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Investigating students' attitude and performance of smoking at Hormozgan University of Medical Sciences in 2015

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ABSTRACT

Background and purpose of the study: Willingness to smoke and the negative consequences of smoking are among the main problems in general health all around the world. Therefore, the present research attempted to investigate students' perception and performance of smoking cigarettes at Hormozgan University of Medical Sciences. Materials and methods: The present research is analytical and cross-sectional. The target population included all students at Hormozgan University of Medical Sciences in 2015. The sample size was 350. Students admitted in the same academic year were clustered based on their field of study and were selected in a systematic randomization method. To assess students' attitude towards smoking, Shore et al.'s Smoking Attitudes Scale was used. In order to measure their performance, Romito et al.'s Performance Evaluation Questionnaire was employed. The reliability and validity of both scales were already established. The collected data entered SPSS version 16 and the indices of central tendency, descriptive statistics and such statistical tests as independent-sample t-test, one-way ANOVA and chi-squared test were used to analyze the data. The significance level of results was set at ≤.05. Findings: participants' average age was 22.77±3.64 years. The mean score of attitude towards smoking was 50.80±9.87. A statistically significant difference was found between male and female students' attitude towards smoking (p <05). Similarly, a similar statistically significant difference was found between the attitudes of smokers and non-smokers (p <05).The former had a higher attitude score on average towards the act of smoking than the latter. Due to the debilitative effects of smoking, there is a need for extensive interventions to prevent the formation of a positive attitude towards smoking among university students and prevent the emergence of smoking behaviors among them.

Keywords: Smoking, University Student, Attitude, Performance, University

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INTRODUCTION

Despite great human achievements in different scientific, technological, economic and social domains, the globe entered the twenty-first century when there was a threat of behavioral and social crises to human progress and welfare. Within this realm, orientation towards smoking and addiction is considered as a serious threat to healthcare [1]. Therefore, willingness to smoke and the negative consequences of smoking today are considered as the main general healthcare problems all over the world. Diseases related to tobacco account for 6-14% of personal health problems and costs around the globe [2, 3].

Cigarettes are the main cause of cardiovascular diseases. Moreover, there is a higher prevalence of lung diseases and cancer among smokers than non-smokers [4]. Tobacco can be even considered as the foremost preventable cause of mortality [5].

A high prevalence of smoking among the young population is followed by a threat of over-independence and negative consequences [6]. Since smoking is addictive, quitting is demanding. The majority of smokers wish to quit it, and about 70% of them try at least once in lifetime to quit smoking [7]. They mostly fail to do so and one returns to smoking again [8]. Although the negative effects of smoking are well-known, giving it up is far from easy [9].
The effectiveness of quit-smoking programs was investigated in the U.S. and found peer pressure (friends or those in the same age group) and other contextual factors as the main reasons for beginning to smoke [10]. It was indicated in another research that addiction to smoking, habit formation, relaxation and joy are among the primary reasons for continuing to smoke [11]. Many university students have begun to smoke and the rate of smoking is increasing among students of Medical Sciences despite their awareness of its consequences. A group of scientists attribute this rate to mental pressures and stress involved in their academic studies [6]. An ever-increasing tendency to smoking among the young and its negative effects on their life have caused researchers to focus more on identifying the factors involved in this tendency, methods to improve contrastive behaviors, special treatments and adaptability of these people to their smoking experiences [12]. It also seems that the foremost priority in fighting against smoking is planning to educate adolescents and youngsters. However, in advance to any plan, people's behavioral stance towards a certain issue needs to be clarified [13]. Similarly, the present research attempted to explore students' attitude towards smoking as well as their act of smoking in Hormozgan University of Medical Sciences. Through the analysis of the data, this research aims to gain information about factors that affect smoking in the target research population and suggest immediate actions to healthcare policy makers on how to correct students' awareness and performance of smoking.

