Short Communication

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Are healthy lifestyle behaviors positively associated with the academic achievement of the university students?

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Introduction: Universally, the number of students attending the university education is high and increasing. The future of academic graduates is affected by their academic achievement. The purpose of the research was to assess the correlation among academic achievement and healthy lifestyle behaviors in university students.

Methods: This cross-sectional research was conducted on 262 university students studying in the selected faculties of Babol University of Medical Sciences based on multi stage sampling technique. The students were categorized to low and high academic achievement groups according to grade point average (GPA) score at the end of the semesters. The health-promoting lifestyle profile with six domains was applied to determine healthy lifestyle behaviors. To investigate the adjusted correlation among the health promoting lifestyle's domains and academic achievement, the multi-variable logistic regression was used.

Results: The average age of the university students was 21.36 ± 2.28 years. According to the results, some domains of healthy lifestyle behaviors between the low and the high academic achievement groups were different significantly. The results demonstrated that the spiritual growth (the only domain of healthy lifestyle behaviors) (P=0.002) and living situation (P=0.043) were significant factors affecting academic achievement.

Conclusion: The findings suggest that the public health and education professionals should try to improve the students' academic achievement through holding periodic training workshops to promote the their spiritual growth and also consider more quotas for native students to the universities.

Keywords: Healthy lifestyle, Behaviors, Academic achievement, Students

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Introduction

Universally, the number of students attending the university education is high and increasing. The future of academic graduates (job, income, health) is affected by their academic achievement (1). Academic achievement as an aspect of intellectual achievement is a major concern among university students and their families. It can affect the students personally and professionally (2). The World Health Organization (WHO) has listed academic failure as a risk factor for mental disorder (3).

In each educational system, the level of educational performance is one of the most successful indicators of the scientific activities. The implementation of academic programs

for students requires identifying the variables affecting it and the students' living conditions (4). An important issue for persons and educational institutions is to recognize the determinants related to higher academic achievement. The factors affecting academic achievement are, for instance, socio economic status, gender and some healthy behaviors (1).

Healthy lifestyle behaviors involve a set of individual choices in the status of life that influences the health of the individual. Lifestyle is influenced by culture, religion, socio-economic status, beliefs and the individual's perceptions. Although these behaviors are formed in the early years of life, they are experienced in the academic years (4). Universities are responsible for creating a supportive environment for the health promotion and helping students manage their health (5). The previous studies have shown that there is difference in the student's health promoting behaviors based on gender, age, dormitory, or academic year (6, 7), as well as race, religion, and financial capital (7).

The World Health Organization has indicated that 60% of health status and quality of life of a person is dependent on his / her behaviors and lifestyle (8). Health promoting behaviors are an important concern for health professionals as well as for communities and can lead to health-related inconsistent consequences such as obesity, diabetes, and the risk of heart disease. Moreover, these behaviors can also be related to the adolescents' academic achievement, which requires more analysis and further evidence (9).

The World Health Studies has shown that there is a relationship between educational outcomes such as test scores and other measures of academic achievement and some dimensions of healthy lifestyle behaviors (10-12). But a systematic review study reported that more and up-to-date studies are needed (13). On the other hand, in some studies, only some aspects such as nutrition, physical activity, and sleep have been considered and a study considering all dimensions of health promotion behaviors is low (9).

The effects of health behaviors on the university students' academic achievement are important in terms of the research area. Understanding the potential relationship between the dimensions of healthy lifestyle behaviors and academic achievement may help design effective interventions to enhance the students' lifestyle (1). The purpose of this research was to assess the correlation between academic achievement and healthy lifestyle behaviors in the university students with this hypothesis that quality of life affects the academic achievement.

Methods

This cross-sectional research was conducted on 262 university students studying in the selected faculties of Babol University of Medical Sciences with multistage sampling. Each selected faculty acted as a cluster and the students participated in the study from all fields of study. The research was conducted in 2016.

The inclusion criteria of research were: lack of diagnosed physical or mental problems, absence of any chronic or incurable disease, and willingness to participate in the research. After we explained the objectives of the study and ensured the confidentiality of their information, the students participated in this research and completed the questionnaires.

