Attitudes among Qassim University Medical Students, Saudi Arabia

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ABSTRACT

Background: health status and lifestyle pattern are examples of health-related practice and the determinant of the individual's future health, performance and life expectancy. World health organization (WHO) indicated that 60% of an individual's health-related quality of life depends on life style. The health status can be controlled by adopting the important aspects for a healthy life style, dietary habit, stress management, physical activity and smoking cessation. **Methods:** this cross-sectional study was conducted in College of Medicine, Qassim University, Saudi Arabia to assess the health promoting lifestyle and associated factors of medical students. Data was collected using the standardized HPLP II Questionnaires. The questionnaires were covered in two parts. The first part includes demographic questions and second part included 52 questions related to Health- Promoting Lifestyle Profile (HPLP-II).426 out of 652 students were participated with response rate of 65%. **Results:** this study showed that the average of total score regarding to health promotion for all participants related to the different variable is too less 2.33 out of 4. In addition there is no statistical significant relation between HPLP Total Scoreand the different study variables; P Value > 0.05. Our study indicated there was strong positive correlation between HPLP total score and subscales level of significant 0.05 and 0.01.
Keywords: health-promoting lifestyles, medical students, Qassim University**,** Saudi Arabia.

INTRODUCTION

Day by day chronic illnesses in developed countries are on the rise. This situation underscores the importance of health services, which should be performed in a way to protect, endure, and improve the health. The level of health in a society is measured by the proportion of the healthy individuals within it. An individual who can assimilate their healthy lifestyle behaviors in life can protect him/ herself from diseases and live a more qualified and fulfilled life [1,2] ..

Health status and lifestyle pattern are examples of health-related practice and the determinant of the individual's future health, performance and life expectancy.World health organization (WHO) indicated that 60% of an individual's health-related quality of life depends on life style [3] . The health status can be controlled by adopting the important aspects for a healthy life style;dietary habit, stress management, physical activity and smoking cessation [3] . WHO offers health-promoting principles and strategies for different populations, and the strategies are not limited to a particular health issue. Development of health-promoting behaviors is feasible through education and community development policies, rules, and regulations. In fact, these behaviors can help with the prevention of infectious diseases, injuries, violence, and mental illnesses [4] · Health promotion is directly associated with disease prevention, and prevention is obviously preferred to treatment. Health-promoting lifestyle (HPL) is a component of health promotion and includes six dimensions: physical activity, nutrition, health responsibility, spiritual growth, interpersonal relations, and stress management. This type of lifestyle, in addition to improving one's health status and well-being, promotes a sense of satisfaction, personal gratification, and self- improvement [4].

A study has been shown that the individual's life style choices and lifestyle-related behavior are formed over years before joining the university.What is regrettable is that the university student is facing many unfamiliar living conditions which are a challenge and sometimes find it difficult to cope with them, as the changes in the study method, curriculum competing and social demands that may result in a wide range of unhealthy behaviors as in inadequate nutritional intake andphysical activity [3,5] . In addition, they may have trouble in organization of time which can have an effect on the rest and physical activity time.

Today's medical students are tomorrow's doctors who are expected to have an important role in protection and improvement of health in society. In addition, they are responsible for the most up to date information for the health developing constitution and for the changing of bad behaviors. Physicians are expected to have an important role in protecting and improving health. They have an invested interest as caregivers for the increased health of the society and as role models in lifestyle influences for individuals. In this regard, it is natural to expect them to have the most up to date and relevant information for the health-developing concept, and the ability to apply this knowledge inpractice. Medical faculties aim to educate students, so they can inform the society and also treat individual disease conditions as well as provide

advice on how to continue a healthy lifestyle. They also should be educated in a way so they can protect their own health, and should be exemplary role models to society. In this regard, medical students should be educated and their knowledge about this subject should be occasionally tested starting in the first year of the school.

METHODS

This cross-sectional study was conducted in College of Medicine, Qassim University, Saudi Arabia from October to December 2017 to assess the health promoting lifestyle among medical students and explore its association with different factors. The HPLP-II score reflect the Medical student's commitment of health maintaining act, so better is the score, better will be the health profile of a student, where 426 out of 652 students were participated with response rate of 65%.

Research question
Does studying medicine have an effect on health-promoting lifestyle of medical students?

Research Objectives
-To assess the difference between male and female in health promoting lifestyle in Qassim University College of Medicine students
-To determine the effect of socioeconomic factors on health promoting lifestyle
-To assess the difference in lifestyle behaviors between first and last year students

Data Collection
Data was collected using the standardized and validated HPLP II questionnaires. The questionnaire was covered in two parts. The first part includes demographic questions and second part included 52 questions related to Health- Promoting Lifestyle Profile (HPLPII) and before collecting data the aim of the study and confidentiality issues that mentioned the collected data is only for scientific research purposes were discussed with participants and finally all participants were signed a consent form before filling the questionnaire.

