



Effectiveness of Education Program on High School Males Students' Knowledge about Smoking

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ABSTRACT

Objective(s): The present study aims to evaluate the effectiveness of the educational program on high school mal students' knowledge about smoking.

Methodology: A quasi-experimental design was carried out to in AL-Kut City for the period from 20th September 2022 to 24th November 2022. A non-probability (purposive sample) sample of (60) student was selected, (30) student for the study group and (30) students for the control group from high Schools for Males. The data was collected by using an constructed questionnaire based on t from constructed educational program for the purpose of the study by direct interview using. Data were analyzed by using (SPSS) package version (25) through the descriptive statistical data analysis of frequency, percentage, mean of score and standard deviation, and inferential statistical data analysis of the T-test and ANOVA.

Results: The findings revealed that students' knowledge about smoking for the study group before and after the application of the education program, at the pre-test the majority of the students had poor knowledge (83%), at post-test I and II, all of them had good knowledge (100%). While the control group, the majority of the students' knowledge was fair at pre-test, post-test I and pos-test II (83%), (93%) and (80%) respectively, which confirmed that the education program has enforced a significant improvement on students' knowledge about smoking.

Conclusions: The study concluded that the education program had improved students' knowledge about smoking and can induce an effect on them to decrease the use of tobacco as a bad habit.

Recommendations: The study recommends for using the educational program of the current study as a reference for high school students to expand their awareness about this common phenomenon to contribute in reducing tobacco use as a bad habit among high school students.

الهدف: تهدف الدراسة الى تقييم فاعلية البرنامج التعليمي في معارف طلبة المدارس الإعدادية حول التدخين.

منهجية البحث: دراسة شبه تجريبية اجريت في مدينة الكوت للفترة من 20 ايلول 2022 ولغاية 24 تشرين الثاني 2022. اختيرت عينة غير احتمالية (غرضية) تتألف من (60) طالب: (30) طالب لمجموعة الدراسة و (30) طالب للمجموعة الضابطة من مدارس الثانوية للذكور. تم جمع البيانات عن طريق المقابلة المباشرة باستخدام استبيان معد سابقا وفق البرنامج التعليمي المعد. تم تحليل البيانات باستخدام برنامج SPSS الإصدار (25) عن طريق التحليلات الإحصائية الوصفية للتكرارات والنسب المئوية والوسط الحسابي والانحراف المعياري والتحليلات الإحصائية الأستنتاجية لاختبار (T) وتحليل التباين (ANOVA).

النتائج: كشفت النتائج أن معارف الطلاب حول التدخين لمجموعة الدراسة قبل وبعد تطبيق البرنامج التعليمي، في الاختبار التمهيدي كان لدى غالبية الطلاب معرفة ضعيفة (83%) ، وفي الاختبارين البعدي للأول والثاني كانوا جميعهم لديهم معرفة جيدة (100%)، في حين أن المجموعة الضابطة ، كانت غالبية معرفة الطلاب متوسطة في الاختبار القبلي والبعدي (83%) و (93%) و (80%) على التوالي ، مما أكد أن برنامج التعليم فرض تحسناً كبيراً في معرفة الطلاب بالتدخين.

الاستنتاجات: وخلصت الدراسة إلى أن البرنامج التعليمي قد حسن معرفة الطلاب بالتدخين ويمكن أن يؤدي إلى التأثير عليهم لتقليل استخدام التبغ كعادة سيئة.

التوصيات: توصي الدراسة باستخدام برنامج التعليمي للدراسة الحالية كمرجع للطلاب في المدارس الثانوية لتوسيع وعيهم حول هذه الظاهرة الشائعة ليساهم في تقليل استخدام التبغ كعادة سيئة بين طلاب المدارس الثانوية.

الكلمات المفتاحية: فاعلية، معارف الطلبة، المدارس الإعدادية، التدخين

Introduction

High school students are at the peak of adolescence period. Regarding smoking usage, adolescence is a critical period of life and considered risky period. Where the risk of addiction reaches the highest levels and this period is characterized by the ability of the teenager to adopt behaviors that threat him psychologically, physically and socially⁽¹⁾.

Smoking usage refers to the habitual consumption of tobacco products that has harmful consequences. It's challenging to put into words the grip that nicotine has on a person who smokes. Cigarettes, marijuana, and heroin are all included in the category of "smoking." Abuse can be defined as the excessive use of a substance. significant impairment in role performance as a result of smoking, continued use of a substance in risky situations, continued use of a specific substance despite ongoing social or interpersonal issues caused or exacerbated by the substance, or continued use of a substance despite ongoing legal issues related to the substance⁽²⁾.

