

The Relationship between Mental Health and Health-Promoting Lifestyle among Nursing Students: A Cross-Sectional Study in Iran

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Abstract

Introduction: Because of their significant position in society's health, promoting mental health and a healthy lifestyle among nursing students is critical. Given the scarcity of research on this subject, the current study sought to determine the relationship between mental health and a health-promoting lifestyle among nursing students at East Azerbaijan's medical science universities in Iran .

Methods: 624 bachelor's of science nursing students were randomly chosen from all semesters in 2017-2018 for this descriptive correlational analysis using the census process. Goldberg and Hillier's General Health Questionnaire (1979) and the Health-Promoting Lifestyle Profile (HPLPII), as well as a demographic questionnaire tailored for nursing students, were used to collect data. The data collected were analyzed using descriptive and inferential statistics in SPSS ver 13.

Results: The students' average mental health score was 79.43 ± 18.59 . The dimension of depressive symptoms had the highest mean (22.13 ± 6.9), while the dimension of social activity had the lowest (18.65 ± 5.93). The mean health-promoting lifestyle score was 126.71 ± 21.40 , with interpersonal interactions (24.18 ± 4.77) scoring highest and physical activities (17.16 ± 4.58) scoring lowest. About mean mental wellbeing scores and health-promoting lifestyle scores, there was a strong association ($r=0.57$, $p<0.001$). The findings revealed that as mental health improved, so did self-promotional behaviors.

Conclusion: According to the findings of this report, there is a clear and important connection between students' mental health and healthy lifestyle choices. As a result, more research is needed to look at health-promoting behaviors among this community of students, and universities must take the required steps and plans, such as activating consultation centers and placing a greater emphasis on lifestyle and its promotion.

Keywords: Nursing students; mental health; health-promoting lifestyle

INTRODUCTION

Mental health is a state of wellbeing in which the individuals can recognize their abilities, can cope with the normal stresses on life, work productively and fruitfully, and contribute to their communities (1). According to this definition, psychology researchers emphasize that the lack of mental disease does not necessarily mean achieving the Mental health (2). Mental health has a wide spectrum in psychiatry and requires strategies for the promotion of general welfare and prevention of mental diseases, treatment, and care (3).

Based on the status and role of universities in the social, political, cultural, economic, and health development of countries, it is essential to promote the health of students, especially the Mental health of medical students who are in contact with patients most of the time (4). Lack of complete Mental health in students disrupt homework, reduces motivation, causes anxiety, fear, and worries, and thus wastes a considerable part of their mental power in dealing with these problems (5). Entry to university is associated with certain emotions that may affect the mental and physical health of students. The mental health of students, especially students of medical sciences, is of utmost importance because of the relation of their job with physical health and mental health (6).

University years are associated with a peak in mental disorders for students (7). Students of medical sciences experience the problems

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of other students, while also experiencing specific problems such as emotional and mental pressure on hospitals and emergency departments and facing the patients' problems (6). Epidemiological studies show that 12-50% of university students face one or multiple common mental illnesses (8,9). Therefore, there is an increasing concern with respect to their mental health. It has been estimated that one out of five university students suffers from mental disorders worldwide (10). A cross-sectional study on 431 Australian undergraduate nursing students found burnout and stress levels increased across their years of study. By the completion of their course, up to 20% students were reporting signs of serious maladaptive fatigue or stress (11). Alizadeh-Navaei et al. examined the Mental health of Iranian university students and measured the mental disorders in this group from 22.7 to 52.3% (12). Moreover, Yousefi et al. examined 1028 university students in Iran and showed that 41% of them were suspicious of mental disorders (4,13). In a large-scale study by Shariati et al. on the general health of students in Iranian universities of medical sciences, the rate of mental disorders was reported to be 15% (14). Institutions in charge of health, which previously have focused on the treatment of diseases, have now shifted their focus to preventing diseases, providing health by improving lifestyle, and eliminating the factors that negatively affect the health (15).

