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Assessment of health-promoting lifestyle profile and its relation with well-being of medical students: A cross sectional study.

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ABSTRACT… Objectives: The aim of our study was to determine the importance and assessment of a health-promoting lifestyle and its possible association with well-being of medical students. **Study Design:** Cross Sectional Study. **Setting:** Aziz Fatima Medical and Dental College Faisalabad. **Period:** June to July 2020. **Material & Methods:** The English version of Health-Promoting Lifestyle Profile, and WHO-5 Well-Being Index were used in our study. **Results:** The research was conducted with 205 medical students. From which 102(49.8%) belongs from 4-year class and 103(50.2%) from 5-year class. Based on the table, the mean age of the total participants was 22.45(±1.03) years. Among the participants, the mean score of a health-promoting lifestyle was 133.36 ±18.90, which is interpreted as moderate. Lifestyle mean score is greater in 5th-year class as compare to 4th-year class but no significant difference was found because p value is greater than 0.05 there was a significant relationship between well-being and health-promoting lifestyle. Age and gender, were associated with students lifestyles. Independent t test is used to compare the mean difference in gender and MBBS class. Chi square test is used to find the significant association between well-being categories with gender and MBBS class. Pearson correlation coefficient method is used to measure the correlation between well being and healthy lifestyles. **Conclusion:** A health-promoting lifestyle of students in this study was moderate and they did not have an acceptable level of physical activity. The medical students' curriculums need to be improved to enhance health promoting lifestyles.

Key words: Healthy Lifestyles, Medical Students, Well Being.

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INTRODUCTION

Medical students are important pillars of our young population. As future physicians and leaders they assume prime importance to not only themselves but their family and society around them. Medical students have to make independent decisions more often about their educational planning as well as their health performance and lifestyles. In order to develop healthy lifestyle, individuals develop and adopt healthy eating habits, responsibility for health, regular and sufficient physical activity, satisfactory relationships, effective stress management and appropriate sense of self-realization.[1]

World Health Organization (WHO) describes lifestyle as distinct and identifiable behavioral patterns which derive from the interaction between personality traits, social relationships, environmental conditions, and socioeconomic status.[2] Lifestyle of an individual play a very important in the health of both the individual and society. We consider healthy behaviors those where our activities keep us healthy and prevent us from potential harmful diseases, and let us live a happy and fulfilled life.[3] Adolescence is a developmental period of life is where profound physical and psychosocial changes occur. Healthy lifestyle adopted earlier in life often is carried out to adulthood Schools and universities have been recognized as appropriate settings for health-promoting lifestyle among young people.[4]

We can prevent ourselves from chronic non-

communicable diseases by developing and adopting healthy lifestyle. Non communicable diseases are the leading cause of mortality and morbidity worldwide.[5] The Health Promoting Lifestyle behaviors prevent diseases and promote health. By 2020, the WHO predicts that 63% of all diseases and deaths worldwide will be related with unhealthy lifestyle.[6] Recent studies have demonstrated gender impacts on the perception of healthy and unhealthy lifestyles and making health-related decisions. Gender differences in healthy behaviors could be affected by the interacting effects of important aspects of traditional gender roles and the modern milieu.[7]

Many factors like gender, family life, where people reside and socioeconomic conditions may affect individual's lifestyle. The study carried out in Pakistan indicated that 30.7%, 62.3%, and 7% of the medical students had healthy, average, and unhealthy lifestyles, respectively.[8] Unhealthy lifestyles habits like obesity, smoking, physical inactivity and unhealthy eating habits are related to medical conditions affecting our young population like diabetes and cardiovascular disorders.[9]

Medical students are supposed to understand very well long term consequences of smoking, alcohol intake, imbalanced diet, and other unhealthy habits. But we could not find good amount of evidence that they practice healthy habits as compared to their counterparts although they have more knowledge of healthy lifestyle.[10]

