39.3	11	smoker	
-	-	100	28	100	28	total	
-	-	77.2	17	-	-	nonsmoker	Second control
-	-	22.8	6	-	-	smoker	
-	-	100	22	-	-	total	

In explaining these findings, it can be argued that this change is the result of appropriate quality of instructional intervention, difference between these education programs and other traditional education programs at schools, novelty of instructional material, and application of new technologies like video cameras, role play and also group discussion. These findings are aligned with research findings (Ahmadi and Hamed 2012; Kawosi et al., 2011; Allahvardipoor et al., 2006; Hakimi, 1391; Berin and Fly, 1957; Rahnavard et al., 1388; Tarmian and mehryar, 1387) in which results showed that instructional intervention would raise awareness and change attitudes towards testing cigarette and addictive substances. Because, over the past decade the best guideline on the prevention of disease and injury has been people training in health, training teenagers and adolescents will immunize them against health threats and help them shape positive healthy behaviours at the beginning of their lives (World Health Organization, 2001). These findings help health authorities in the field of prevention of cigarette consumption to remain hopeful that scientific and appropriate intervention like instructional intervention fostered in this study will be remembered by participants at least for an academic year, which plays an important role in prevention of cigarette consumption and dissemination of this information to others. This is corroborated by the fact that most of educated students in this study stated that these education programs played a pivotal role in prevention of cigarette consumption and almost all of them reported that they had disseminated the learned material in this study to others such as their family members, friends, and relatives.

A lack of awareness of smoking harmful effects among one third of students in this study agrees with Serajzades research findings (2004). According to Mohammad Khani and Sarami; 2012, Serajzade discovered that a lack of awareness of drug abuse was 33 percent among Iranian 7-14 year old students. This lack of awareness shows the necessity

of employing a health and education centered approach in Iran's educational system.

Other findings from this study revealed that the integrative model of video tutorial and courageous behavior played a significant role in starting and quitting smoking if moderating variables (education level, parents' job and level of cigarette consumption among family members) were controlled. This result along with research findings from an integrative intervention not only provides general information on cigarettes, alcohol and marijuana but also improves the necessary skills in establishing and maintaining relationships through amending communication and teaches courageous behavior & expression of feelings to students. Using careful sampling method, self-report and saliva sample measuring tools, an evaluation was made of the program, the primary search results of which showed that 40-70 percent of the participants in this program never restarted smoking. (Botvin et al., 1980, Botvin and Eng, 1982; Botvin et al., 1984; according to Kratochwill and Morris, 2003). These results are aligned with the following results: According to Sanderson; 2004, Gil and Botevin found that cigarette consumption was 10 percent and 22 percent between educated and uneducated group respectively. A study conducted by Howard Leventaland Jeane Watts (1996), showed that showing films would reduce cigarette consumption (Sanderson; 2004). A study carried out by (Brian, verden ,Roger et al; 1992) which demonstrated a significant reduction in cigarette consumption in experiment group. In a study by HoseiniAheg, cigarette consumption was 31/33 before intervention and 19/33 one year after intervention. The existence of reverse relationship between addiction and bravery (Feizallahi et al., 2012). The role of self-expression in prevention of cigarette consumption. Bereke (2001), discovered that educational programs at school would reduce the possibility of testing addictive substances. Therefore, since the main goal of life skills approach is to teach an increase in determination & resistance among

teenagers so that they may feel that they are useful and this approach showed that it had played an important role in reduction of cigarette consumption (Botvin et al., 1999, according to Taylor 2009). A longitudinal study indicated that life skills approach had played an important role in prevention of cigarette consumption during a 2 year period (Botvin et al., 1983; Botvin and Vilez, 1985; Phino, 2002). Besides, the widespread use of cigarette among one third of students in this research and one fifth of their family members and the fact that tobacco consumption seriously endanger human health and that one person dies from cigarette consumption in every 8 seconds, (which is often because of cardiovascular disease, lung injury and different types of cancer) (Konrada and Baom, 2011) stress the necessity of expanding this useful integrative intervention at schools. The general and successful findings from this study showed that students' awareness about smoking harmful effects could be raised and cigarette consumption among addicted students could be reduced by efficient short term integrative intervention. It also showed that we could force a researcher to propose a preliminary model by the name of "model of 5 steps to prevent cigarette consumption" which respectively include:

Problem determination, awareness raising & skill training, new attitude formation & behavioral skills development, cognitive and behavioral awareness raising and finally problem prevention. It is hopeful that further researches are conducted on the current topic so that this model can be extended into other health related issues. It is suggested that prevention intervention in this topic should be implemented before the age of 15 or early years of high school.

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