Data Analysis
Collected data was analyzed by Statistical Package for the Social Sciences for Windows (Version 20; SPSS Inc., Chicago, IL) where descriptive analysis such as (frequency, percentage, mean, and standard deviation), t test and chi square test was conducted measure level of the significance.

Inclusion Criteria
Participants should be registered as student in Qassim University. The age of participants should not be greater than 26 years andshould be College of Medicine Student

Exclusion Criteria
Non Qassim University students. The age of participants greater than 26 years old Students from other Qassim University college, and who had chronic diseases participant.

Ethical Approval
The research was approved by Qassim Region Research Ethics Committee (QREC) and all ethical issues were considered during all study phases.

RESULTS
This study was conducted in Qassim College of Medicine to assess the health promoting lifestyle behavior of Medicine students and to determine the effect of studying medicine and socioeconomic factors on those behaviors students.

The main findings of this study is that 61% of participants were under the age of 22 year while 39% were above 22 year (**Figure 1**), 54% of participants were male while 46%% were female (**Figure 2**). As shown in table 1; the majority of participants were singles (94%), the class distribution of participant was 1st class (26%), 2nd class (17%), 3rd class (18%), 4th class (21%) and 5th class (18%), near to three quarters of participants (73%) had a good economic status. The study also showed that the average of total score regarding to health promotion for all participants related to the different variable is too less 2.33 out of 4. In addition there is no statistical significant relation between HPLP Total Score and the different study variables; P Value > 0.05 (**Table1**). Our study indicated there strong positive correlation between HPLP Total Score and subscales level of significant 0.05and so the null hypothesis that state there is no relationship between HPLP total score and subscales was rejected and the alternative hypothesis that stated there is relationship between HPLP total score was accepted(**Table 2**). Also the study mentioned that there is no statistical significant relation between different health promotion scales and gender; P Value is > 0.05 (**Table 3**), there is no statistical significant relation between Health Responsibility, physical activity, nutrition and stress management and students' 1st and 5th class; P Value is > 0.05 (**Table 4**) while there is statistical significant relation between Spiritual Growth and Interpersonal Relations and students' 1st and 5th class; P Value is < 0.05 (**Table 4**). Also there is no statistical significant relation between Health Responsibility, Physical Activity and Nutrition and age group; P Value is > 0.05 (**Table 5**). while is statistical significant relation between Spiritual Growth, Interpersonal Relations and Stress management and age group; P Value is < 0.05 (**Table 5**). and finally there is no statistical significant relation between Health Responsibility, Physical Activity, Nutrition, Spiritual Growth and Interpersonal Relations and marital status; P Valueis> 0.05 (**Table 6**) while is statistical significant relation between Stress management and marital status; P Value is < 0.05 (**Table 6**).
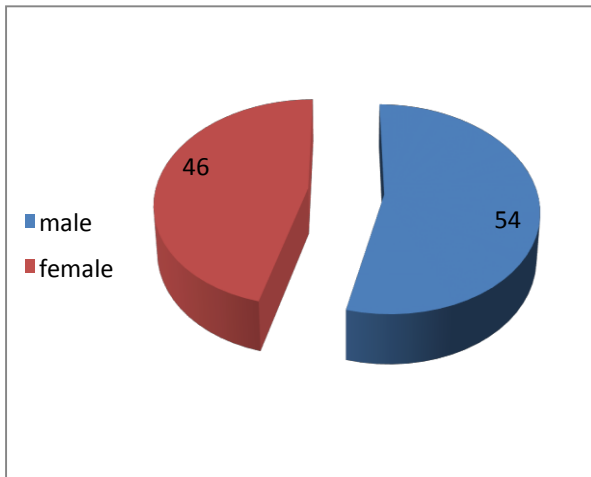
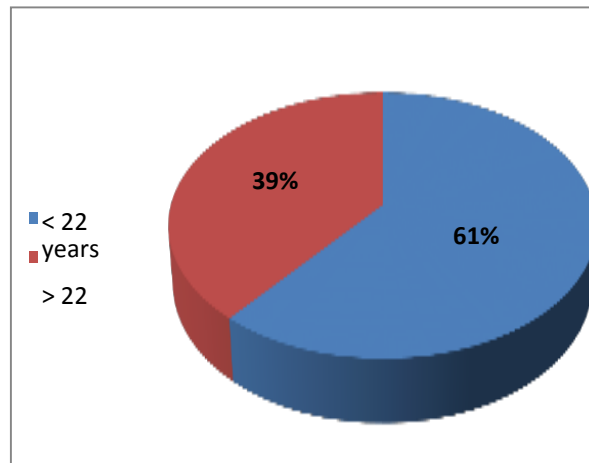**Figure 1:** distribution of participant according to the age group