Smoking use (marijuana, tobacco, and heroin) are the major concerns of today's world. It is impairing human will and vanishing his mind in such a way that pushes them to commit crimes. Therefore, substance use, of which every developed and developing community suffer, is considered one of the most complicated problems that face the community which is not less dangerous than⁽³⁾.

Smoking cigarettes is a major public health problem around the world. smoking use is a constant concern that has been related to a high mortality rate. High costs in healthcare and lost wages are a direct result of these problems⁽⁴⁾.

School students, aged is duration of quick economic, social, and cultural transmission in Iraq which has produced a suitable condition for growing socially upset types of smoking, hookah, narcotic and alcohol use. Substance use is increased trouble in Iraq, as in many developing countries. In Iraq high school students are very a substantial class that is

susceptible to depend on the drugs. This is a very earnest trouble that worries both the population and government⁽⁵⁾.

Adolescent substance usage is a serious issue across the globe. It is linked to increased risk for several well-known effects, such as strained peer relationships, mental illness, elevated suicide risk, risky sexual conduct, human immunodeficiency virus (HIV), disturbed learning, absenteeism, higher rates of school dropouts, and poverty⁽⁶⁾.

According to reports of the Iraqi Ministry of Health in 2017, the number of smokers in Iraq was (31%) male, (4%) female⁽⁷⁾.

According to the final report of Survey of Substance use in Iraq in 2020, the Overall Tobacco use of lifetime was (29.0%) of participants while (23.4%) reported current tobacco use⁽⁸⁾.

The current study aims to determine the effectiveness of the education program on high schools males students' knowledge about smoking which may contribute in declining the phenomena of smoking among adolescents and youth in Iraqi high schools.

Methodology

A quasi-experimental (pretest-posttest) design was carried out on non-probability (purposive) sample of (60) students who have been selected and divided into two groups (study and control groups) of (30) student for each group; (10) students from the 10th grade, (10) students from the 11th grade and (10) students from the 12th grade.

The study group is recruited from Al-Kut High School for Males, and Al-karma High School for the control group selection. The sample is selected from list a homogeneous student of (561) male student.

Ethical approval has been obtained from the research ethics committee in the College of Nursing\University of Baghdad, and approval obtained from Wassit Education Directorate for the data collection process.

Students have completed consent forms acknowledging their approval for participating

in the study, and their understanding that such participation is voluntary and information would be treated in confidence and used exclusively for research purposes.

An educational program is constructed for the purpose of the study The program is comprised of three main sessions; Introduction about Smoking, Forms and Types of Smoking and Harmful Effects of Smoking.

Each session is designed and scheduled for at least (90) minutes.

A self-report questionnaire is constructed according to the constructed program contents. The questionnaire is comprised of two parts, Part II: Students' socio-demographic characteristics which includes age, residency, grade, father education, mother education, monthly income.

Part II: Evaluation scale of students' knowledge about smoking, involved from (17) items.

Content validity for the early constructed program and the questionnaire was determined by a panel of (10) experts who have more than 5 years of experience in their specialties to review their clarity, relevance, and adequacy.

Reliability of the questionnaire is based on Test-retest reliability and it was acceptable (0.908)

Data collection process was done through direct interview technique with the students, for the period from 20th September 2022 to 24th November 2022.

Statistical data analysis approaches were used to analyze the results of the study under the application of the statistical package (SPSS) version (25); Frequency distributions, percent and Chi-square. A P-value of less than or equal to 0.05 was considered statistically significant. Knowledge scores varied from (51-102), with the levels of poor knowledge (51-67), fair knowledge (68-84) and good knowledge (85–102), scoring for the three level scale was (3) for I know ,(2) for uncertain, and (1) for I don't know (1).

Results

Table (1): Distribution of Students' Socio-demographic Characteristics (Study and Control)