MATERIALS AND METHODS

Subjects

The present research is analytical and cross-sectional. The target population included all students at Hormozgan University of Medical Sciences in 2015. Inclusion criteria were individuals' willingness to participate in the study, affliction with no psychological disease and evident personality disorder and current affiliation with Hormozgan University. Guest students and those who graduated in 2015 were excluded.

Sample size and selection

According to Morgan's table, due to the fact that the research population was comprised of 2676 subjects, 350 subjects were selected as a sample. First of all, the proportion of undergraduates of each and every field to the total number of students was calculated. The result was multiplied by sample size and this yielded the number of subjects in each field of study. Students admitted to each major were taken as a cluster and were selected randomly based on their student number. In case a subject was unwilling to participate, someone else would take his/her place in a similar random fashion. After giving consent to take part in the study, subjects were made aware of the title of the research. After this awareness-raising, 97.71% (342 subjects) remained in the study and again 8 subjects entered the study randomly.

Instrumentation

In order to evaluate university students' attitude towards smoking, Shore et al.'s (2000)Smoking Attitudes Scale was used. To evaluate the performance, Romito et al.'s (2011) Performance Evaluation Questionnaire was employed[14]. The reliability and validity of the two questionnaires were already confirmed. The validity of university students' attitude and performance was estimated using Cronbach alpha to be .83 and .702 respectively. The questionnaire used in the present research was comprised of 35 items in three sections the first of which was concerned with an individual's demographic information. There were 4 items included in section one. Section two evaluated students' performance of smoking and consisted of 14 items which were to be investigated in terms of the frequency of smoking, duration of smoking and so on. The third section dealt with students' attitude towards smoking and included 17 items to be rated in a 5-level Likert scale ranging between completely agree to completely disagree. Completely disagree was scored 1; disagree received 2; neutral got 3; agree was scored 4 and completely agree received 5. Moreover, a number of items were inversely rated. Answering these items meant a negative attitude towards smoking. Therefore, the score of this scale can vary between 17 and 85. A higher score would mean a better attitude towards smoking among subjects.

Once the subjects were selected to take part in the study, they were taught how to fill out the forms one by one. Then, they were left alone in a safe place to fill them out. The anonymously filled out form would then be inserted into a box to make sure of the confidentiality of the information. The identity of the respondent would not be traceable.

Statistical Procedure

The collected data entered SPSS version 16. Central tendency indices, descriptive statistics, Independent-sample t-test, one way ANOVA and chi-squared test were used to analyze the data.

RESULTS

350 students affiliated with Hormozgan University of Medical Sciences entered the study. Their average age was 22.77±3.64 (min: 18, max: 47). The distribution of subjects' demographic features is indicated in table 1. The distribution of subjects' smoking-related information is reported in table 2. Similarly, table 3 includes the distribution of smoking-related information of those who had smoked within a month prior to the study. Table 4 indicates the frequency of students' performance in terms of academic semester. As can be seen in table 4, students of higher semesters were found to smoke more frequently than others. The mean score of students' attitude towards smoking was 50.80±9.87 (min: 22 and max: 76). There was a statistically significant difference between male and female university students (.000). However, there was no significant divergence between students' attitude towards smoking in terms of the place of residence (.989). The difference between students' attitude was statistically significant in terms of co-living with someone of a smoking habit (.013). A significant difference was found between students' attitudes in terms of the act of smoking itself (.000). Students who smoked were found to have a more positive attitude towards smoking (table 5).

