

Original Research Article

Factors associated with utilisation of university health centre services by students

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ABSTRACT

Background: Little is known about the factors that are associated with students' utilisation of university health centre services. The current study examines factors associated with utilisation of university health centre services by students.

Methods: Data were collected from 440 university students using a cross-sectional study design and self-reported questionnaire.

Results: University health centre services were utilised by 147 (39.5%) of the students in the past 6 months. Utilisation of university health centre services was associated with gender, faculty, tobacco use and chronic illnesses. The main predictor of university health centre services utilisation at 6 months was chronic illnesses (OR=4.205).

Conclusions: Although several factors were associated with university health centre services utilisation, chronic illness was the most important predictor.

Keywords: University students, health centre, Jordan

INTRODUCTION

'Youth' are those persons in the age group from 15 to 24 years.¹ A significant proportion of Jordanians fall into this age group and attend school, colleges and universities. Of 28,506,67 students, around 26,896,3 students are attending higher education institutions like colleges and universities.² These youth are at risk for many health problems such as unintentional injuries, nutritional problems, and drug use.³ And, they have a high prevalence of chronic illnesses such as diabetes mellitus, asthma, skin diseases, depression, and epilepsy.^{4,5} These health risks have emerged due to adopting bad habits and are associated with lifestyle in previous years and continue with them through their lifetime.⁶ They are responsible for approximately 2.6 million deaths every year in this age group worldwide,

and many of these health risks are preventable when diagnosed early.⁷ In this regard, primary health care centres play a crucial role as they diagnose and treat health problems in this age group at early stages.⁸ These include health care centres at universities.⁹ Nevertheless, little is known about the factors that are associated with students' utilisation of university health centre services.

There are a number of studies exploring students' utilisation of university health centre services. For example, among 200 university students in Dubai, university health centre service utilisation was 38.5% in the past 6 months.¹⁰ In Nigeria, researchers found that the university health centre service was utilised by 45.8% of students in the past 6 months.¹¹ A recent study in Korea revealed that 32.9% of students had utilised university health screening services within the previous 2 years.¹²

Although there is a dearth of literature that reports factors associated with the utilisation of university health care centre services by students, some can be found. A Canadian study found that chronic illness was associated with utilisation of family physician services in both early and middle adolescence.¹³ Course of study, registration with health centre, income and perceived severity of illness are reported as predictor variables to utilisation of university health centre in a Nigerian study.¹¹

There is a paucity of studies available about the factors that influence utilisation of university health centre services among Jordanian students. Thus, the current study intended to examine factors associated with utilisation of university health centre by students in Jerash University of north Jordan.

METHODS

Design

A cross-sectional study design was conducted to identify factors associated with and predict health centre service use by Jerash University students in the past 6 months. The period of study was from 1st June, 2016 to 31st August.

Setting

This study was conducted in Jerash University in the Jerash governorate, north of Jordan. Jerash University is one of several private universities in Jordan that provide health services to students. The university's health centre has provided curative health services from 8 a.m. to 4 p.m. for more than 20 years.

Participants

A convenience sample of 440 students participated in the present study from three faculties (nursing, humanities, economic & accounting) of Jerash University. Students aged 18 years and more were included in the study, while those with missing data on dependent or independent variables were excluded.

Measures

Dependent variable

Utilisation of university health centre services in the past 6 months. Students were asked the following: Did you use the university health centre during the past 6 months?

Independent variables

Using Anderson's behavioural model, predisposing, enabling, and need factors were included.¹⁴ Predisposing factors included gender (male or female), age (years), marital status (single, married, separated or divorced, and widowed), employment status (employed or unemployed), faculty (nursing, humanities, economic & accounting), academic year level (first, second, third or

fourth year and more) and health behaviour measuring tobacco use (smoker or non-smoker). The enabling factor was monthly income. Need factors included self-reports of chronic illnesses (have/do not have a chronic illness). Perceived general health status was measured on a scale of 1 to 10, with a 1 representing the "worst I have ever felt" and 10 representing the "best I have ever felt." Students were asked "What number would best reflect your general health status 6 months ago?"

Ethical considerations

The ethical committee of Jerash University approved the present study. Written informed consent was obtained from all participants after a full explanation regarding the study and its aim. In addition, participants were informed that the data collected would be treated with confidentiality and anonymity.

Data analysis

Descriptive analysis (percentages, means and standard deviations) was conducted to describe the participants. Chi-square test and Pearson's test were conducted to examine correlation between dependent and independent variables. One logistic regression model was developed for utilisation and non-utilisation of university health centre services over the past 6 months. The level of statistical significance was considered at $p < 0.05$.