List	Demographic Characteristics	Study Group		Control Group	
		F	(%)	F	(%)
1	Age (years)				
	15-16	10	33.3	10	33.3
	17 – 18	10	33.3	10	33.3
	19-20	10	33.3	10	33.4
	Total	30	100.0	30	100.0
2	Residency				
	Urban	23	76.7	22	73.3
	Rural	7	23.3	8	26.7
	Total	30	100.0	30	100.0
3	Grade				
	10	10	33.3	10	33.3
	11	10	33.3	10	33.3
	12	10	33.3	10	33.4
	Total	30	100.0	30	100.0
4	Father's Education				
	Illiterate	1	3.3	1	3.3
	Read and write	0	0.0	0	0.00
	Primary school	1	3.3	2	6.7
	Intermediate school	4	13.3	5	16.7
	High school	11	36.7	9	30.0
	Institute	4	13.3	5	16.7
	College	7	23.3	6	20.0
	Postgraduate	2	6.7	2	6.7
	Total	30	100.0	30	100.0
5	Mothers Education				
	Illiterate	1	3.3	1	3.3
	Read and write	12	40	10	33.3
	Primary school	4	13.3	7	23.3
	Intermediate school	0	0.0	3	10.0
	Secondary school	2	6.7	3	10.0
	Institute	4	13.3	1	3.3
	College	5	16.7	4	13.4
	Postgraduate	2	6.7	1	3.3
	Total	30	100.0	30	100.0
6	Father's Occupation				
	Employed	20	66.7	22	73.3
	Self – employed	7	23.3	6	20.0
	Retired	3	10.0	2	6.7
	Total	30	100.0	30	100.0
7	Mother's Occupation				
	Employed	11	36.7	11	36.7
	Self – employed	1	3.3	1	3.3
	Retired	4	13.3	5	16.7
	Housewife	14	46.7	13	43.3
	Total	30	100.0	30	100.0
8	Family Monthly Income(ID)				
	Less than 300,000	2	6.7	2	6.7

	301,000-600,000	6	20.0	6	20.0
	601,000 – 900,000	6	20.0	7	23.3
	901,000 – 1,200,000	10	33.3	10	33.3
	1,201,000 - 1,500,000	6	20.0	4	13.3
	>1500,000	0	0.00	1	3.3
	Total	30	100.0	30	100.0

F=Frequency, (%) = percentage

This table shows that students' age and grade, were selected equally in numbers for both study and control groups to meet the purpose of the study. The majority of student's residency are in the urban area (76.7%), (73.3) in the study and control group respectively. Concerning students' father's education, most of them are high school graduate (36.7%) in the study group; while in the control group they were (30%), on the other hand, most of mothers' education in the study group are read and write only (40%) as well as in the control group (33.3%). Students fathers' occupation revealed that most of them in the study group are employed (66.7%) as well as in the control group (73.3%) whereas most of the students' mothers are housewife in the study group (46.7%) as well as in the control group (43.3%). Finally, most of the family monthly income are (901,000 – 1,200,000 ID) for both study and control groups (33.3%).

Table (2): Overall Evaluation of Students' Knowledge about Smoking for the Study and Control Group at the Pre-test, Post-test I and Post-test II Periods

Period	Study Group			Control Group		
	Poor	Fair	Good	Poor	Fair	Good
Pre-test	25(83.3%)	5(16.7%)	0(0.0%)	25(83.3%)	5(16.7%)	0(0.0%)
Post-test I	0(0.0%)	0(0.0%)	30(100.0%)	28(93.3%)	2(6.7 %)	0(0.0%)
Post-test II	0(0.0%)	0(0.0%)	30(100.0%)	24(80.0%)	6(20.0%)	0(0.0%)

Poor (17-22.6), Fair (22.7-28.3), Good (28.4-34)

This table presents the dramatic change of students' knowledge about smoking among the study group before and after the application of the education program; at the pre-test the majority of the students had poor knowledge (83%), at post-test I and II, all of them had good knowledge (100%). While the control group, the majority of the students' knowledge was fair at pre-test , post-test I and post-test II (83%), (93%) and (80%) respectively.

Table (3): Evaluation of Students' Knowledge about Smoking through Items' Mean of Scores for the Study and Control Group at the Pr-test, Post-test I and Post-test II Periods

List	Knowledge about smoking	Study Group (N=30)						Control Group (N=30)					
		Pre-test		Post-test I		Post-test II		Pre-test		Post-test I		Post-test II	
		M.S	Ev.	M.S	Ev.	M.S	Ev.	M.S	Ev.	M.S	Ev.	M.S	Ev.
1	Smoking cessation requires great effort	1.20	Low	2.00	High	1.87	High	1.23	Low	1.13	Low	1.07	Low
2	Smoking is harmful to health	1.37	High	1.87	High	1.73	High	1.33	Low	1.20	Low	1.13	Low

