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Assessment of Health Promoting Lifestyle Behaviors of Students at the University of Malakand, Khyber Pakhtunkhwa Pakistan: A Quantitative Approach

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Abstract

Background: Health promoting lifestyle behaviors are important to achieve good health and wellbeing especially for young adults. The university setting is where students can be exposed to positive and negative lifestyle activities. The aim of this study was to ascertain the level of involvement in health promoting lifestyle behaviors by the students attending the University of Malakand, Khyber Pakhtunkhwa, Pakistan.

Methods: An analytical cross-sectional quantitative approach was utilized to survey university students. Data was collected from 308 male and female university students through a modified and validated questionnaire on "Health-Promoting Lifestyle Profile II". Institutional ethical approval was obtained. Data was analyzed with the Statistical Package for Social Sciences (SPSS) version 19.0.

Results: The main findings revealed that the mean (SD) health promoting lifestyle behaviors score was 2.48 (± 0.3) for all the study participants. Female students had a better overall health promoting behavior as compared to male students and the former were more health responsible (mean score 1.97 (± 0.5) as compared to their male counterparts (mean score 1.79 ± 0.4), this difference was statistically significant ($p=0.002$). Male students were more physically active mean (SD) 2.20 (± 0.5) than female students mean (SD) score 2.03 (± 0.4), and difference was statistically significant ($p=.006$).

Conclusion: Overall health promoting lifestyle behaviors of students from the University of Malakand were low irrespective of gender. Male students were physically more active whereas female students were more health responsible. It is recommended that relevant stakeholders work in collaboration with students to develop HPL behavior policies and implement interventions to promote healthy lifestyle behavior within national university settings.

Keywords: Health promoting lifestyle, behavior, university students, gender health, Pakistan.

Introduction

The concept of health promotion emerged in 1986 by the World Health Organization (WHO) to provide a focus on the prevention of diseases and to promote health and well-being (1). This first international conference on health promotion was held in Ottawa, Canada where WHO launched the "Ottawa Charter for Health Promotion" with five pillars to promote health and well-being for all: building healthy public policy, reorienting health services, creating supportive environments, strengthening community action and developing personal skills (2).

Health promotion is also the process of enabling people to have control over their health and to improve their physical, mental and social wellbeing (1). It is not the full responsibility of the health sector to achieve this, but it is the social responsibility and personal capacity utilization to achieve healthy lifestyle behavior and well-being. Health promotion can be achieved by the combine actions of all relevant stakeholders working in collaboration for the common goal of achieving health for all.

Health promoting lifestyle (HPL) focuses on the promotion of health through lifestyle behaviors consisting of six dimensions: "physical activity", "nutrition", "health responsibility", "spiritual growth", "interpersonal relations" and "stress management"(3). Health is a complex and dynamic process which changes constantly throughout the life (4). The WHO has highlighted that sixty percent (60%) of the quality of an individual's health and life depends on his/her behavior and lifestyle (5).

According to a study in Pakistan fifty three percent (53%) of mortality causes are associated with the individuals' lifestyle (3). This depicts the importance of adopting a healthy lifestyle from an early age.

Non-Communicable Diseases (NCDs) are caused by many factors but there are four behavioral risk factors that contribute significantly; tobacco use, unhealthy diet, insufficient physical activity and excessive amounts of alcohol (6). The greatest effects of these risk factors fall increasingly on low and middle-income countries, and on poorer people within all countries (3). Addiction which are observed in most countries, especially in developing ones, are associated with the transformations in the individuals' lifestyle (5).

In a developing country such as Pakistan, with one of the least per capita expenditure on health and one of the highest mortality rates due to communicable and non-communicable diseases (NCDs), preventive measures and health promotion activities can play a significant role in reducing the double burden of diseases (7).

Pakistan spends the equivalent to United States dollar (US) \$34 per capita on health while Afghanistan spends US\$52, Bangladesh US\$26, Bhutan US\$90, India US\$61 and Nepal US\$36 per capita on health (8). With this low contribution to health expenditure, the health promoting lifestyle behavior adaptation becomes the most appropriate way to curb on communicable and non-communicable diseases. There are multiple socio-economic similarities in between India and Pakistan. However, from the aforementioned per capita health expenditure, India is investing almost double amount in comparison to Pakistan.