Since health and lifestyle are closely related (2,16) a major goal of the practical program of the World Health Organization (WHO) for the worldwide strategy of prevention and control of non-communicable diseases is to enhance people's capabilities for making healthier choices and follow a healthy lifestyle (17). Lifestyle is defined as all the behaviors under the control of the person and affecting his/her health-related behaviors (18). Although belief in lifestyle and health is formed in early years of life, lifestyle behaviors can also be acquired while studying and in universities (19). Students of medical science universities are in charge of health and, therefore, must be aware of correct health-related behaviors and perform these behaviors (20). Promotion of health is the process of increasing people's ability to enhance their control and improve their health (21). The health-promoting lifestyle (HPL) includes behaviors that enable people to increase their control over their health and, eventually, improve their health and that of society. Therefore, health-promoting behaviors are an international priority and the major challenge for healthcare providers in recent decades (6). health-promoting behaviors is of utmost importance as they have the potential to prevent the occurrence and progression of chronic diseases, reduce diseases, improve quality of life, and decrease the load of healthcare in society (22). In a study by Baghersad et al., the general mean of HPL was found to be low among nursing students (6). Mooney et al. (2011) reported that the prevalence of smoking, alcohol, and over-the-counter drugs was higher among nursing students compared to nursing graduates in a hospital in Ireland (23).

Considering the increased costs of healthcare and the fact that care is not the only factor contributing to health, support for the concept of health promotion and expansion have increased among healthcare staff, especially nurses. Nursing students, who are the future healthcare staff, have a potential effect on public health and healthcare. Therefore, protection and promotion of health in nursing students is a key factor in universities (24). Medical students not only provide preventive counseling but also serve as role models and coaches for improving healthy behaviors and helping people make healthy choices and have a healthy life (25). Social health lies in the health of the youth. Therefore, it is important to examine, plan, and take measures to achieve and maintain health-related habits in the youth. Considering the significance of health promoting lifestyle in the mental health of university students as a role model for health and promoters of health in society, the present study was conducted to determine the relationship between mental health and health promoting lifestyle in nursing students.

MATERIALS AND METHOD

The present descriptive correlational research was conducted to examine the relationship between mental health and Health promoting lifestyle among nursing students. This study was conducted on 624 nursing students who were selected from three nursing schools in Medical Science Universities of East Azerbaijan Province (364 from Tabriz, 180 from Maragheh, and 81 from Sarab schools of nursing) via census method in 2018. Inclusion criteria were studying in the bachelors of Science nursing students program of nursing from the first to the fourth year in the mentioned faculties. Exclusion criteria, on the other hand, were having a chronic or refractory disease, disabilities, and reluctance to participate. Sampling was performed in June 2018.

The data were collected using a three-part questionnaire. The first part, which was developed by the research based on the literature, examines demographic information including age, sex, an academic semester, Grade Point Average, marital status, residence type, and economic status. The second part is Goldberg and Hillier's (1979) General Health Questionnaire (GHQ). This questionnaire is an important tool for evaluating the signs and symptoms of mental diseases. The questionnaire consists of 28 items and four subscales of physical symptoms, anxiety and insomnia, social functioning, and depressive symptoms. Each sub-scale has 7 four-option items scored on a Likert scale. In this questionnaire, the score of 0-22 is normal, 23-40 is indicative of weak mental disorder, 41-60 moderate mental disorder, and 61-84 severe mental disorder. It is noteworthy that the total scaled score of each dimension is calculated by dividing the score for those dimensions by the number of items in it. The reliability and validity of this questionnaire have been examined in different studies. For instance, Lundin et al. used both Likert scoring and standard scoring for this purpose. For both groups, the Likert index was 0.86 and 0.83 while it was 0.90 and 0.88 for the control group (26). In the study by Taghavi et al. (2011) to examine the validity and reliability of the Persian version of this instrument, the Cronbach's alpha for the entire questionnaire was 0.90, 0.76 and 0.84, 0.61, and 0.88 for the sub-tests of physical symptoms, anxiety and insomnia, social dysfunction, and depression, respectively (27).

The third part of the questionnaire included Walker’s standard questionnaire for measuring Pender’s HPL (HPLPII). This questionnaire has 52 items in six dimensions of responsibility for health (the person’s responsibility over his/her health through training; 9 items), physical activity (planned activities or exercises for fitness or for doing daily activities; 8 items), nutrition (conscious selection and consumption of nutrients for maintaining health and maximizing welfare; 9 items), spiritual growth (transcending, connecting, and developing internal sources for achieving health; 9 items), stress management (the use of resources for controlling or reducing stress; 8 items), and interpersonal relations (the use of relationships for sharing thoughts and feelings to achieve a sense of closeness; 9 items). In a study by Zeidi et al. (2011) on the validity and reliability of the Persian version of this questionnaire, the content validity was confirmed. They reported the Cronbach’s alpha of 0.82 for the entire tool and 0.81, 0.79, 0.86, 0.91, 0.75, and 0.64 for nutrition, physical activities, and responsibility for health, stress management, interpersonal relations, and spiritual growth, respectively. Responses are scored on a four-point Likert scale: 1 (never), 2 (sometimes), 3 (often), and 4 (always). The range of the total score was 52-208 (28).

