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The relationship between lifestyle, mental health and attitude towards addiction: behavioral-chemical and social study among the students in Semnan University of Medical Sciences

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World Health Organization (WHO) has defined mental health as the ability to communicate with others, modify one's personal and social environment, and resolve personal conflicts. Mental health disorders are often associated with substance abuse. The purpose of this study was to determine the relationship between lifestyle, mental health and attitude towards addiction. In this cross-sectional study, the subjects were selected through stratified random sampling from the students of the School of Allied Medical Sciences, in 2020. The sample size consisted of 179 first-year students. Four questionnaires, including a demographic questionnaire, Goldberg's General Health Questionnaire (GHQ), the Lifestyle Questionnaire (LSQ), and the attitude towards addiction questionnaire, were used to collect data. The results of the GHQ showed that 76.5% of the students had a favorable general health. The LSQ score was good in 92.7% of the students, with the highest and lowest mean scores pertaining to the domains of adverse event prevention and exercise-wellbeing, respectively. There was a negative and significant association between the GHQ scores and the LSQ scores and lifestyle was a predictive variable for the students' general health. Given that lifestyle seems to be able to predict the general health of students, it is necessary to pay further attention to the various aspects of lifestyle, especially exercise and health. The universities should devise plans that direct changes of this life stage toward an appropriate route. This acculturation and education should not be limited to educational environments; rather, they should also be extended to the family level.

KEYWORDS

Lifestyle; mental health; addiction.

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Introduction

Young people play a key role in the overall development of their country due to their level of social activity and flourishing. Statistics show that the rate of substance abuse has increased significantly in recent decades, especially among adolescents and young people [1]. In a study, Ekhtiari *et al.* (2020) revealed that Iran has 2.1 and 1.8% of its 15-64-year-old population living with disorders of illicit substance and opioid use, respectively [2]. Addiction of any type is considered a serious public health problem, although it is often not recognized as such [3].

Substance abuse is associated with psychological disorders, including depression, anxiety, and psychosomatic disorders [4,5],

mental weakness, internalization disorders [6], antisocial personality disorder, psychopathic behaviors and mood disorders [7], which impose socio-economic costs as well as health costs upon the health systems of communities and consequently increase the mortality rates [8,9].

The proper treatment of people suffering from addictive disorders requires the careful examination of personal perceptions and the foundations of professional attitudes. There is evidence that inviting students to further reflect on their attitudes and perceptions is effective and helps boost their knowledge and skills [10-13].

Mental health is one of the important aspects of health. WHO experts have defined mental health as the ability to communicate harmoniously with others, modify one's personal and social environment, and resolve personal conflicts and desires in a rational, fair and appropriate manner. In addition, WHO believes that mental health is not just the absence of mental illness, but the ability to respond to a variety of life experiences in a flexible and significant way [14].

Lifestyle indicates the individual's way of living and includes factors such as personal characteristics, nutrition, exercise, sleep, stress management, social support, and medication use. People's personal and social achievements in life can be evaluated by examining their lifestyle [15]. WHO has described a healthy lifestyle as an endeavor to achieve full physical, mental, and social well-being [16].

The most common mental health disorders identified in epidemiological studies in adults and children include depression, anxiety, oppositional defiant disorder, behavioral disorder, and hyperactivity and attention deficit disorder. The complexity of these cases is increasing and so are their comorbidities, including impairment in education, impairment in social performance and adjustment, loss (such as death, divorce, and separation) and exposure to domestic and social violence [17].

In addition to their undesirable personal effects on adolescents and young people, these disorders have numerous social consequences for communities; it is therefore vital to identify, diagnose, treat and prevent them [18].

Given the undesirable effects of social damages such as addiction and their resultant impairment in the physical and mental health of individuals, families and communities, students need to be fully aware of the risks posed by these disorders and the benefits of their early detection and treatment. The results of this study can be effective in preventing and controlling these disorders and increasing authorities' and families' awareness about the financial and mental damages caused by mental health disorders and addiction. Therefore, since medical university students are at an age in which they have to take on serious responsibilities with regard to their academic life, and also given the lack of studies, this study was designed to determine the relationship between lifestyle, psychological health and attitudes towards substance abuse among the students at the school of Allied Medical Sciences in Semnan, Iran in 2020.