The questionnaires in the present research were the following:

The Health Promoting Lifestyle Profile (HPLP II) questionnaire was applied to evaluate the students' healthy lifestyle behaviors. In the present research, the Persian version translated from English by Morovvati Sharifabad, et al. was used (14). The questionnaire includes six domains consisting of nutrition, health responsibility, stress management, physical activity, interpersonal relationships and spiritual growth. There is a Likert scale for items: 1 "never", 2 "sometimes", 3 "often", and 4 "routinely". Each domain was calculated separately. The total score of domains is in the range of 52 to 208.

The grade point average (GPA) score reported by the university students at the end of the semesters was used as an indicator of the academic achievement level. The students were categorized with a GPA equal or lower than 16 as low academic achievement and a GPA more than 16 as high academic achievement.

The socio demographic characteristics included gender, age, mother's educational status, father's educational status, family size, income and living situation.

The data were analyzed by SPSS software v.16. T-test was applied to assess the correlation among academic achievements (grade point average) and the domains of healthy lifestyle behaviors. Also, the multi-variable logistic regression was used to adjust the effect of the independent variables on academic achievement.

The research was approved by Ethics Committee of Babol University of Medical Sciences (MUBABOL.REC.1394.234).

Results

Totally, 262 the university students with the

mean age of 21.36±2.28 years (18 to 37 years old) were studied. Most of the participants were living in the dormitory (60.8%) and were female (56.9%) (Table 1).

The relationship between the students' academic achievement and healthy lifestyle behaviors is seen in Table 2. The data show that there is a significant difference in some domains of healthy lifestyle behaviors between the low and the high academic achievement groups.

In the final analysis, after entering the social-demographic variables and domains of healthy lifestyle behaviors in the logistic regression model, the academic achievement was considered as the dependent variable in the model. The code for low academic achievement (Grade point average≤16) was considered zero and that for the high academic achievement (Grade point average>16) was considered one. Having analyzed the data, we found the spiritual growth (the only domain of healthy lifestyle behaviors) and living situation as significant factors in relation to academic achievement (Table 3). Table 3 shows that as the student's spiritual growth increases by one score, the odds ratio of the academic achievement increases by 8% (P=0.002). Also, the odds ratio of the academic achievement in the university students living at home with their family is at least four times more than the university students living in a rental home (with friends) (P=0.043).

Discussion

This study explored the association among some domains of healthy lifestyle behaviors and the academic achievement in the university students. We found a positive association between the academic achievement and interpersonal relations, spiritual growth and stress management. As mentioned in the introduction, the studies aimed to assess all domains of healthy lifestyle behaviors are rare. Most other studies aimed to research the correlation between physical activity and diet with academic achievement had shown that there was a positive correlation between the higher levels of physical activity and the academic achievement (9, 15, 16), although there are inconsistent results (9). Burrows, et al. also pointed to the importance of linking diet with academic achievement in planning by health promotion practitioners (1).

Table 1: The characteristics of subjects (N=262)

Parameters	N (%)	Parameters	N (%)
Age groups		Sufficiency of income for expenses	
18–20 years	71 (27.5)	Absolutely not	18 (6.9)
20–22 years	124 (48.1)	To some extent	88 (33.6)
+22 years	63 (24.4)	Completely	156 (59.5)
Father's educational status		Mother's educational status	
Illiterate/ 1–5 years	31 (12.7)	Illiterate/ 1–5 years	55 (30)
6–8 years	29 (11.2)	6–8 years	36 (13.8)
9–12 years	84 (32.3)	9–12 years	91 (34.9)
University	114 (43.8)	University	79 (30.3)
Living situation		Family size	
Home stay	88 (33.8)	Less than four	32 (12.3)
Dormitory	158 (60.8)	Four	113 (43.5)
Rent (with friends)	14 (5.4)	Five	79 (30.4)
		More than five	36 (13.8)
Gender		Academic achievement	
Female	149 (56.9)	Low (Grade point average =<16)	128 (48.9)
Male	113 (43.1)	High (Grade point average >16)	134 (51.1)

Table 2: Relationship between Respondents' healthy lifestyle behaviors and academic achievement, using t-test