After the approval of the research project and receiving the approval of the Regional Ethics Committee in Research, Tabriz University of Medical Sciences (IR.TBZMED.REC.1397.018), the mentioned faculties were visited. With the permission of professors and after the exam sessions, explanations were provided to clarify the research objectives, items on the questionnaire, and confidentiality of data. Then, copies of the questionnaire were distributed among students who were willing to participate. Completion of questionnaires was taken as informed consent for participation. Questionnaires were collected after completion. The questionnaires were distributed among students studying in the 7th and 8th semesters, most of who were in the clinical part of their program and worked in hospitals. Information on their place of the internship program was received from the Education Office of the faculties.

The data were analyzed using descriptive statistics for determining frequency, mean, and SD. The relationship between dichotomous variables like sex was examined using a t-test. Moreover, the relations between variables with three levels or more (like academic semester) were analyzed using the analysis of variance (ANOVA). Moreover, to determine the relationship between dimensions and quantitative variables like age and Grade Point Average, Pearson’s correlation was employed. Data were analyzed in SPSS 16. P<0.05 was considered as the significance level.

RESULTS

In this study, out of 624 students, 609 filled in the questionnaire (response rate: 97.5%). The majority of students were male (51.4%), non-native (52.3%), and single (86.8%). In terms of economic status, most of them were at a moderate level (64.9%) and studied in the sixth semester (17.4%). Their mean age was 22 ± 2.21 years with a Grade Point Average of 16.74. Table 1 presents further detail on the demographic characteristics of the participants.

Table 1: Demographic characteristics of nursing students in nursing schools of medical science universities of East Azerbaijan Province.

Variable		n(%)	Variable		n(%)
Sex	Male	320 (51.4)	Academic semester	1st semester	55 (8.9)
	Female	302 (48.6)		2nd semester	106 (17.1)
Marital status	Divorced	1 (0.2)		3rd	62 (10)
	Single	541 (86.8)		4th semester	88 (14.2)
	Married	81 (13)		5th semester	66 (10.7)
Type of residence	Native	294 (47.7)		6th semester	108 (17.4)
	Non-native	322 (52.3)		7th semester	58 (9.4)
Economic status	Good	158 (25.6)		8th semester	76 (12.3)
	Moderate	401 (64.9)			
	Poor	59 (9.5)			
Age		Mean±SD	GPA	Mean±SD	Mean±SD
		22.04±2.21		16.74±1.27	16.74±1.27

Based on the obtained results, mean score of mental health was 79.43 ± 18.59. The score of physical symptoms was in the moderate range in most students (19.54 ± 4.78). Here, the scores of anxiety symptoms and sleep disorder, and social functioning were in the moderate range (19.05 ± 5.00 and 18.70 ± 3.52) while that of the depressive symptom was in the high range (22.14 ± 5.29). As can be seen from Table 2, the total mental health score was in the moderate range (79.43 ± 18.59).

The total score of HPL was in the moderate range in most students ($126.71 \pm 27/65$). Details on the average and SD of scores of HPL and its dimensions are given in Table 2. As can be seen, the scores of all dimensions (i.e., personal responsibility, physical activity, nutrition, spiritual growth, stress management, and interpersonal relations) were in the moderate range.

Table 2: Mean and SD of Mental health and HPL scores and their dimensions in nursing students of the mentioned universities.

Variables	Poor n(%)	Moderate n(%)	High n(%)	Mean (SD) High
Physical symptoms	83 (13.7)	296 (49)	225 (37.3)	19.54 (4.78)
Anxiety symptoms and sleep disorder	120 (20.2)	268 (45.2)	205 (34.6)	19.05 (5)
Signs of social functioning	68 (11.5)	402 (67.9)	122 (20.6)	18.70 (3.52)
Depressive symptoms	56 (9.2)	190 (31.3)	361 (59.5)	22.14 (5.29)
Total score of Mental health	44 (8.1)	282 (52)	216 (39.9)	79.43 (18.59)
Personal responsibility	176 (30.5)	362 (62.7)	39 (6.8)	20.60 (49.67)
Physical	319 (56)	238 (41.8)	13 (2.3)	17.61 (4.58)
Nutrition	107 (18.5)	399 (69)	72 (12.5)	22.52 (4.40)
Spiritual growth	99 (17.4)	340 (59.6)	131 (23)	23.66 (5.34)
Stress management	279 (48.6)	284 (49.5)	11 (1.9)	18.85 (3.89)
Personal relationships	64 (11.3)	373 (65.9)	129 (22.8)	24.18 (4.77)
Total score of HPL	65 (13.7)	372 (78.5)	37 (7.8)	126.71 (21.40)