Materials and methods

In this analytical cross-sectional study, the subjects were selected through stratified random sampling from the students of the School of Allied Medical Sciences in Semnan, Iran, in 2020. Based on the Cochran formula with an error level of 5%, the sample size was estimated as 116, and given the limited size of the statistical population and the lack of cooperation on the part of some of the students, 179 new students were ultimately entered into the study. The inclusion criteria consisted of willingness to participate in the study and being a first-year student. The evaluation tools included four questionnaires,

namely a demographic questionnaire, Goldberg's General Health questionnaire (GHQ), the Lifestyle questionnaire (LSQ) and attitude towards addiction questionnaire. After receiving an ethics code (IR.SEMUMS.REC.1396.116) from the ethics committee of Semnan University of Medical Sciences and obtaining the consent of the authorities and students, the questionnaires were distributed among the participants. First, each participant reviewed and signed an informed consent form and then proceeded with filling out the questionnaires. One of the researchers was present when the participants answered the questionnaire items, in case there were any ambiguities. Once the questionnaires were all completed, an overall assessment of them was made.

GHQ consists of 28 items that are scored based on a 4-point Likert scale (from 0 up to 3) and includes four subscales (physical symptoms, anxiety and insomnia, social dysfunction and depression), each of which includes seven items. Goldberg (1980) reported the correlation between GHQ scores and clinical outcomes as 80%. The total score of GHQ is divided into three categories, and a score of 0-27 indicates favorable health, 28-55 relative health, and 56-84 unfavorable health. The reliability of this questionnaire has been reported as 0.7, 0.93, and 0.90 using the test-retest, split-half, and Cronbach's alpha methods [19]. In a study conducted by Rajabiet al. in 2012, the Cronbach's alpha coefficient and the reliability of Goldberg's GHQ were calculated as 0.87 and 0.84 for female students and 0.88 and 0.90 for male students [20].

LSQ consists of 70 items aimed at assessing different aspects of lifestyle (physical health, exercise and well-being, weight control and nutrition, disease prevention, psychological health, spiritual health, social health, drug and opium avoidance, adverse event prevention, and environmental health). A Likert scale from 1 to 6 (strongly disagree to strongly agree) is used to score the questionnaire items. Lali *et*

al. (2012) evaluated the construct validity of the LSQ and carried out its factor analysis and reported it to be a good multidimensional tool for assessing and measuring lifestyle. The reliability of the questionnaire was also calculated as 0.87 using Cronbach's alpha [21].

The attitude towards addiction questionnaire is a self-report tool developed by Nazari [22] that is scored based on a 5-point Likert scale, with the total score ranging from 35 to 175. A higher score in the questionnaire indicates a favorable attitude towards addiction and substance abuse. The face and content validity of this test were approved by three university professors. Cronbach's alpha coefficient for the tool was 0.79, which indicates an acceptable reliability [22].

Data were analyzed in SPSS-23 software using descriptive and inferential statistics (Pearson and regression).

Results

One hundred seventy-nine students participated in this study; their minimum age was 17, maximum age 24 and mean age 20.20 ± 1.40 years, including 79 (43.6%) male and 100 (55.2%) female students. The students' fields of study were the following: Anesthesia (n=54, 29.8%), operating room (n=57, 31.5%), medical emergencies (n=28, 15.5%), radiology (n=11, 6.1%), and health information technology (n=29, 16%). Eight of the participants (4.5%) were married and the others were single. Most participants had moderate economic (62.6%) and social (42.5%) statuses. After assessing the relationships between the demographic variables and the scores of these three questionnaires, only gender and social and economic status had a significant positive relationship with the LSQ score (p<0.05).

Analyzing the total score of the GHQ showed that most of the participants had a favorable health status (76.5%).

The mean scores obtained in each dimension and their correlation with the LSQ and attitude towards addiction scores are shown separately in Table 1.