Table 1: Distribution of subjects' demographic information

variable	Sub-group	Frequency (percentage)
Field of study	Dentistry	34(9.7%)
	Healthcare	59(16.9%)
	Medicine	89(25.4%)
	Paramedicine	168(48.0%)
	Total	350(100%)
Sex	Male	109(31.1%)
	Female	241(68.9%)
	Total	350(100%)
Place of residence	Dormitory	287(82.5%)
	Home with family	60(17.2%)
	Home alone	1(0.3%)
	Total	348(100%)
Academic semester	First	28(8.1%)
	Second	78(22.7%)
	Third	13(3.7%)
	fourth	47(13.7%)
	Fifth	15(4.3%)
	Sixth	45(13%)
	Seventh	6(1.7%)
	Eighth	98(28.5%)
	Ninth	2(0.5%)
	Tenth	7(2%)
	Twelfth	3(0.9%)
	Fourteenth	3(0.9%)
	Total	345(100%)

Mean attitude score and students' field of study showed to differ significantly (p=.016). This difference lay between medical students and dentistry students (p=.024). The former were found to have a more positive attitude towards smoking than the latter. However, the mean attitude scores and academic semester showed no significant divergence (p=.200).

Students' performance was assessed in terms of sex, field of study, place of residence and co-living with a smoker (table 6). The mean frequency of smoking was found to be significantly difference between the male and female

(P=.000). In fact, the male were found to smoke 16.89 times as frequently as the female (OR=16.89, CI95%:6.32-45.12). In addition, this difference was found to be statistically significant in terms of co-living with a smoker (p=.000). In other words, the frequency of smoking among those living with smokers was estimated to be 7.44 times as high as those not living with smokers (OR=7.44, CI95%:3.43-16.15). The place of residence also showed a statistically significant divergence (p=.050). However, living in a dorm cannot be said to have a definitely preventive effect on smoking (OR=0.45, CI95%:0.2-1.01).

Table 2: Distribution of subjects' smoking-related information

variable	Responses	Frequency (percentage)
Co-living with a smoker	Yes	45(12.85%)
	No	305(87.15%)
	Total	350(100%)
Allowance to smoke in university	Yes	15(4.31%)
	No	333(95.69%)
	Total	348(100%)
Allowing one's guests to smoke at home	Yes	149(42.70%)
	No	200(57.30%)
	Total	349(100%)
Quit-smoking programs at university	Yes	29(8.33%)
	No	178(51.15%)
	Don't Know	141(40.52%)
	Total	348(100%)
Smoking one month prior to the study	Yes	34(9.8%)
	No	313(90.2%)
	Total	347(100%)
Having a friend smoker	Some friends	84(24.20%)
	More than half of friends	8(2.30%)
	No	255(73.50%)
	Total	347(100%)

Table 3: Distribution of subjects' smoking-related information one month prior to the study

variable	Sub-group	Frequency (percentage)
Age at which smoking began	⩽16	4(25.00%)
	16-20	7(43.75%)
	⩾20	5(31.25%)
	total	16(100%)
Frequency of smoking	Regularly-daily	3(20.00%)
	Day in day out	12(80.00%)
	Total	15(100%)
Number of cigarettes smoked a day	⩽10	10(71.42%)
	10-29	3(21.42%)
	≥30	1(7.16%)
	Total	14(100%)
When to smoke the first cigarette after sleep	5 min	3(21.42%)
	6-30 min	1(7.16%)
	⩾60 min	10(71.42%)
	Total	14(100%)
Feeling capable of fully quitting smoking	Yes	8(57.16%)
	No	3(21.42%)
	Not sure	3(21.42%)
	Total	14(100%)
History of quitting	Yes	6(46.15%)
	No	7(53.85%)
	Total	13(100%)
Perceived difficulty of quitting	Very easy	3(33.33%)
	Moderate	2(22.22%)
	Difficult	3(33.33%)
	Very difficult	1(11.11%)
Planning to quit smoking	Yes	9(100%)
	No	3(23.08%)
	Total	10(76.92%)