The results show a significant and direct relationship between dimensions of HPL and those of general health. In general, a significant correlation was observed ($r = 0.57, p < 0.001$) among the mean scores of HPL and Mental health; as Mental health entail health increases, HPL increases, as well. Further details on this relationship are given in Table (3).

Table 3: Relationship between the dimensions of mental health and HPL in nursing students of the mentioned universities.

Depressive symptoms		Signs of social functioning		Anxiety symptoms and sleep disorder		Physical symptoms		
p*	R	p*	R	p*	R	p*	R	
<0.01	0.23	<0.01	0.30	<0.01	0.27	<0.01	0.25	Personal responsibility
<0.01	0.15	<0.01	0.26	<0.01	0.27	<0.01	0.25	Physical
<0.01	0.22	<0.01	0.29	<0.01	0.22	<0.01	0.18	Nutrition
<0.01	0.51	<0.01	0.63	<0.01	0.42	<0.01	0.41	Spiritual growth
<0.01	0.31	<0.01	0.47	<0.01	0.32	<0.01	0.32	Stress management
<0.01	0.39	<0.01	0.51	<0.01	0.28	<0.01	0.31	Personal relationships

*Pearson correlation test

DISCUSSION

The present study aimed to determine the relationship between mental health and Health promoting lifestyle among nursing students. Based on the findings, the score of depressive symptoms was in the high range. In a study by Knipe et al. (2018) to determine the mental health of students of universities of medical sciences, the highest score was assigned to depression, which is in line with the present study. This result can be attributed to the higher level of stress among these students compared to others because of a longer period of education, longer hours of studying, and being exposed to the distresses related to patients and clinical conditions (10).

In the present study, the total mental health score of the nursing students was in the moderate range. Hadavi et al. reported a moderate mental health score for the freshman and senior nursing students in Rafsanjan, Iran (5). Based on the obtained scores, the mental health status of students in Hadavi's study and that in the present study are reported to be in the group without mental disorder. Still, the studies examined here had a better mental health status than those in Hadavi's study. This difference can be due to the difference in the data collection tool and among the groups of students. In their study, students of different majors (i.e., nursing, midwifery, and paramedicine) were included. Soleimanizadeh et al. (2008) in their study entitled the relationship between educational stressors and mental health of students concluded that about 28% of students are suspected of having a mental disorder. They said that the experience of stressful factors, dissatisfaction with education, and financial problems, had a negative effect on mental health. They showed that there was a significant correlation between mental health and educational stressors such as society (29). The results of a study by Ahmadi et al. (2007) on the study of mental health in nursing and non-nursing students showed that in both groups, the level of mental health weakness was significantly high, which was significantly related to interest in the field of study (30).

In the present study, a significant relationship was found between Mental health and Health promoting lifestyle in the dimension of physical activity, which is consistent with the results of studies by Stoch (31) and Samimi (32). In other words, students with the highest level of physical activity have the least complaint about health. In terms of lifestyle in the dimension of nutrition and mental health, a significant relationship was found in this study which is in line with the results of Ezoë and Ayranci (33,34). Based on the findings of the present study, the status of Health promoting behavior was moderate among most nursing students, consistent with the study by Wei et al (35). The highest score belonged to interpersonal relations and spiritual growth, which is in line with the results reported by Montazeri et al. (36), Tol et al. (37), and Abed-Allah et al (38). This similarity in results may be due to the incorporation of the same sampling instrument. Moreover, the type of culture and religious belief in Muslim universities may explain the high level of spiritual growth and interpersonal relations in them (36). This study showed that students received the lowest scores in the physical activity dimensions, which is in accord to the studies by Mak et al. (17), Rey and Lee (39), Wong and Lopez (40), McElligott et al. (41), and Hosseini et al. (42). It seems that nursing students and other young people do not prioritize physical activity in their lifestyle. An explanation for this result might be the fact that they spend most of their time on studying difficult courses and practical courses in universities and hospitals. Another reason may be the lack of exercise facilities such as a gym near the university. Elsewhere, Norouzinia et al. (43) and Khosravan et al (44) Examined Health promoting behavior and their correlation with anxiety in university students and showed that spiritual growth and physical activity respectively have the highest and lowest scores, in line with the present study. In the dimension of interpersonal relations, the students reported the highest scores, which is consistent with a study in Hong Kong (45). This consistency may be because of using the same sampling instrument and type of the sample in these two studies. According to Hui, one possible cause of the high score for interpersonal relations among nursing students may be their majors and programs, the group clinical internship, and training on implementing the communication skills in the universities (45). Also, theoretically speaking, desirable relationships with others (which is associated with mental and physical health) may be an instinctual human need for establishing close relations with others (46).