TABLE 1 The mean scores of the GHQ dimensions and their correlation with the LSQ and attitude towards addiction scores

| Attitude Towards Addiction | | LSQ* | | Mean±SD | GHQ** Domain | No |
p	R	P	r			
0.65	-0.03	<0.01	-0.36	5.19±3.79	Physical symptoms	1
0.96	0.01	<0.01	-0.44	4.82±3.65	Anxiety & insomnia	2
0.56	-0.04	0.07	-0.19	7.06±2.86	Social dysfunction	3
0.29	-0.08	<0.01	-0.39	4.16±4.43	Depression	4

*Lifestyle Questionnaire (LSQ)
**General Health Questionnaire (GHQ)

According to the results shown in Table 1, physical symptoms, anxiety and insomnia and depression had a negative and significant correlation with the lifestyle score. Also, none of the GHQ domains had a significant relationship with attitude towards addiction.

LSQ examines ten different aspects of life, including physical health, exercise and well-being, weight control and nutrition, disease prevention, psychological health, spiritual health, social health, drug and opium avoidance, adverse event prevention, and environmental health. Based on the results of the LSQ, 7.3% of the students had an average lifestyle while 92.7% had a good lifestyle. The mean scores obtained in each dimension and their correlation with the GHQ and attitude towards addiction scores are shown separately in Table 2.

TABLE 2 The mean scores of the LSQ dimensions and their correlation with the GHQ and attitude towards addiction scores

| Attitude Towards Addiction | | GHQ** | | Mean±SD | LSQ* Domain | No |
P	r	p	r			
<0.01	0.21	<0.01	-0.38	35.17±6.11	Physical symptoms	1
0.32	0.07	<0.01	-0.49	27.94±8.02	Exercise & well-being	2
0.95	-0.004	<0.01	-0.27	29.42±6.29	Weight control & nutrition	3
<0.01	0.24	<0.01	-0.40	33.18±5.92	Disease prevention	4
0.07	0.13	<0.01	-0.53	32.81±6.50	Mental health	5
<0.01	0.23	<0.01	-0.51	28.76±6.09	Spiritual health	6
0.22	0.09	<0.01	-0.40	33.63±6.35	Social health	7
0.02	0.17	<0.01	-0.35	31.47±6.19	Drug and opium avoidance	8
0.04	0.15	<0.01	-0.25	38.13±6.99	Adverse event prevention	9
0.17	0.10	<0.01	-0.27	33.17±6.07	Environmental health	10

*Lifestyle Questionnaire (LSQ)
**General Health Questionnaire (GHQ)

As shown in Table 2, the highest mean score pertained to adverse event prevention and the lowest to exercise and well-being. Also, all the domains of lifestyle had a significant correlation with GHQ score. The physical, disease prevention, spiritual health, adverse event prevention and opium and drug avoidance dimensions of LSQ had a positive and significant correlation with the attitude towards addiction scores, which suggests the more favorable attitude towards addiction as these factors improve.

The mean score of the attitude towards addiction questionnaire was 111.17 ± 32.63 and the participants thus had a good attitude towards this disorder.

The results of Pearson's correlation test showed a significant ($p<0.01$) and negative ($r=$ -0.58) association between the scores of Goldberg's GHQ and the LSQ.

Table 3 presents the results of the logistic regression analysis using the Enter method to predict the effects of the two variables, including attitude towards addiction and lifestyle, on the students' general health.

TABLE 3 The regression analysis predicting the effect of attitude towards addiction and lifestyle on the students' general health

Predictive Variable	B	SE	Wald	P	OR	OR (CI 95%) Lower	Upper
Attitude towards addiction	0.42	0.35	1.39	0.23	1.53	0.75	3.09
Lifestyle	1.94	0.35	30.81	0.000	7.02	3.52	13.97

As shown in Table 3, lifestyle was a predictive variable for the students' general health ($p<0.01$).

Discussion

The results of GHQ suggest that the majority of the students had a favorable general health, and very few cases had an unfavorable general health.

In line with these findings, a study on the association between general health and mobile phone dependence in medical students conducted by Ranjbarian et al. (2019) also showed that the mean score of GHQ was favorable [23].

Based on the results obtained from the LSQ, the lifestyle levels were average and good in the present study. As for the dimensions of this questionnaire, the highest mean score pertained to adverse event prevention and the lowest to exercise and well-being.