Table 4: Distribution of subjects' performance in terms of academic semester

Academic semester	Students' performance		
	smoking	Non-smoking	Total
first	0(0%)	26(100%)	26(100%)
second	5(6.4%)	73(93.6%)	78(100%)
Third	0(0%)	13(100%)	13(100%)
Fourth	3(6.4%)	44(93.6%)	47(100%)
Fifth	2(13.3%)	13(86.7%)	15(100%)
Sixth	6(13.3%)	39(86.7%)	45(100%)
Seventh	1(16.7%)	5(83.3%)	6(100%)
Eighth	12(12.4%)	85(87.6%)	97(100%)
Ninth	0(0%)	2(100%)	2(100%)
Tenth	1(14.3%)	6(85.7%)	7(100%)
Twelfth	1(33.3%)	2(66.7%)	3(100%)
Fourteenth	2(66.7%)	1(33.3%)	3(100%)
Total	33(9.6%)	309(90.4%)	342(100%)

Table 5: Comparing students' attitude scores in terms of individual and social information

variable	Sub-group	Mean attitude score (mean±SD)	Independent sample t-test	P-value
sex	Male	54.9±8.60	5.540	0.000
	female	48.9±9.84		
Place of residence	dormitory	50.75±9.68	0.014	0.989
	Non-dormitory	50.73±10.74		
Co-living with a smoker	Yes	54.22±9.32	2.503	0.013
	No	50.30±9.86		
Act of smoking	Yes	58.97±8.53	5.276	0.000
	No	49.88±9.63		

Table 6: Students' performance in terms of their individual and social characteristics

variable	Sub-group	Students performance			K^2	p-value	OR	CI95%
		smoking	Non-smoking	Total				
sex	Male	29(26.6%)	80(73.4%)	109(100%)	50.79	0.000	16.89	6.32 - 45.12
	Female	5(2.1%)	233(97.9%)	238(100%)				
	Total	34(9.8%)	313(90.2%)	347(100%)				
Co-living with a smoker	Yes	15(33.3%)	30(66.7%)	45(100%)	32.40	0.000	7.44	3.43 – 16.15
	No	19(6.3%)	283(93.7%)	302(100%)				
	Total	34(9.8%)	313(90.2%)	347(100%)				
Place of residence	Dormitory	24(8.4%)	262(91.6%)	286(100%)	3.83	0.050	0.45	0.20 – 1.017
	Non-dormitory	10(16.7%)	50(83.3%)	60(100%)				
	Total	34(9.8%)	312(90.2%)	346(100%)				
Field of study	Dentistry	4(11.8%)	30(88.2%)	34(100%)	4.28	0.233	---	---
	Healthcare	3(5.1%)	56(94.9%)	59(100%)				
	Medicine	13(14.6%)	76(85.4%)	89(100%)				
	Paramedicine	14(8.5%)	151(91.5%)	165(100%)				
	Total	34(9.8%)	313(90.2%)	347(100%)				

DISCUSSION

About 90% of the university students in this study reported not to be co-living with anyone smoking. This finding is consistent with Shahrokhi et al.'s report of the low rate of smoking among doctors' or students of Medicine's families and acquaintances [15]. Similarly, 95% of the subjects reported smoking to be inhibited in university which shows that students perceived the prohibition of smoking in their academic environment. Colton and Manderscheid, in their research, reported that over 90% of the subjects perceived smoking at work and university prohibited [1]. This perception is correlated with a more negative attitude towards smoking. In other words, those who perceived smoking at workplace or university prohibited, were less likely willing to smoke.

In the present research, evaluating students' performance of smoking revealed that more than half of the students stated they would not allow a guest to smoke inside home. Similarly, Sung et al.'s investigations indicated that not allowing others to smoke inside home is correlated with less willingness to smoke [3]. In the present study, 9.8% of university students used to smoke one month prior to the study which is consistent with Al-Turki (2006) as wellas Romito et al. (2011) who reported that about 10% of medical students actually smoke (14, 16). Similarly, the

percentage of smoking among physicians was reported to be 10% in Shahrokhi et al.'s study (15%). In this study, 73.48% of the subjects stated to have no friend smoker, which is consistent with Shahrokhi et al.'s (2006) study [15]. It can be maintained that those with a relevant job to Medicine are willing to have non-smoking friends.