Healthy lifestyle behaviors dimensions: Mean±SD	Academic achievement (Grade point average)		
	Low	High	t-test p.V
Nutrition habits	21.17±4.40	21.76±3.84	0.245
Physical activity	16.42±4.12	16.41±4.10	0.989
Health responsibility	19.40±3.98	20.33±3.83	0.057
Spiritual growth	23.33±5.15	25.40±5.06	0.001
Interpersonal relations	23.75±4.44	24.93±4.52	0.035
Stress management	18.74±3.57	19.62±3.16	0.035
Total HPLP-II score	122.92±19.34	128.63±16.74	0.012

Table 3: Multi-variable logistic regression: the correlation among academic achievement and healthy lifestyle behaviors and covariates

Variables	Academic achievement		
	OR	95% CI	p
Age groups			
18–20 years	1.00	-	-
20–22 years	1.50	0.67-3.37	0.319
+22 years	0.75	0.36-1.57	0.450
Sufficiency of income for expenses			
Absolutely not	1.00	-	-
To some extent	1.36	0.71-2.60	0.343
Completely	0.50	0.15-1.72	0.278
Father's educational status			
Illiterate/ 1–5 years	1.00	-	-
6–8 years	0.77	021-2.70	0.687
9–12 years	1.42	0.45-4.43	0.543
University	0.60	0.28-1.28	0.190
Mother's educational status			
Illiterate/ 1–5 years	1.00	-	-
6–8 years	0.97	0.31-3.01	0.966
9–12 years	0.74	0.25-2.20	0.595
University	1.77	0.77-4.07	0.177
Family Size			
Less than four	1.00	-	-
Four	1.87	0.59-5.93	0.284
Five	2.05	0.81-5.22	0.128
More than five	1.70	0.66-4.35	0.266
Gender			
Female	1.00	-	-
Male	1.98	0.26-4.58	0.50
Living situation			
Rent (with friends)	1.00	-	-
Dormitory	2.83	0.71-4.15	0.447
Home stay	4.37	1.14-6.72	0.043
Nutrition habits	1.00	0.91-1.09	0.995
Physical activity	0.97	0.89-1.05	0.524
Health responsibility	1.05	0.95-1.16	0.316
Spiritual growth	1.08	1.03-1.14	0.002
Interpersonal relations	0.95	0.87-1.04	0.310
Stress management	1.00	0.89-1.12	0.978
Total HPLP-II score	1.00	0.97-1.02	0.985

With regard to the main objective of the study, based on the multi-variable logistic regression, of all the healthy lifestyle behaviors domains and social demographic factors, only spiritual growth and living situation showed a significant relationship with the academic achievement. In line with the relationship between spiritual growth and academic achievement, psychiatrists have experienced the impact of spirituality on the emotional and mental health (17, 18). Emotional performance is independently linked to academic achievement (19). Spirituality is an important aspect of human health that leads to harmony among physical, psychological and social dimensions. It is a motive for finding the meaning and purpose in life (20). Researchers believe that spiritual growth helps people deal with daily life's problems and makes the individual's worries and anxiety less (21, 22). In other studies, this relationship was not significant (23, 24).

Also, the results showed that the students' academic achievement had a significant relationship with their living situation. In other words, students living at home with family had better academic achievement. The results of other studies in line with the present research reported that monitoring and involvment of parents are associated with better academic achievement (25, 26). Barrera, et al. also point out that inadequate parents' monitoring predicts unhealthy behaviors and poor performance (27). In line with cultural values, parental monitoring is consistently related

to better academic achievement (26). Family variables such as scholastic guidance, discussion about ideas and events and also the family support can play a role in the school outcomes (28). Thus, the present study provides additional support that spiritual growth and the living situation are the significant associated factors with the academic achievement.

The limitation of the research is the cross-sectional design, in which the data show just association and cannot demonstrate causal effect in either direction.

Conclusion

The main goal of this research was to assess the correlation among healthy lifestyle behaviors and the academic achievement in the university students. The findings of the current study suggest that spiritual growth as a domain of healthy lifestyle behaviors and living situation are the predictors of the academic achievement. It is necessary that the public health and education professionals have a joint effort to make important strides in improving the students' academic achievement through periodic training workshops to promote the students' spiritual growth and also consider more quotas for the local students to universities.

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Conflict of Interest: None declared.

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