3	I think quitting smoking requires existence of medical institutions and centers concerned with public health	1.30	Low	1.93	High	1.73	High	1.30	Low	1.33	Low	1.53	High
4	Quitting smoking requires encouragement from family and friends	1.30	Low	1.93	High	1.87	High	1.27	Low	1.33	Low	1.33	Low
5	Smoking is not only harmful to the smoker, but to everyone present with the smoker	1.23	Low	1.73	High	1.73	High	1.27	Low	1.20	Low	1.27	Low
6	Awareness of the harmful effects of smoking helps to avoids it	1.27	Low	1.73	High	1.73	High	1.30	Low	1.33	Low	1.33	Low
7	Smoking is a major cause for lung cancer	1.30	Low	1.77	High	1.87	High	1.30	Low	1.33	Low	1.33	Low
8	Smoking leads to for oral cancer	1.13	Low	1.93	High	1.71	High	1.20	Low	1.27	Low	1.27	Low
9	Smoking causes a decrease in the body's immunity against disease	1.57	High	1.87	High	1.77	High	1.53	High	1.33	Low	1.33	Low
10	Smoking leads to early death	1.30	Low	1.73	High	1.73	High	1.23	Low	1.27	Low	1.13	Low
11	Smoking is a major cause of diseases the heart	1.17	Low	1.77	High	1.60	Low	1.20	Low	1.27	Low	1.27	Low
12	Smoking negatively affects childbearing	1.27	Low	1.80	High	1.73	High	1.27	Low	1.13	Low	1.20	Low
13	The danger of smoking to human life as the seriousness of incurable diseases and sometimes more	1.30	Low	2.00	High	1.73	High	1.27	Low	1.40	High	1.40	High
14	Smoking is a major cause of cancer bladder	1.13	Low	1.73	High	1.77	High	1.17	Low	1.27	Low	1.20	Low
15	The cultural level of the family has an influence on Smoking use	1.23	Low	1.73	High	1.47	Low	1.30	Low	1.33	Low	1.33	Low
16	Smoking causes seizures asthma and chronic bronchitis	1.23	Low	1.80	High	1.77	High	1.23	Low	1.40	High	1.33	Low
17	To combat smoking the existence of laws	1.17	Low	1.80	High	1.80	High	1.13	Low	1.40	High	1.40	High

N: Group size, MS: Mean of score, EV: Evaluation, Low<1.36, High >1.36

This table shows that all knowledge items had low mean of scores except items (2) and (9), it had high mean of sores at the pre-test period for the study group, while at post-test I, all knowledge items had high mean of scores, and at post-test II all items had high mean of scores except item (11) and (15) had low mean of scores. While the control group, the majority of items at pre-test, post-test I and post-test II had low mean of scores.

Table (4): Effectiveness of Educational Program on Students' Knowledge about Smoking between Study and Control GroupS.D = standard deviation, df= Degree of freedom, t=t-test value, P= Probability level (P value \leq 0.05), NS: Non Significant at $P \geq$ 0.05, S:

Study Control Pair	Paired Differences					t	df	P \leq 0.05	Sig
	Mean	S.D	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pre-test Post-test I	.5418	.0464	.0084	.5244	.55919	-6.847	29	.000	HS
Pre-test Post-test I	-.600	2.673	.488	-1.598	.398	-1.229	29	.229	NS

Significant at $P \leq$ 0.05, HS: Highly Significant at $P <$ 0.01.

Result out of this table approves that the education program has enforced significant on students' knowledge about smoking.

Discussion

Data analysis for the students' demographic characteristics revealed no significant difference in mean age between the study and control groups. One study 'Assessment of know ledge and attitudes of adolescents about substances abuse found that 36% of participants were between the ages of 15 and 18, while another study impact of an education intervention on knowledge of high school students concerning substance use in Kurdistan Region-Iraq: A quasi-experimental study found that 52% of participants were between the ages of 15 and 18, and yet another found that 43% of participants were between the ages of 15 and 17, with the discrepancy attributable to the fact that the participants in the present study are all young students and not randomly selected members of society⁽⁹⁾⁽¹⁰⁾.

The fact that the typical age for entering the 10th grade in Iraq is 16 is directly related to this finding⁽¹¹⁾.

According to Jordan's educational system, starting high school there at the age of 16 is the norm, according to research conducted by Haddad, more than half of participants were beyond the age of 17⁽¹²⁾.

Saudi Arabia also concurred with the current findings that their education system is comparable to Iraq's in terms of the number of primary through high school education levels⁽¹³⁾.

Regarding students' knowledge about smoking, the findings revealed that has been dramatic changes after the implementation of the education program. Table (2) shows the improvement of students' knowledge through the three tests periods evaluation; at the pre-test the majority of the students had poor knowledge, at post-test I and II all of them had good knowledge. While the control group, the majority of the students' knowledge was fair at pre-test, post-test I and post-test II.