Likewise, for the health promoting lifestyle behaviors among students in India, a study conducted in Chandigarh revealed that, female students were more likely to have better health promoting practices than their male counterparts. Other findings revealed that 13.5% of the students practiced yoga regularly, 24.5% tried to choose a diet with low fat content, 30% skipped meals regularly and 25.5% ate processed food regularly (9).

In Pakistan, existing population-based morbidity data on NCDs shows that one in three adults over the age of 45 years suffers from high blood pressure (6). The prevalence of diabetes is reported to be 10%, whereas 40% men and 12.5% women use tobacco in one form or another(10). Karachi (the largest city in Pakistan) reports one of the highest incidences of breast cancer for any Asian population (7, 10). In another study in Karachi it was identified that adolescent females were more depressed than males and had more sleep problems. Substance abuse and other addictions were documented more in males (7). Only 16.8% of the respondents stated that physical activity is essential for health. Among the study participants, 7% were Paan addicted (areca nut*), and 37.1% reported their addiction of smoking due to peer pressure (10).

According to Pakistan Education Statistics 2014, there are 185 universities in Pakistan both in Public and private sectors. 110 (59%) universities are of public

sectors while 75(41%) are working under private sectors (11). Moreover, there are 1431 degree colleges where students get their 13th and 14th years of education. Total enrolment in the universities at graduate level, is 1.463 million in which male are 0.795 million (54%), whereas, the female are 0.667 million and total enrolment at degree college stage is 0.956 million. So the total students at university and at college level is 2.13 million (12). According to Pakistan bureau of statistics the population between 15 to 24 year of age is 21.03 million. Hence, this population of universities and colleges becomes 10.12 % of the population between ages 15 to 24 year of age which is huge number of population (13).

The university years can be a time when students are free from parental supervision and guidance. It is a period when students increasingly make independent choices about their lifestyle and health practices (14). University students represent the future decision makers in organizations, communities, and countries and their gained knowledge about maintaining a healthy lifestyle can be shared with many population groups.

Due to the ever-increasing expenditure of secondary and tertiary care, health care planners have advocated more emphasis to be given to promotion of health and prevention of disease, rather than focusing mainly on treatment of disease (add ref here even WHO Ottawa Charter). An appropriate time to lay the foundation of health promotion activities or healthy lifestyle is during adolescence and early adult years (9).

Within a Pakistani context, this study aimed to ascertain the health promoting lifestyle behaviors of students at Malakand University, situated in the north western province of Khyber Pakhtunkhwa.

Methodology

Study Design and settings: An analytical cross-sectional design was utilized and the study setting in the University of Malakand, district Dir (lower), Khyber Pakhtunkhwa (KPK), Pakistan. The target population included undergraduate and postgraduate students that were currently studying in the university for at least 6 months with English written comprehension. Students over 25 years of age and suffering from any chronic diseases disable students were excluded from this study.

Sample size and data collection: Convenience sampling technique was utilized for the selection of study participants. The sample size was calculated by

using WHO sample size calculator by taking 50% (0.5) anticipated probability/expected frequency of exposure (level of involvement of students in health promoting life style). At 95% level of confidence, it was calculated to be 385. The addition of 10% probability of non-response rate, resulted in a total of 424 participants were recruited in this study.

The Health Promotion Life-style Profile- II (HPLP-II) questionnaire (15), was utilized after receiving permission from the primary author. Initially, this tool was developed and used in different countries such as India China, Iran, and Jordan for health promoting lifestyle assessment with university students (5, 9, 14, 16, 17). After obtaining Health Promotion Life-style Profile- II (HPLP-II) questionnaire, it was modified and administered to the study participants utilizing the same approach as the other researchers (5, 9) for their respective studies. The final Content Validity Index (CVI) of the tool was calculated as 0.84 for relevance and 0.81 for language clarity (18). The calculated Cronbach alpha for this study was 0.74.

Ethical Review approval: This was obtained from the Internal Review Board (IRB) of Health Services Academy (HSA), Islamabad and from the Registrar of the University of Malakand. Written informed consent was obtained from each study participant.