Meanwhile, Whatnall *et al.* (2019) found the opposite in their study entitled "Lifestyle behaviors and health risk factors in a sample of Australian university students". Their participants had unhealthy lifestyle behaviors, including failure to meet the vegetable recommendations (89.5%), increased risk of alcohol abuse in life (50.3%), and inadequate physical activity (38.1%) [24]. Compared with the present findings, inadequate physical activity was the least frequent of their unhealthy behaviors, whereas in the present study, the lowest mean score of lifestyle pertained to exercise and well-being among the students –a dimension of health that has received very little attention in Iran, thus emphasizing the need to promote training in this area.

In line with the present findings, another study by Assaf et al. (2019) entitled "Students university healthy lifestyle practice: Quantitative analysis" found that most students did not follow a specific diet, did not make healthy food choices and did not properly care for their health and wished to exercise more [25].

The attitude towards addiction questionnaire showed that the participants had a good attitude with regard to this disorder.

In their study entitled "Knowledge, attitude, and practice of medical students regarding smoking and substance abuse, Cairo University, Egypt" on 296 students, Shalaby and Soliman (2019) found that most of the participants had proper knowledge about the health hazards of smoking as well as a positive attitude about their future role in helping patients quit [26].

Feeley *et al.* (2018) in the study entitled "A Focused Addiction Curriculum and Its Impact on Student Knowledge, Attitudes, and

Confidence in the Treatment of Patients with Substance Use" revealed that a supplemental addiction curriculum can improve medical student confidence in managing substance-using patients [27]. Also, Mercado *et al.* (2016) in a study with aim of better understanding the effect of acculturation on substance use and alcohol dependence in a Mexican American college student population, concluded that acculturation may serve as a protective factor to licit and illicit drug use among Mexican American college students [28].

In general, although most students of the present study had a good attitude towards addiction and its consequences, it is much easier to further train them on these issues and lay the cultural groundwork to instill this positive attitude in them.

There was a negative and significant relationship between the scores of Goldberg's GHQ and LSQ; also, lifestyle was a predictive variable for the students' mental health, which means that a student with better mental health also had a better lifestyle.

In a study entitled "Depression and anxiety among university students in Hong Kong" on 1119 participants, Lun *et al.* (2018) found that 68.5% of the participants had mild to severe depression symptoms, which were inversely related to various psychological and social variables and lifestyle, including regular exercise, confidence, academic performance satisfaction, and optimism about the future [29].

In a study entitled "Impacts of socio-cultural environment and lifestyle factors on the psychological health of university students in Bangladesh: A longitudinal study", conducted on 1140 students from April 2016 to November 2017, Hossain *et al.* (2019) reported that dissatisfaction with the current educational status and economic status were predictors of mental disorders, while physical inactivity and alcohol abuse were associated with depression in the students [30].

Conclusion

Given that lifestyle seems to be able to predict the general health of students, it is necessary to pay further attention to the various aspects of lifestyle, especially exercise and health, which were the most neglected aspect of lifestyle among the surveyed students. In this stage of life, the place of residence and lifestyle of students often undergo changes, and universities should devise plans that direct these changes toward an appropriate route, and each aspect of lifestyle should be covered by way of separate plans. This acculturation and education should not be limited to educational environments; rather, they should also be extended to the family level, because the health of students guarantees the health of future generations.

Strengths and limitations

One of the strengths of this study was selecting students with whom we could properly follow up. In addition, we examined different aspects of health in this study, including mental health, attitude towards addiction, and lifestyle, and these aspects were found to be major problems among the students.

One weakness of this study was its failure to use interventions and examine their impact on the surveyed problems. The limited size of the statistical population and the lack of cooperation on the part of some of the students were other weaknesses.

Furthermore, since the participants were new students, a potential limitation could be that the researchers were in contact with a group of students who feared that their responses to the questionnaires could affect their future academic connections. Also, the generally poor cooperation of the students in completing and returning the questionnaires resulted in a prolonged sampling time.

Recommendations for future research

Studying different methods of controlling depression and modifying attitudes towards addiction and lifestyle can be helpful measures.

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