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Correlation of Smoking and Students' General Health at Bandar Abbas University of Medical Sciences

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Abstract

Aim: Addiction to smoking is considered a primary challenge in human communities and has afflicted both the educated and uneducated population. Its prevalence among the educated people involved in the healthcare system of the country is of a particular significance as it negatively influences the entire system. The present research aims to investigate how smoking is correlated with the students' general health in Bandar Abbas University of Medical Sciences.

Methods: The present cross-sectional research was conducted on 600 students affiliated with Bandar Abbas University of Medical Sciences selected through a proportionate sampling method in 2016. The data collection instrument was a standardized trip-artite questionnaire comprised of demographic information, smoking status and general health items. SPSS (ver. 16) was used to analyze the data using descriptive statistics (mean, standard deviation, frequency and percentage) as well as Chi-squared test and Spearman's correlation test. The level of significance was set at $p < .05$.

Findings: The mean age of the participants was 21.14±2.33 years, 51.5% of the participants aged ≤20 years while 48.5% were above 20 years of age. Statistically significant correlations were estimated between age, place of residence, sex and smoking ($p < 0.001$). However, no statistically significant correlation was found between the field of study and smoking ($p=0.44$). The same was true for marital status and smoking ($p=0.318$). Smoking and general health showed to be significantly correlated ($p < 0.001$).

Conclusion: Consideration of non-native students' problems, providing for their welfare and convenience, the authorities' supervision of non-dormitory residents, and adding anti-smoking content to the educational materials and formal teaching can all contribute to the reduction of smoking in this susceptible population.

Keywords: Smoking, General health, University students

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Introduction

Smoking is considered to be a main global health issue today and a primary risk factor in both the developing and developed countries [1]. There has been an increase in the prevalence of smoking among the young especially those of 18-24 years i.e. mainly university students [2].

There are currently about one billion smokers worldwide, and a billion more is predicted to join these smokers from among younger adults by 2030 [3]. Addiction to cigarette smoking is a health issue addressing human communities and is observed among all social classes, educated or uneducated. However, its presence among the educated within the health system of the country is a key issue negatively affecting the system [4].

The rising trend of smoking among university students can be induced by peer pressure, history of smoking in the family, parents' low education, tendency to develop personality, high income, development of grand markets for cigarette sale and transit in the third world countries including Iran, unmet emotional needs, low academic achievement, unemployment, and family rows [5, 6].

The related body of literature indicates that many socio-psychological problems such as addiction to cigarette smoking or drugs are the result of unhealthy lifestyle and its adverse effects on people's general health [7]. As Asadpour et al. reported, the mean scores of anxiety, depression, social dysfunctions and low mental health are higher among student smokers than in non-smokers [8]. Horn et al. indicated that young smokers suffer more from mental problems such as depression and anxiety [9]. Moradi et al. found the prediction of addictability of mentally healthy male students [10].

In an investigation by Fangbiao et al., student smokers showed to have a higher stress and lower mental health than non-smokers [11]. Ratschen et al. confirmed the effect of smoking on the higher rate of taking anti-depression drugs among university students. In the same research, psychological problems occurred to a large percentage of smokers, showing the positive correlation of smoking and reduced mental health [12].

Quite many studies have addressed the epidemiological aspects of smoking in Iran. However, as searched by the present authors, few investigations have dealt with the correlation of university students' smoking and general health. Due to the hard attempts university students make to achieve their academic goals and the moral and financial investments in educating this population, it is essential to diagnose, prevent or treat any risk factor to their physical or mental health, and consequently, their efficiency.

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Smoking is a significant issue that follows a rising trend. (Mis) using such drugs by medical students (who will soon work as medical staff) affects their own health, public health, social life, life style and the quality of services they provide. Therefore, the present study aimed to explore the current state of smoking and how it correlates with general health among students affiliated with Bandar Abbas University of Medical Sciences. It is hoped that the present findings would help to develop an effective preventive plan to correct and standardize university students' life style and promote their health.

Materials and Methods

The population of the present analytic and cross-sectional research was comprised of all students affiliated with Hormozgan University of Medical Sciences, who studied in the target university in 2016. The sample size was estimated as suggested by a statistician through the following formula:

$$n = \frac{z2\,pq}{d2}$$

It was estimated to be 600 students, who were selected through a proportionate stratified sampling method. The participants were affiliated with the Health Faculty (n=120), Nursing Faculty (n=90), Paramedicine Faculty (n=180), Medicine Faculty (n=115) and Dentistry (n=95). The inclusion criterion was affiliation with Hormozgan University of Medical Sciences, and the exclusion criterion was filling in incomplete questionnaires. The data collection instrument was a standardized tri-partite questionnaire comprised of demographic information, smoking status and general health of the participants. Demographic information included one's age, sex, marital status, field of study and income. The second section of the questionnaire consisted of 7 items concerning smoking status. These items were to be rated on a Likert scale ranging from 0 *(never)* to 4 *(always)*. The overall score of this section would range between 0 and 28. Scores in the range of 0-7 would be interpreted as undesirable; scores ranging from 8 to 14 as rather desirable, and scores in 15-28 range as desirable [13]. The third section belonged to the general health consisting of 28 items. This questionnaire was used in study of Dadipoor et al. [14]. The scale was in a Likert type ranging from 0 *(not at all)* and 3 *(too often)*. A score between 0 and 27 would be taken as a desirable general health, one between 28 and 55 as rather desirable, and a score in the range of 56-84 as undesirable general health. The content validity was confirmed, and the reliability was checked through Cronbach's alpha, which was reported as 0.88 for the life style of smoking status and 0.81 for the general health section.

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Once the required permissions were obtained from the Research Deputy of the university and heads of the corresponding faculties, the research began with explaining the purpose of the research and asking for the participants' full consent to take part. The collected data were entered into SPSS (ver. 16) for statistical analysis including descriptive statistics (mean, standard deviation, frequency and percentage), as well as Chi-squared test and Spearman's test of correlation. The level of significance was set at $p< .05$.

Results

In the present research, the mean age of participants was 21.14±2.33 years; 51.5% of them aged ≤20 while 48.5% were over 20 years (Table 1).

Table 1: Distribution of the participants' demographic information

Variable	Group (G)	f.	%
Age	≤20	309	51.5
	> 20	291	48.5
Marital status	Single	547	91.2
	Married	53	8.8
Field of study	Health	120	20
	Nursing/midwifery	90	15
	Paramedicine	180	30
	Dentistry	95	15.8
	medicine	115	19.2
Main place of residence	Urban	504	84
	Rural	96	16
Current place of residence	Dorm	451	75.2
	Other	149	24.8
Sex	Male	453	75.5
	female	147	24.5

The mean smoking status was 18.45±7.09, and the mean general health score was 43.52±14.51. Statistically significant correlations were estimated between age, place of residence, sex and smoking ($p< 0.001$). However, no statistically significant correlation was found between the field of study and smoking ($p=0.44$). The same was true for marital status and smoking ($p=0.318$) (Table 2).

According to the present findings (Spearman's test), a statistically significant correlation was found between smoking and general health ($p < 0.001$, correlation coefficient=0.168).

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Table 2: The relationship between smoking status and demographic variables

Smoking / variable	G	Total (%)	Desirable		Moderate		Undesirable		P value *
			f.	%	f.	%	f.	%	
Age (years)	≤20	309(51.5)	261	84.5	44	14.2	4	1.3	< .001
	> 20	291(48.5)	162	55.7	89	30.6	40	13.7	
Current place of residence	Dorm	451(75.2)	297	70.2	116	25.7	38	8.4	< .001
	Other	149(24.8)	126	84.6	17	11.4	6	4	
Sex	Male	543(75.5)	280	61.8	129	25.8	44	9.7	< .001
	Female	147(24.5)	143	97.3	4	2.7	0	0	
Field of study	Health	120(20)	90	75	22	18.3	8	6.7	< .440
	Nursing	90(15)	60	66.7	21	23.3	9	10	
	Para-medicine	180(30%)	126	70	41	22.8	13	7.2	
	Dentistry	95(15.8)	74	77.9	16	16.8	5	5.3	
	Medicine	115(19.2)	73	63.5	33	28.7	9	7.8	
Marital status	Single	547(91.2)	390	71.3	119	21.8	38	6.9	< .318
	Married	53(8.8)	33	62.3	14	26.4	6	11.3	

*Chi-squared test

Discussion

The present research aimed to investigate how students' state of smoking is correlated with their general health in Bandar Abbas University of Medical Sciences. The results indicated a positive significant correlation between age and smoking. In other words, the older the students, the more undesirable their state of smoking.Salmiah et al. looked into the prevalence of smoking among students aged 16-17 years and estimated it to be 2.16-8.33 times as high as those aged 12-13 years [15]. A research conducted in Iran by Meisami et al. in adult population reported a similar result [16]. A body of related literature also confirmed this finding [17, 18]. Among the factors involved in this are freedom, higher academic year, and parents' less intensive control on their children. In contradiction with these findings, the study of Raho showed that smoking prevalence is higher in the youth [19]. Some other contrary findings were reported in Iran by Meisami et al. in rural areas [20], and also by Noori et al. in a research center affiliated with Tehran University of Medical Sciences [21]. These divergences could be due to the differing research populations, sample size and dominant culture of different provinces.