Data Analysis: Data from the study instrument was entered the SPSS version 19.0. The descriptive and inferential statistics were performed for data analysis. A total of four hundred and twenty-four (n=424) students were approached individually according to the inclusion criteria. Three hundred and sixty (n=360) students agreed to participate. Three hundred and eight (n=308) study participants returned completed questionnaires, fifty-two (n= 52) questionnaires were incomplete, sixty-four (n= 64) refused to participate. The total response rate was 85.5%. An independent sample t test was applied to identify the significant difference among the health-related lifestyle behaviors and gender.

Results

Participants' Demographic and Socio-economic Status: All the study participants were in the age range of 17-25 years. Almost two thirds (58.8%) were aged 20-22 years; followed by 25.6% for 22-25 years and 15.6% 17-19 years age bracket. The mean (SD) age 21.26 (+1.75). Two thirds (61.45%) of the study participants were male and 38.6% female. The majority (88%) were unmarried. A majority (91.6%) of students were living

in hostel accommodation. Just over sixty percent (61.4%) of the study participants came from living within an extended family while the remainder (38.6%) came from nuclear families. (Table 1)

Table1. Participants’ Demographic status (n=308)

Socio-demographic variables	Frequency (n=308)	Percentages
Gender		
Male	189	61.4
Female	119	38.6
Age (in years)		
17-19	48	15.6
20-22	181	58.8
23-25	79	25.6
Mean (SD)	21.26*±1.75	
Marital status		
Unmarried	271	88
Married	36	11.7
Divorced	1	0.3
Accommodation		
Hostel	282	91.6
Rent	20	6.5
Paying Guest	1	0.3
Home	4	1.3
Others	1	0.3
Family type		
Nuclear Family	119	38.6
Extended Family	189	61.4

Health Promoting Lifestyles of Male & Female Students:

Results from the descriptive statistics of the health promoting lifestyle questionnaire revealed that that the mean (SD) health promoting lifestyle (HPL) behavior score was 2.48 (±0.3) (Table 2). Female students had a better overall health promoting behavior lifestyle as compared to the male students with an overall HPL score of 2.49 (± 0.3). However, these results were not significant (P= 0.53).

Data analysis revealed that the highest mean (SD) score for male students was in subscale stress management 0.92 (± 0.6) and lowest was in health responsibility 0.179 (± 0.4). Similar findings were obtained for female students with the highest mean (SD) score for stress management 0.98 (±0.6) and lowest score in subscale in health responsibility 1.97 (±0.5) with significant p-value of 0.002. Correspondingly, subscale physical activity mean (SD) score for male students was 2.20 (±0.5) and for female students 2.03(±0.4) with p-value 0.006 revealing

significant findings that is male students were more physically active than female students.

With respect to nutrition, subscale mean (SD) score for male students was 2.40 (±0.5) and for female students 2.50 (±0.5) with an insignificant p-value 0.12. Subscale spiritual growth mean (SD) score for male students was 2.76(±0.5) and for female students 2.75(±0.5) with an insignificant p-value of 0.87. For both nutrition and spiritual growth there was no difference in subscale score for both male and female students.

Subscale interpersonal relation mean (SD) score for both male and female students was 2.72(±0.4) with an insignificant p-value 0.94. Lastly, subscale stress management mean (SD) score for male students was 2.92 (±0.6) and for female students 2.98 (± 0.4) with an insignificant p-value of 0.36. Hence, there is no significant difference found in subscale interpersonal relation and stress management in both male and female students (Table. 2)

Table 2. Subscale Score of HPL between Male & Female Students

Subscale of HPL	Students (N=308)		P-value
	Mean Score(SD)		
	Male (n=189)	Female (n=119)	
Health responsibility	1.79(0.4) ^a	1.97(0.5)	0.002
Physical activity	2.20(0.5)	2.03(0.4)	0.006
Nutrition	2.40(0.5)	2.50(0.5)	0.12
Spiritual growth	2.76(0.5)	2.75(0.5)	0.87
Interpersonal relations	2.72(0.4)	2.72(0.5)	0.94
Stress management	2.92(0.6)	2.98(0.4) ^b	0.36
Total HPL Score	2.47(0.3)	2.49(0.3)	0.53
a Lowest HPL			
b Highest HPL			