The mean score of Health promoting lifestyle in the interpersonal relations dimension was higher in women than men, in line with the study in Hong Kong (45) and that by Motlagh et al. (47). In the study by Can et al. (48) In Turkey, women had more interpersonal relationships than men, confirming the results of the present study. Still, a contradictory result was reported by Al-Kandari et al. (49) in Kuwait and Maheri et al. (50). Interpersonal relations demonstrate the person's status in terms of establishing and maintaining relationships, indicating the need for social support and intimacy as one of the most stable indices of health in research (51). Consistent with the studies by Tol et al. (37) and Maheri et al. (50), the mean scores of nutrition and stress management were also higher in females than males. This result suggests that women pay more attention to their type of nutrition, regulating it, and controlling their diet. Moreover, women most probably perform more relaxation and self-care behaviors than men. The mean lifestyle score was moderate for all investigated students. In the study by Moradi and Shojazadeh (46) to examine healthy lifestyle among healthcare workers, the lifestyle score was moderate in these workers, confirming the results of the present study. Generally, these results may be due to the little attention paid by students to health promoting behavior, the unimportance of healthy lifestyle for them due to time limitations, spending most of their time in universities and clinical internship in hospitals, and lack of attention of authorities and professors to the healthy lifestyle among students (46). Based on the findings of the present study, although nurses and nursing students highly affect the promotion of health and health promoting behavior and the nursing major itself provides opportunities for studying, learning, and cooperating in health-promoting activities, these behaviors are performed at moderate levels by them, which is in line with the results reported by Witayapun. This consistency maybe because of the similarity in instruments and sample (52). In study of Can et al. (48) in Turkey, the inter-

personal relationships of females were higher than those of males, which confirm the results of the present study. Results of a study by Rastegar Yadaki et al. (2013) in Iran entitled Health-promoting lifestyle and related factors in health liaisons showed that lifestyle promotion promotes their health at a moderate to low level and between lifestyle and education level. They have a significant relationship (53).

This study showed that a significant relationship exists between mental health and health promoting behavior. As this study examined only bachelors of science nursing students, its results may not be generalizable to all students. Moreover, this was a cross-sectional study and therefore does not report changes in mental health and health promoting lifestyle in students over time. To deal with these issues, it is necessary to conduct longitudinal studies with a larger sample and include different students from different universities. Moreover, due to time restrictions, this study excluded nurses. It is suggested that future studies focus on nurses as well.

CONCLUSION

Results of this study indicate that a direct and significant relationship exists between mental health and health promoting lifestyle in the examined students. Due to the high level of depression among students, mental health issues in these students need further research. Universities can take necessary measures and make plans by activating consultation centers and attaching more importance to lifestyle and its promotion.

Considering the well-known burden of mental disorders among students, universities should consider effective strategies for solving mental health problems and offer optional and mandatory courses on mental health, courses, and workshops. In this way, it would be possible to enhance students' awareness and skills of mental health. In addition, to effectively change eating habits, health education and programs focusing on regular physical activity are recommended. Based on the results of this study and similar studies, lifestyle should be educated to students with effective measures for improving their mental health. To enhance the mental health of students, regarding the role of counselors and professors, it is recommended providing educational programs and courses in the curriculum of bachelors of science nursing program or as educational workshops. In terms of facilities, universities can offer various facilities and thus help students acquire this knowledge and skill. Exercise and leisure facilities, as well as course planning, must provide exercise and physical activities for students at appropriate times.

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Conflict of interest

The authors declare that they have no conflicts of interest to report regarding the present study.

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