Figure 2: distribution of participant according to the gender

Table1: distribution of HPLP total score and different variables

HPLP Total Score / Demographic Variables		N	Mean (±SD)	Std. Deviation	P Value
Marital status	single	402	1.2168E2	20.95280	0.072
	married	22	1.1286E2	29.84930	
Class	first	112	1.2320E2	18.15987	0.233
	second	72	1.1943E2	19.87413	
	thired	76	1.2536E2	22.02587	
	fourth	89	1.1972E2	19.11091	
	fifth	77	1.1791E2	28.17109	
Mother education	primary	87	1.189542	24.43306	
	secondary	107	1.199452	19.30726	
	College or higher	227	1.224812	21.41775	0.577
Father education	primary	45	1.151302	25.89717	
	secondary	108	1.193722	20.81902	1.15
	College or higher	271	1.229332	20.66180	
Chronic status	good	311	1.21922	20.93308	0.715
	moderate	112	1.20792	20.74693	
	worse	3	1.20702	20.74093	
Presence of chronicdiseases	yes	66	1.238922	22.49248	0.255
	no	354	1.208012	21.37440	
Perception of health status	very good	186	1.247512	22.53773	0.255
	good	212	1.200222	19.28913	
	Moderate	24	1.052132	25.53596	
Smoking status	yes	14	1.084302	33.50480	0.277
	no	411	1.217732	20.86998	
Drinking alcohol	yes	1	1.213812	21.33223	1.15
	no	423	1.103832	21.49123	
Average of HPLP Total Score		426	2.3320	.41351	

Table 2: distribution of HPLP total score and its sub-scales

	All Students					HPLP II Total score	
	Number	Mean	SD	Min	Max	Pearson Correlation	P Value
HPLP II score	624	2.3320	.41351	.27	4.00	1	0.001
Health responsibility	624	1.9953	54729	.22	4.00	.698**	0.001
Physical activity	624	1.9718	.64410	.25	4.00	.643**	0.001
Nutrition	624	2.1857	.47300	.22	4.00	.716**	0.001
Spiritual growth	624	2.7157	.65331	.33	4.00	.775**	0.001
Interpersonal relations	624	2.7517	.60515	.44	4.00	.692**	0.001
Stress management	624	2.3316	.55182	.00	4.00	.764**	0.001

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

Table 3: the relationships between HPL dimensions and gender N = 426

Health Promotion Subscale	Gender	N	Mean	Std. Deviation	P value
Health responsibility	male	228	1.9542	.53907	0.096
	female	198	2.0426	.55419	
Physical activity	male	228	1.9375	.67712	0.238
	female	198	2.0114	.60313	
Nutrition	male	228	2.1170	.46181	.0454
	female	198	2.2649	.47451	
Spiritual growth	male	228	2.6803	.61075	.0634
	female	198	2.7565	.69847	
Interpersonal relations	male	228	2.7593	.62714	0.782
	female	198	2.7430	.58025	
Stress management	male	228	2.3355	.52716	0.874
	female	198	2.3270	.58024	

Table 4: relationships between HPL dimensions and class N = 426

	class	N	Mean	Std. Deviation	
Health Responsibility	1st	112	1.9940	.52875	.659
	5th	77	2.0303	.58784	
Physical Activity	1st	112	1.8638	.62072	.215
	5th	77	1.9805	.65080	
Nutrition	1st	112	2.2123	.47623	.504
	5th	77	2.1602	.59084	
Spiritual Growth	1st	112	2.8442	.57984	**.008**
	5th	77	2.5714	.82613	
Interpersonal Relations	1st	112	2.8651	.53452	**.003**
	5th	77	2.5931	.71319	
Stress management	1st	112	2.3806	.51289	.069

| | | 5th | 77 | 2.2338 | .58467 | |

Table 5: relationships between HPL dimensions and age group

HPL Dimensions	Age Group	N	Mean	Std. Deviation	P value
Health Responsibility	< 22 years	258	1.9991	.53928	
	> 22 years	168	1.9894	.56095	.858
Physical Activity	< 22 years	258	1.9370	.65230	
	> 22 years	168	2.0253	.62948	.167
Nutrition	< 22 years	258	2.1977	.44748	
	> 22 years	168	2.1673	.51055	.518
Spiritual Growth	< 22 years	258	2.7743	.58989	
	> 22 years	168	2.6257	.73296	**.022**
Interpersonal Relations	< 22 years	258	2.8239	.58830	
	> 22 years	168	2.6409	.61558	**.002**
Stress Management	< 22 years	258	2.3813	.53355	**.021**
	> 22 years	168	2.2552	.57198	