RESULTS

Student characteristics

The study participants were 440 students. The mean age was 23 years. There were more female students 237 (53%), and the majority of students were single. Of the students, 200 (45%) were from the nursing faculty, and 139 (32%) were at the third academic year level. Approximately, 222 (50%) of students were unemployed and about two-thirds were non-smokers. The mean monthly income for each student was 379.1 Jordan Dinar (JD). About 62 (14%) of the students had chronic illnesses. The most commonly cited chronic conditions were hypertension 15 (3.4%), allergies 13 (3.0%), diabetes 11 (2.5%), respiratory problems 6 (1.4%), eye problems 5 (1.0%), heart conditions 2 (0.5%), arthritis 2 (0.5%), gastrointestinal problems 2 (0.5%), cancer 2 (0.5%), renal problems 2 (0.3%), osteoporosis 1 (0.2%), and mental illness 1 (0.2%). The mean for perceived general health status in the past 6 months was 6.51 (SD = 2.02) (Table 1).

Factors associated with utilisation of university health centre service

The university health centre services had been used by 147 (39.5%) of the students over the past 6 months. University students who used significantly more university health centre services in the past 6 months were those who (a) were male students, (b) were smokers, and (c) had chronic illness (Table 2). The factor

associated with university health centre services use in the logistic regression analyses was chronic illnesses (OR 4.205, 95% CI 2.269 - 7.794) (Table 3).

Table 1: Descriptive statistics of the participants (n = 440).

Variables	N (%)	Mean (S.D)
Predisposing variables:		
Age (in years)	23 (4.321)	
Gender:		
Male	203 (47%)	
Female	237 (53%)	
Marital Status:		
Single	298 (69%)	
Married	136 (30%)	
Divorce	6 (1%)	
Faculty		
Nursing	200 (45%)	
Humanities	124 (28%)	
Economic & accounting	116 (27%)	
Academic Year Level		
First year	68 (15%)	
Second year	109 (25%)	
Third year	139 (32%)	
Fourth year and more	124 (28%)	
Employment Status		
Unemployed	222 (51%)	
Employed	218 (49%)	
Tobacco Use		
Non-smoker	286 (65%)	
Smoker	154 (35%)	
Enabling variables:		
Income (Jordanian Dinars (JD) /Month)		379.1 (140.31)
Need variables:		
Chronic Illnesses		
No chronic illnesses	378 (86%)	
Have chronic illnesses	62 (14%)	
Hypertension	15 (3.4%)	
Allergies	13 (3.0%)	
Diabetes	11(2.5%)	
Respiratory diseases	6 (1.4%)	
Eye problems	5 (1.0%)	
Heart problems	2 (0.5%)	
Arthritis	2 (0.5%)	
Gastrointestinal problems	2 (0.5%)	
Cancer	2 (0.5%)	
Renal problems	2 (0.3%)	
Osteoporosis	1 (0.2%)	
Mental illnesses	1 (0.2%)	
Perceived general health status in past 6 months		6.51 (2.02)

Table 2: Factors associated with university health centre services utilization of students in the past 6 months.

Variable	Utilization 6 months
Predisposing variables:	
Age	0.036
Gender	0.100*
Marital Status	- 0.023
Faculty	0.172
Academic Year Level	0.089
Employment status	- 0.048
Tobacco Use	0.098*
Enabling variables	
Income	0.061
Need variables:	
Chronic Illnesses	0.274**
Perceived general health status in past 6 months	- 0.092

*Correlation is significant at the 0.05 level (2-tailed),

**Correlation is significant at the 0.01 level (2-tailed).

Table 3: Binary logistic regression analysis of predictors of university health centre services utilization of students in the past 6 months.

Predictors	b	Wald	Odds ratio	Confidence Interval (CI)	
				Lower	Upper
Gender	0.135	0.323	1.145	0.719	1.823
Tobacco Use	0.201	0.664	1.223	0.754	1.982
Chronic illnesses	1.436	20.821**	4.205	2.269	7.794

Confidence interval = 95%, *Odds ratio is significant at the 0.05 level, **Odds ratio is significant at the 0.001 level.

DISCUSSION

The prevalence of chronic illnesses among university students was 14%, which is similar to other countries.^{15,16} And, less than the prevalence that was found among university students in Slovenia.⁴

The most prevalent chronic illnesses among university students at Jerash University were hypertension 15 (3.4%), allergies 13 (3%), diabetes 11 (2.5%), respiratory diseases 6 (1.4%) and eye problems 5 (1%), with the remaining conditions less than 1%. Presently, no national representative figures on the prevalence of chronic illnesses among university students are available for comparison. However, compared with the Slovenian study, the most prevalent chronic illnesses reported by university students were allergies (14.9%), hay fever (11.4%), skin diseases (9.2%) and anxiety (5.3%).⁴ Another recent study found that the most prevalent chronic illnesses were irritable bowel syndrome (9.6%), nutritional anaemia (7.1%), and sickle cell anaemia

(5.1%).¹⁶ The inconsistency in the prevalence of chronic illnesses may be attributed to differences among risk factors.¹⁷ At present, unhealthy lifestyles, mostly obesity, alcohol abuse, smoking, poor diet, and lack of physical exercise, are increasing the prevalence of chronic illnesses.¹⁸ Consequently, there is a need to apply university-based programmes that encourage healthy behaviours and prevent occurrence of chronic illnesses. Future studies are needed to determine the most common multiple chronic illnesses among university students and to assess the effects of chronic illnesses on their academic performance, quality of life and mental health.