Male students were found to have a more positive attitude towards smoking, which is similar to the results reported by Khan et al. (2005) as well as Romito et al. (2011) [14, 17]. This research finding can be explained with reference to women smokers' social effects. It is predicted that female university students have a more negative attitude towards smoking than the male.

As part of the findings, Medical students' attitude towards smoking was more positive than Dentistry students. This can be due to the fact that Dentistry students study more about mouth and teeth healthcare and the probable direct damages caused by smoking since they have seen it among those visiting them due to the same damages. Therefore, they probably have a higher awareness of the damages of smoking and students' attitude towards smoking. In the present research, those co-living with smokers showed to have a more positive attitude towards smoking than others. Therefore, a positive correlation can be conceived of between the willingness to smoke and having smokers among families or friends. In other words, once non-smokers are surrounded by smokers, they gradually get tempted to experience it too, and develop a positive attitude accordingly [10].

In the present study, male students were found to smoke more which is ratified by quite many studies [14, 17, 18]. With this concern, Baker et al. pinpointed that although both women and men believe that smoking is a personal habit and concerns themselves, playing a woman's role which is the primary satisfactory source would set limits to women's options. In fact, smoking would threaten their identity. Therefore, smoking among women is accompanied with extensive stress involved in a lack of acceptance by others and social rejection [18].

A significant correlation was found between the distribution of academic semester and students' smoking. In other words, students at higher semesters were found to smoke more. As indicated by Shahrokhi et al., those who began to smoke every now and then for fun gradually experience more dependence on smoking. Higher age is also accompanied by more frequent smoking [15]. This could be due to the fact that students at higher semesters experience more independence from family and are more likely to treat to smoking.

Among the other findings of this research is the higher rate of smoking among students living somewhere other than dormitories which can be due to the more restrictions imposed on dorm residents concerning smoking. Since they spend most of their time inside the dorm, they are prohibited from smoking. Consequently, smoking can be predicted to prevail more among students living in places other than dormitory.

In the present research, student smokers had a more positive attitude towards the act of smoking. In fact, those who perceive smoking as positive have a lower power of emotion processing and, therefore, overreact to emotive contextual stimuli concerning smoking [8]. When those with a positive attitude towards smoking face smoking-related excessive emotions, they tend to respond illogically to the immediate context and are oriented to smoking.
On the other hand, those with a positive attitude towards smoking are faced with more challenges in regulating high-risk behaviors than those with a negative attitude towards smoking [19]. It seems that people tend to smoke to have fun and escape the monotony of life. Besides that, they underestimate the negative consequences and hazards of orientation towards such behaviors. As a result, thy follow illogical thoughts and feel secure against these hazards [20].

A key limitation of this research was motivating more cooperation in the research especially responding the questionnaires. Moreover, the research population as well as the type of research led to limitations in generalizing the results and interpreting the variables.

According to the findings of this research, it is suggested that students' demographic variables and their positive attitude towards smoking be attended to in interventions needed to cut down on students' smoking habits. It is also suggested that the correlation of five aspects of personality with university students' smoking be investigated since they highly affect one's motivation and experienced emotions. They probably pave the way for the emergence of changes in one's willingness to smoke.

CONCLUSION

Due to the negative effects of smoking on Medical students' psychological and academic status, there is a need for extensive interventions to prevent the formation of a positive attitude towards smoking among university students. The aim is to prevent the emergence of smoking behaviors.