Medical students face severe psychological issues like depression and anxiety while studying in a medical school.[11] In a systematic review conducted to analyze the mental health of medical students in Brazil, it was reported that the prevalence of depression and anxiety in the students was 30.6% and 46.1%, respectively.[12] There are many factors which can affect student's lifestyle like being away from home, tight academic schedule, staying away from family members, irregular meal habits, and physical activity. Smoking, obesity, imbalanced diet and lack of physical activity have high prevalence among medical students as high as other professionals and in general population.[13]

Medical professionals can prevent people from major lifestyle diseases by educating patients about possible benefits of healthy habits. So it is important for medical students to have positive attitudes and healthy behaviors.[14] By adopting healthy habits medical students stay healthy and contribute to the healthcare system in the future.[15] In our study we wanted to assess the current status of health-promoting lifestyle, and well-being among medical students.

MATERIAL & METHODS

This is a descriptive cross-sectional study which we conducted from 1st June 2020 till 31st July 2020.We distributed the questionnaires to the students of 4th year and 5th year MBBS class of Aziz Fatima Medical College Faisalabad. Students filled the questionnaires and returned online to researchers. The consent form explained the purpose and introduction of the study to the students and their participation was purely voluntary. Students filled the questionnaire and data extracted was kept confidential and will be used for current research only.

The time allowed was 20 to 25 minutes. We used convenience sampling technique for data collection. All participants were allowed to withdraw from study at any time. Our study was approved by the Institutional Ethical Review Committee (IERC/28-20) of Aziz Fatima Medical College Faisalabad.

The questionnaires given to students had two parts. Part 1 included demographic characteristics like age of the student, gender, MBBS class year, current place of residence (rural/urban), financial conditions, number of siblings and family members. Part 2 included Health-Promoting Lifestyle Profile[16], and WHO-5 Well-Being Index.[17]

The Health-Promoting Lifestyle Profile has 6 dimensions: nutrition, physical activity, health responsibility, stress management, interpersonal relationships, and spiritual growth. Nutrition, Physical activity and Interpersonal relationships have 8 items each while stress management has

5 items. Sub-domains of health responsibly have 13 items and spiritual growth has 10 items.

The subscales may be employed independently.[16] All questions are affirmative, with no reverse questions. The answers were given within a four-point Likert-type scale, where "never" (scores as 1 point), "sometimes" (scores 2 points), "often" (scores 3 points), and "routinely" (scored as 4 points), respectively. HPLP-II total score ranges from 52 to 208. A healthier lifestyle is reflected in higher score of HPLP-II. Poor score is demonstrated by 49% or below, moderate score is considered between 50% and 74% and good score is regarded 75% and above.

WHO- 5 Well-Being Index has 5 items, which score 0 to 5.Total score could be 0 to 25.Scores of 13 or less indicate an abnormal well-being, while over 13 score indicates a good well-being status. Among students reliability of index is reported to be 0.94.[18] The data was analyzed using SPSS version.

RESULTS

Total 205 undergraduate students of 4th year and 5th year MBBS of Aziz Fatima Medical College Faisalabad participated in our research. From which 102(49.8%) belongs from 4th year class and 103(50.2%) from 5th year class. Mean age of the participants was 22.45(±1.03) years. The mean age of female students was 22.35(±1.15) and that of male students is 22.54(±0.91).

Detail of demographic was shown in Table-I. The HPLP-II and well-being mean score among the participants are shown in Table-II. Comparison of mean score in HPLP-II and well-being mean score among gender and MBBS class are shown in Table-III. Independent t test is used to compare the mean difference in gender and MBBS class.

Table-III shows that Health-Promoting Lifestyle Profile mean score is greater in female as compared to male but no significant difference was found because p value is greater than 0.05. Total average score of Interpersonal Relations in gender was found significantly different with p-value=0.01. The differences between gender and total mean score of other five domains health responsibility, nutrition, spiritual growth, Interpersonal relations and stress management including overall HPLP (52 items) were not significant difference.

Table-III also shows that Health-Promoting Lifestyle mean score is greater in 5th -year class as compared to 4th -year class but no significant difference was found because p value is greater than 0.05. There was significant difference (p-value=0.01) in Nutrition domain average score in 4th year and 5th year classes. But no significant difference was found in mean scores of other five domains and overall HPLP-II score.