The present findings showed a statistically significant correlation between the students' place of residence and smoking. Dorm residents showed the most undesirable state of smoking. Similarly, Kubaisy et al. observed that the prevalence of smoking was significantly higher in students living far from families. It was reported to be twice as high [22]. Siam observed that students who rented a house for accommodation showed more drug addiction than others [23], which can be due to the lack of family's monitoring and control

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over them, their excessive freedom in cities other than their own hometown, and nightly gathering of friends in contrast to living with parents or in dormitory. Contrary to these findings, Samimi et al. found no significant correlation between students' place of residence and smoking [24].

On the other hand, university students' smoking habits can be due to their homesickness and lack of emotional support. This was confirmed by a body of research conducted by Rezaee et al. [25], and Shakib et al. [26].

The present research found a statistically significant correlation between smoking and sex as boys showed to smoke more prevalently than girls. Similarly, Kubaisy et al. found the prevalence of smoking in boys three times as much as in girls. Moreover, the risk of exposure to smoking was found to be three times as high in boys than in girls [22]. The present findings are consistent with a body of related research in Iran by MoghimBeigi et al. [27] and Khami et al. [28]. Other investigations with similar findings include [15, 17, 29-31]. The desirable state of smoking among girls can be due to the fact that their families show more sensitivity towards their behavior. Cultural factors and social unacceptability of girls' smoking are among the other possible reasons. A study showed that girls are eager to smoke more prevalently than boys [32]. These findings attest to the fact that, sometimes, industries concerned with tobacco consumption concentrate on such advertisements as women's satisfaction, self-confidence, freedom and independence [33]. Larsen, et al. (2009) reported that girls' concern with weight gain was correlated with depression and smoking habits [34]. Recent studies revealed no statistically significant difference between boys and girls in this regard [35-37]. These divergences can be due to differing cultural, social, economic and demographic characteristics of the target groups.

In the present study, single students showed to smoke more than the married ones. This is similar to what Nazemi et al. [38] and American university students [39] reported. However, these findings are not consistent with those of Shoja et al. [40] and Ghodousi et al. [41]. These could be explained by the differing social and demographic features of the target groups.

The present findings revealed a statistically significant correlation between smoking and the students' general health. Some other investigations showed a correlation of smoking and sleep disorders such as falling asleep and the depth of sleep [36]. According to Horn et al., those in danger of smoking are more susceptible to depression or smoking [9]. In their research, Asadpour et al. reported a

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higher rate of mental health and its correlates in non-smokers [8].

In this study, no significant correlation was found between smoking and the students' field of study. However, medicine students and then paramedicine students showed the most undesirable state of smoking. Also Goharian and Rjaee[42] showed a higher prevalence of drug abuse among medicine students. Among the underlying reasons can be the long duration of their studies, instrumental motivation to go for medicine such as family's insistence, gaining honor and desirable job prospect. On the other hand, paramedicine students' lack of interest in their major, undesirable job prospects, peer pressure and lack of cultural, scientific, sportive, artistic and entertainment activities at the university can be involved in these habits. Therefore, due to the educational pressure medicine students suffer, those in charge of the universities' or dormitories' extracurricular activities are recommended to plan for certain cultural activities, student trips, and student contests as alternative activities for the students' tendency towards smoking or drug abuse. Besides, the curriculum can be reformed and some courses of stress management, life skills, fighting against smoking, change of life style, change of attitude towards smoking and its hazards need to be added. All these can help to remove the wrong belief that smoking relieves pain and stress.

Not all the previous literature, however, confirm the present findings, as already mentioned. Some revealed that higher education (per unit) was accompanied by 5% of reduction in smoking habits. This result was dominantly reported in other parts of Iran and other countries [16, 43].

Limitations

The cross-sectional nature of the present study was the main limitation, which might have underestimated the real correlation of smoking and its risk factors. The questionnaire-based information on smoking was extracted without biochemical tests. Contextual factors, which could be correlated with smoking, were not considered in the present research (stress, depression, and family relations). The target group in the present study was healthcare providers. Therefore, generalization of the results was another limitation worthy of attention. Moreover, not all the participants provided true answers about themselves.

Conclusion

The present research revealed that smoking was more prevalent among boys, younger participates, medicine students, non-native students and those living far from their families. The high prevalence of smoking among university students shows there is a

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particular need for providing them, especially medicine students with more care. It appears that incorporation of the hazards of smoking in their academic stuff, holding specialized workshops, providing consultations to student smokers, due attention to non-native students and their welfare, and monitoring dorm residents can significantly reduce smoking habits among this group of population.

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