Table 3. Level of Health Prompting Lifestyle Behavior

Domain/Subscale of HPL	Mean Score	Grading
Health responsibility	1.88	Low
Physical activity	2.11	Low

Nutrition	2.45	Low
Spiritual growth	2.75	Moderate
Interpersonal relations	2.72	Moderate
Stress Management	2.95	Moderate
Total HPL Score	2.48	Low

Level of Health Promoting Lifestyle Behaviors

The mean score for total HPL behaviors and subscale were categorized to high, moderate and low. A score over 3 was considered high; between 2.5 to 3 was considered moderate and less than 2.5 was considered low. The data revealed that overall HPL score for study participants was 2.48 which is low. Similarly, subscale health responsibility (1.88), physical activity (2.11) and nutrition (2.45) score were also low for study participants. Study participants scored moderate on spiritual growth (2.75), interpersonal relations (2.72) and stress management (2.95). (Table 3).

Table 4. Comparison of this study with other studies

	Present Study 2018			Indian University Study 20XX (add ref)			Jordanian University Study 20YY (add ref)		
	Male	Female	P-Value	Male	Female	P-Value	Male	Female	P-Value
Health responsibility	1.79	1.97	0.002	24.40	25.83	0.00	2.1	2.2	0.146
Physical activity	2.20	2.03	0.006	18.32	16.92	0.02	2.1	1.9	0.000
Total HPL Score	2.47	2.49	0.53	137.98	139.39	0.49	2.5	2.4	0.468

Discussion

Since the 1986 Ottawa Charter for Health Promotion by WHO, the role that health and well-being interventions have played within the health sector has accelerated. Public and private sectors have given prominence to the role health plays within any setting especially University settings. HPL behaviors positively contribute to the quality of life and longevity.

The main findings from this study indicated that mean (SD) HPL score for male and female students was 2.48(±0.3) with no statistically significant difference between male and female students. However, female students’ mean (SD) HPL score 2.49 (±0.3) was greater than mean (SD) HPL score for male students 2.47(±0.3).

This indicated that female students were more likely to have better overall health promoting behaviors as compare to their male counterparts. These findings are similar with the study conducted in Chandigarh, India with 200 university students, which identified that total HPL score for female (139.39) was greater than male students (137.98) and there were no significant differences (p=0.49) (9). Moreover, this study further revealed that female students were more health responsible than male students (p=0.00). Total health responsibility score for female students was 25.83 and for male students was 24.40. However male students were more physically active than their counterparts (p=0.02). Male students’ physical activity score was 18.32 while female students’ score 16.92 for the physical activity domain (9).

This Pakistani study had similar findings with the study conducted with 340 Jordanian university students, which revealed a total average HPL score for male students was 2.5 and for female students 2.4 and this was not statistically significant (p=0.46) (Table 4)(19).

An Iranian study identified that male students were more physically active (Mean=2.29) than female students (Mean=1.82). In addition, the nutritional status of female students was better than male counterparts, but no significant difference was found (16). In another study conducted in Iran it was identified that physical activity was significantly higher in male as compare to female students (20). These findings were similar to this study conducted in Pakistan.

This study has some limitations. Firstly, all information in this study was based on self-report of students. This study was undertaken in the university located in a conservative society of district Dir (lower) which could have an influence on students of university. The female students may have restricted themselves in physical activity and health seeking behavior i.e., consulting doctor for health problems because of the socio-cultural restrictions.

Conclusion

Health promoting lifestyle behavior plays an important role in disease prevention, increasing quality of life and life expectancy. WHO’s settings approach to health facilitates a focused message to the target audience which in this study was University students.

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To the authors best knowledge, this was the first study in Pakistan that focused on HPL behavior of university students. Overall these behaviors were low however female students had better HPL than their male counterparts. Female students were also significantly more health responsible whereas male students were significantly more physically active. Further qualitative research is required to identify perceptions of barriers to HPL behaviors and investigating any gender differences. It is recommended that universities adopt health promoting policies, integration of the concept of HPL changes within the curricula plans and provide a supportive environment to the university students for HPL. Social media and traditional media platforms can be utilized to increase general awareness to about HPL behavior.

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