Such findings are obviously reflected in the items' mean of scores in Table (3).

This result confirms the findings of the current investigation effectiveness of structured teaching Program on knowledge regarding hazards of Substance use among adolescent boys of higher Secondary school who found that are lack knowledge about smoking in high school students⁽¹⁴⁾.

Effectiveness of the program has been confirmed in the findings of table (4), the results depicts that there are highly significant differences between the study and control groups at pre-test, post-test I and post-test II, on students' knowledge about smoking.

The study's health awareness programme on knowledge regarding substance abuse and its consequences among adolescents findings corroborated earlier findings that high school students lacked awareness about smoking⁽¹⁵⁾.

Conclusions

The study concluded that the education program had improved students' knowledge about smoking and can induce an effect on them to decrease the use of tobacco as a bad habit.

Recommendations

The study recommends for the use of the current education program as a reference for the students in the high schools to expand their awareness about this common phenomenon.

Conflict of Interest

None.

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References

1. Jinan J. Kadhim., & Mohammed, Q. The Role of Nutritional Status in Recovery of patients with substance use disorders: *Annals of R.S.C.B.* 2021;25(4).
2. Ihaab H. Abbas., & Juboori, A. K. Evaluation of Nurses' Knowledge about Substance Abuse at Psychiatric Teaching Hospitals in Baghdad City: *Iraqi National Journal of Nursing Specialties.* 2017 ;30(1).
3. United Nations Educational, Scientific and Cultural Organization (UNESCO), United Nations Office on Drugs and Crime, WHO. Education sector responses to the use of alcohol, tobacco and drugs. Paris: UNESCO. Good policy and

- practice in health education: booklet 2018;10(1).
4. Maqbool, M., Dar, M. A., Rasool, S., Gani, I., & Khan, M. Substance use disorder and availability of treatment options: an overview. *Journal of research in health science.*2019; 1 (2).
5. Ali M. Shakhat, & Mushatq T. Hashim. Assessment of stressful life events for patients with substance abuse in Baghdad city: *Iraqi National Journal of Nursing Specialties.*2013; 24 (2).
6. Pullen, S. J., Petruzzi, L., Lange, B. C., Parnarouskis, L., Dominguez, S., Harris, B., & Slopadoe, S. P. A. qualitative analysis of substance use among Liberian youth: Understanding behaviors, consequences, and protective factors involving school youth and the school Milieu. *International journal of mental health & psychiatry.* 2016;2(1).
7. Shymaa.H. Najm., &Mousa, A. Knowledge of Paramedical Staff Regarding Drugs Addiction in Baghdad City/ Iraq: *Iraqi National Journal of Nursing Specialties.*2018 ;31(1).
8. Nesif J. Al-Hemiar&Mushtaq T. Hashim. Alcohol and drug abuse in post-conflict Iraq: *Fac Med Baghdad .*2015; 57 (4).
9. Issa, J. H., & Jamil, H. Overview of the education system in contemporary Iraq: *European Journal of Social Sciences.*2010; 14(3): 360–368.
10. Haddad, L., Shotar, A., Umlauf, M., & al-Zyoud, S. Knowledge of Substance Abuse Among High School Students in Jordan: *Journal of Transcultural Nursing.*2010;21(2): 143–150.
11. PerakashKour. Effectiveness of Structured Teaching Program on Knowledge Regarding Hazards of Substance Abuse among Adolescent Boys of Higher Secondary School: *Indian Journal of Psychiatric Nursing.*2020; 10(20).

12. Siham, A. Hamoo., & Juboori, A. K. Assessment of Knowledge of Adolescents toward Substance Abuse in Baghdad city: Journal of the College of Basic Education.2009; 15(60).
13. Salim, A. M. A., & Siddiqui, A. F. Substance Abuse, A Public Health Challenge: Study from Jizan City, Saudi Arabia: People's Journal of Scientific Research.2015; 8(2): 1–5.
14. Mahmood, N., Othman, S., Al-Tawil, N., & Al-Hadithi, T. Impact of an education intervention on knowledge of high school students concerning substance use in Kurdistan Region-Iraq, A quasi-experimental study: PloS one.2018; 13(10).
15. Adekunle Salaudeen, Omotosho Musa, Tanimola Akande, Oladimeji Bolarinwa. Effects of health education on cigarette smoking habits of young adults in tertiary institutions in a northern Nigerian state: Health science journal.2018; 5(3).