The differences between MBBS classes and total mean score of other five domains health responsibility, spiritual growth, physical activity and stress management, and interpersonal Relations including overall HPLP-II (52 items) were not significant difference.

Table-IV shows the association between well-being index and gender with p value 0.038. Table 4 also shows that there is significant association between well-being index and MBBS classes with p value 0.015.

Table-V shows Correlation between well-being and Health-Promoting Lifestyle scores. Pearson correlation coefficient method is used to measure the correlation. Correlation coefficient value 0.38 shows positive correlation which mean that as if the score of Health-Promoting Lifestyle is high the well-being score will also be high .P value<0.0001 shows that there is highly significant correlation between Health-Promoting Lifestyle and well-being score.

DISCUSSION

Medical students are expected to practice healthy lifestyles and be a role model for others. But studies do not always confirm that health promoting behaviors are found desirable among medical students.

Health- promoting lifestyle score and gender have a relationship.

Characteristics	Total Participant (n=205)	Female Participant (n=91)	Male Participant (n=114)
Age (year), mean (±SD)	22.45(±1.03)	22.35(±1.15)	22.54(±0.91)
Siblings, mean (±SD)	3(±1.52)	3.01(±1.36)	3(±1.12)
Father occupation			
Business man	57(27.8%)	29(31.9%)	28(24.6%)
Teacher	27(13.2%)	9(9.9%)	18(15.8%)
Doctor	40(19.5%)	19(20.9%)	21(18.4%)
GOVT job	38(18.5%)	21(23.1%)	17(14.9%)
Private job	25(12.2%)	10(11%)	15(13.2%)
Others	18(8.8%)	3(3.3%)	15(13.2%)
Residence			
Hostel	70(34.1%)	31(34.1%)	39(34.2%)
Day scholar	135(65.9%)	75(65.8%)	75(65.8%)
Location			
Urban	71(34.6%)	72(79.1%)	27(23.7%)
Ruler	134(65.4%)	19(20.9%)	87(76.63%)
Class			
4 year	102(49.8%)	55(60.4%)	47 (41.2%)
5 year	103(50.2%)	36(39.6%)	67(58.8%)
family system			
Single	170(82.9%)	73(75.3%)	98(86%)
Joint	35(17.1%)	24(24.7%)	16(14%)
Gender			
Male	114(55.60%)		
Female	91(44.44%)		

Table-I. Demographic characteristics of the study participants.

Variables	Mean	SD	Minimum	Maximum
Health-Promoting Lifestyle	133.36	18.90	90	201
Health Responsibility	21.39	4.84	11	35
Physical Activity	18.55	4.16	8	31
Nutrition	22.87	4.07	12	34
Spiritual Growth	25.06	4.23	15	36
Interpersonal Relations	24.75	4.11	12	36
Stress Management	20.71	3.32	11	32
Well-being	16	4.68	2	24
Well-being (poor)	9.28	2.96	2	13
Well-being (good)	18.21	2.68	14	24

Table-II. Mean scores of lifestyle variables and well-being among the responses.

HPLP and Domains	Gender			MBBS Class		
	Male	Female	P-Value	4 Year	5 Year	P-Value
	Mean (±SD)	Mean (±SD)		Mean (±SD)	Mean (±SD)	
Health-Promoting Lifestyle	131.86(±15.28)	134.81(±22.85)	0.27	131.49(±16.83)	134.84(±20.91)	0.20
Health Responsibility	21.42(±4.45)	21.34(±5.26)	0.89	20.96(±4.52)	21.81(±5.08)	0.20
Physical Activity	18.46(±3.97)	18.58(±4.48)	0.84	18.38(±3.68)	18.65(±4.66)	0.64
Nutrition	22.78(±3.38)	22.91(±4.83)	0.82	22.15(±3.96)	23.51(±4.10)	0.01
Spiritual Growth	24.56(±3.62)	25.65(±4.81)	0.06	24.93(±4.11)	25.16(±4.33)	0.69
Interpersonal Relations	24.11(±3.60)	25.47(±4.58)	0.01	24.60(±3.79)	24.82(±4.47)	0.70
Stress Management	20.49(±2.78)	20.93(±3.98)	0.34	20.42(±2.92)	20.95(±3.66)	0.25

Table-III: Comparison of mean score in HPLP-II and its domains among Gender and MBBS class year.