Although the percentage of university students using health centre services over the previous 6 months was almost equal in the current study and in that of Usman et al.¹⁰ The Nigerian study results were different: over 45% of university students utilised health care services.¹¹ This discrepancy may be related to differences in the recall periods in past studies on university health centre services utilisation. Further studies need to examine the students' utilisation of specific and different types of university health centre services, such as medical services (prescription of medication, health examination, and treatment), laboratory services (blood glucose and cholesterol), and nursing services (blood pressure measurement and dressing).

The data in the present study illustrate that chronic illnesses were significantly associated with utilisation of university health centre services. Specifically, university students with chronic illness were 4.2 times more likely to have used university health centre services in the past 6 months than those who did not have a chronic illness. Nevertheless, there are limited studies on utilisation of university health centre services by students that include multivariate analysis to compare with. Results of the current study were compatible with a study in Canada.¹³ Future studies need to examine the contribution of each chronic illness (such as hypertension, allergies or diabetes) in predicting utilisation of university health centre services by students.

Limitations

The study participants were selected from one private university in north Jordan, which may limit the generalisability of results. In addition, data regarding the reporting of chronic illnesses, utilisation of health centre services and perceived health status of students were self reported, which may result in some recall bias.

CONCLUSION

The findings revealed a utilisation rate of university health centre services by students and showed chronic illness as the most significant predictor associated with university health centre services utilisation. This data may help university administrators to ensure that

universities provide high quality health services and are more responsive to the students' needs.

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Conflict of interest: None declared

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REFERENCES

1. United Nations. Secretary-General's Report to the General Assembly, A/36/215;1981
2. Department of Statistics 2016; General Census of Population and Housing 2015, the main results, Amman, Jordan; 2016.
3. World Health Organization 2011; Youth and health risks: Report by the Secretariat. Sixty-Fourth World Health Assembly, A64/25. Provisional agenda item. 2011.
4. Klemenc-Ketis Z, Hladnik Z, Rotar-Pavlic D, Post M, Kersnik J. Self-reported chronic conditions in student population in Slovenia. *Zdravniski Vestnik*. 2010;79(1):31-41.
5. Yach D, Hawkes C, Gould CL, Hofman KJ. The global burden of chronic diseases: overcoming impediments to prevention and control. *JAMA*. 2004;291(21):2616-22.
6. Sawyer SM, Afifi RA, Bearinger LH, Blakemore SJ, Dick B, Ezech AC, et al. Adolescence: a foundation for future health. *Lancet*. 2012;379(9826):1630-40.
7. Patton GC, Coffey C, Sawyer SM, Viner RM, Haller DM, Bose K, et al. Global patterns of mortality in young people: a systematic analysis of population health data. *Lancet*. 2009;374(9693):881-92.
8. Hutchison B, Levesque JF, Strumpf E, Coyle N. Primary health care in Canada: systems in motion. *Milbank Q*. 2011;89(2):256-88.
9. Lange I, Vio F. Guía para universidades saludables y otras instituciones de educación superior. Primera Edición. Ministerio de Salud, Santiago de Chile; 2006.
10. Usman HH, Sisson R, Tavakoli G, El Khatib R. Health Insurance Utilization among Undergraduate Students of Canadian University of Dubai. *I J H S*. 2015;2(2):379-84.
11. Rotimi O, Akinleye Callistus A, Olubukola O, Babatunde Oluwole A, Fajewonyomi BA. Health Behaviour of Undergraduates and Service Utilization of University Health Centre. *J D M S*. 2015;14(12):72-8.
12. Lee SH, Joh HK, Kim S, Oh SW, Lee CM, Kwon H. Income Disparities in the Use of Health

- Screening Services Among University Students in Korea: A Cross-Sectional Study of 2479 Participants in a University. *Medicine (Baltimore)*. 2016;95(20):e3681.
13. Ryan BL, Stewart M, Campbell MK, Koval J, Thind A. Understanding adolescent and young adult use of family physician services: a cross-sectional analysis of the Canadian Community Health Survey. *BMC family practice*. 2011;12(1):118.
 14. Andersen RM. Revisiting the behavioural model and access to medical care: does it matter? *J Health Soc Behav*. 1995;1-10.
 15. de Macedo LF, Dalamaria T, de Aquino Cunha M, de Abreu LC, de Souza OF. Chronic Non-Communicable Diseases in College Students in the Brazilian Western Amazon Region. *Health*. 2014;6(19):2749.
 16. Zaher AA, Ali SI, Alalwan MA, Buzaid AH, Aldandan HW. Prevalence of Chronic Illnesses among Medical Students at King Faisal University (KFU) and their Impact on Academic Performance. *I J S R*. 2016;5(5):1401-5.
 17. Nugent R. Chronic diseases in developing countries. *Ann N Y Acad Sci*. 2008;1136(1):70-9.
 18. Ezzati M, Riboli E. Behavioral and dietary risk factors for noncommunicable diseases. *N Engl J Med*. 2013;369(10):954-64.

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