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REFERENCES

[1] Colton, CW., Manderscheid, RW. Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental healthclients in eight states. Prev. Chronic. Dis. 2006;3, P. 42.
[2] Max, W. The financial impact of smoking on health-related costs: a review of the literature. Am J Health Promot,2001;15: 321-31.
[3] Sung, HY., Wang, L., Jin, S., Hu, TW., Jiang, Y. Economic burden of smoking in China, 2000.Tob Control, 2006;15: 15-11.
[4] De Hert, M., Dekker, JM., Wood, D., Kahl, KG., Holt, RI., Moller, HJ. Cardiovascular disease and diabetes in people with severe mental illness position statement from the European Psychiatric Association (EPA), supported by the European Association for the Study of Diabetes (EASD) and the European Society of Cardiology (ESC). Eur Psychiatry, 2009; 24: 412-24.
[5] Prochaska, J. Failure to treat tobacco use in mental health and addiction treatment settings: a form of harm reduction? Drug Alcohol Depend, 2010; 110: 177–82.
[6] Ansari R, Khosravi A, Mokhtari M. Prevalence and cause of smoking in the medicine students of koomesh. J Semnan Univ Med Sci. 2007;1:21-26. [persian]
[7] John, U., Meyer, C., Hapke, U., Rumpf, HJ., Schumann, A.Nicotine dependence, quit attempts, and quitting among smokers in a regional population sample from a country with a high prevalence of tobacco smoking. Preventive Medicine, 2004;38: 350-8.
[8] Segan,CJ., Borland, R., Greenwood, KM.Can Tran theoretical model measures predict relapse from the action stage of change among ex-smokers who quit after calling a quit line? Addict Behavior, 2006;31: 414-28.
[9] Souza, E., Crippa, J., Pasian, SR., Martinez, J.Modified reasons for smoking Scale: translation to Portuguese, cross-cultural adaptation for use in Brazil and evaluation of test-retest reliability. Journal Brasileiro de Pneumologia, 2009;35: 683-89.
[10] Giuliani, KKW., Mire, OA., Jama, S., DuBois, DK., Pryce, D., Fahia, S.Tobacco use and cessation among somalis in minnesota. American Journal of Preventive Medicine, 2008;35: 457-62.
[11] Baker, T., Fox, B., Smith, S., Fiore, M., Meyer, G., Redmond, L.Why do People Smoke, 2002.
[12] Ruther, T., Bobes, J., De Hert, M., Svensson, TH., Mann, K., Batra, A., Gotwood, P., Moller, H J. EPA guidance a tobacco dependence for smoking cessation in people with mental illness. European Psychiatry, 2011;31: 65-82.
[13] Nazemi S, Chaman R, Davardoost N. Prevalence and reasons of inclination towards smoking among university students. Knowledge & Health. 2012;7:107-111. [persian]
[14] Romito LM, Kouchak F, Soofi A, FakheriSh, Askarian M. Cigarette smoking knowledge, attitudes and practices of iranian health professions students of shiraz university of medical sciences, shiraz, iran 2011. J. Dent. Oral. Health. 2013;1:1-8.
[15] Shahrokhi Sh,Khosravi AR, Asgari S, Javadi HR. KAP study on smoking in iranian medical doctors. The Journal of Qazvin Univ. of Med. Sci. 2006;9:47-52.
[16] Al-Turki YA. Smoking habits among medical students in central Saudi Arabia. Saudi Med J. 2006;27:700-703.
[17] Khan FM, Husain SJ, Laeeq A, Awais A, Hussain SF, Khan JA. Smoking Prevalence, Knowledge and attitudes among medical students in karachi, Pakistan. EMHJ. 2005;11:952-958.
[18] Baker, S. P., O'Neil, B., Ginsburg, M. J., & Li, G. (2009). The injury fact book. (2nd ed.) New York: Oxford.
[19] Banfield, J.F.; Wyland, C.L.; Macrae, C.N.; Munte, T.F. & Heatherton, T.F. The cognitive neuroscience of substance use andhigh-risk behaviors.Journal of Adolescent Health,2004;38: 609-611.
[20] Bancroft, J.; Janssen, E.; Strong, D.; Carnes, L. Sexual Risk-Taking in Gay Men: The Relevance of Sexual Arousability, Mood, and Sensation Seeking. Archives of Sexual Behavior.2003;32(6):P. 555.