		Well-being Categories			P-Value
		Poor		Good	
Gender	Male	Count (%)	23 (20.2)	91 (79.8)	0.038
	Female	Count (%)	30 (33%)	61 (67%)	
MBBS Class	4 year	Count (%)	34 (33.3%)	68 (66.7%)	0.015
	5 year	Count (%)	19 (18.4%)	84 (81.6%)	

Table-IV. Association between well-being categories with gender and MBBS class.

		Well-being Score	Well-being Score
Well-being score	Pearson Correlation	1	.381**
	Sig. (2-tailed)		.000
	N	205	205
HPLP score	Pearson Correlation	.381**	1
	Sig. (2-tailed)	.000	
	N	205	205

Table-V. Correlation between well-being and Health-Promoting Lifestyle scores.
**** Correlation is significant at the 0.01 level (2-tailed).**

In our study there was a difference between the lifestyle scores of the two genders. Table-III shows that Health Promoting Lifestyle Profile mean score is greater in female 134.81(±22.85) as compared to male 131.86(±15.28) with p value 0.27.

A study was conducted in Saudi Arabia on the Health promoting Lifestyles and related factors in medical students. The mean HPLP-II score in that study was 123.8, and there was a difference between the lifestyle scores of the two genders.[19] In another study conducted in Iran, 95.7% of the students led the average lifestyle, while 4.3% had a satisfactory lifestyle. None of the participants was also in the unsatisfactory score range. The highest scores were obtained on the interpersonal relations and spiritual growth.[20]

Overall mean score of HPLP-II in our study was 133.36(±18.90).This score is regarded at intermediate level and is consistent with some other studies.[22] The mean score of spiritual growth was 25.06 ± 4.23.This score is moderate. The mean score of health responsibility was 21.39 ± 4.84, which is moderate, and that of personal relationships was 24.75 ± 4.11. In another study, two dimensions of health promoting lifestyle, i.e. interpersonal relations and spiritual. Growth, had high scores. Moreover, there were significant differences between the studied faculties in terms of spiritual development and interpersonal relations[21].The mean score of stress management was 20.71 ± 3.32. This score is categorized as moderate and also reflected by other researches.[22]

The mean score of physical activity was 18.55 ± 4.16. It is regarded poor but some other researchers have similar findings.[22] It is very important for medical students to be physically active and engage in activities that promote physical health. To improve physical activities we must raise awareness of this aspect and encourage better policies towards sports and outdoor games. The mean score of the nutrition dimension was 22.87 ± 4.07.

In our study we compared HPLP scores and as well its domains scores between 4th year and 5th year MBBS students and we found that mean score of Nutrition dimension was significantly higher in 5th year MBBS than those of 4th year MBBs students as shown in Table-V.

Spiritual growth mean score was also higher in 5th year MBBS class than 4th Year MBBS class but

difference is not that significant. We presume that difference in HPLP scores and its domains can be attributed to cultural and social contexts.

Wellbeing of medical students is related to not only their academic achievement but also their motivation and physical health.[23] Health-promoting lifestyle of students is significantly related to well-being. Higher HPLP score was associated with higher well being score in our study as described above.

Our study is a well-designed study that made use of standardized questionnaires but being a cross sectional in nature it has its limitations. This study has some limitations such as use of convenience sampling method in recruiting students from a single university that may not represents the study population. We collected self-reported data only once to assess health habits which limits the generalizability of the findings due to potential information bias.

CONCLUSION

We concluded that Health-promoting lifestyle was moderate and students did not have an acceptable level of physical activity. We propose curriculum must be modified alongside with academic calendar to encourage and facilitate lifestyle habits that could promote health and well being.

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