Table 6: relationships between HPL dimensions and marital status

Health Promotion Subscale	Gender	N	Mean	Std. Deviation	P value
Health Responsibility	single	402	2.0008	.54300	
	married	22	1.9192	.64075	.497
Physical Activity	single	402	1.9751	.64594	
	married	22	1.8750	.63033	.479
Nutrition	single	402	2.1926	.46557	
	married	22	2.0303	.58813	.117
Spiritual Growth	single	402	2.7225	.63967	
	married	22	2.5657	.88949	.274
Interpersonal Relations	single	402	2.7637	.59891	
	married	22	2.5404	.71212	.093
Stress Management	single	402	2.3458	.54332	
	married	22	2.0455	.65300	**.013**

DISCUSSION

Today's medical students are tomorrow's doctors who are expected to have an important role in protection and improvement of health in society. In addition, they are responsible for the most up to date information for the health developing constitution and for the changing of bad behaviors. Physicians' own behaviors and perceptions about lifestyle may have a direct impact on the advice that they provide to their patients. Physicians who live healthier lifestyles have been found to be more likely to discuss these lifestyles with their patients and to encourage their patients to behave in healthier ways [6].

Our study showed that the average of total score regarding to health promotion for all participants related to the different variable is too less i.e. 2.33 out of 4. In addition there is no statistical significant relation between HPLP Total Score and the different study variables; P Value > 0.05. This results is similar to the previous studies carried out [7,6]. Also our study mentioned that there is no statistical significant relation between different health promotion scales and gender; P Value is > 0.05 so this finding is differ to some previous study conducted which indicated that interpersonal relations Score were more in male as compare to female, however female score more than their counterpart in stress management [7]. Even for physical activity our study showed that there was no statistical difference between male and female, this finding is similar to the study which mentioned that number of students doing any physical activity had reduced to half [7]. Other researchers demonstrated that medical students showed a decrease in their

physical activity since they joined college [3,8,9]. Many other studies reported that male students participated significantly more than female students in physical activities [4]. Another study conducted in Saudi Arabia found that physical inactivity was prevalent among Saudi medical students (64.4%) who belonged to different socioeconomic levels. Physical exercise was not done regularly in 65% of the male medical students and 80% of the female [10]. Also the same study indicated that the medical students diet was characterized by excessive amounts of carbohydrates, high animal sources of proteins and fats, and low amounts of fibers, minerals, and vitamins. These dietary characteristics are different from the traditional Saudi diet that consists mainly of dates, milk, vegetables, fruits, whole wheat bread, and fish [10].

When comparing different health promotion scales and students of 1st class and 5th class our study showed that there is no statistical significant relation between Health Responsibility , Physical Activity, Nutrition and Stress management and students' 1st and 5th class; P Value is > 0.05 while there is statistical significant relation between Spiritual Growth and Interpersonal Relations and students' 1st and 5th class; P Value is < 0.05, this finding is differe to that conducted by Melis in 2014 which found that first year is higher than last year. And it has been shown that there is a significant decrease in responsibility of health, physical activity, moral development, and stress management subclass. Previous studies found that the 1st year medical students representing the secondary school adolescents have unhealthy dietary habits as this have been found in many studies [8]. In general Saudi adolescents and university students have developed bad dietary and lifestyle habits as a result of the progressive improvement in the socioeconomic status of Saudi Arabia over the last 10-20 years [11].

in the other hand this led to negative impact on the general well-being and increased chronic metabolic diseases among the Saudi population like obesity and type 2 diabetes mellitus [12]. Physical activity is a major determinant of health; compared to international literature Saudi adolescents have more sedentary lifestyle and less physical activity [3]. found that Young males and females from Al-Ahsa (Eastern province in Saudi Arabia) reported less physical activity and recorded higher percentage of overweight and obesity than youth in Birmingham and Coventry in United Kingdom.

The 3rd year medical students expected to have to very good basic medical knowledge to be reflected in a healthier dietary habits compared to the 1st year colleagues, however in our study we found no significant difference between these two levels of students in regard to the behavior, exercise and even fast food intake Compared to similar studies done in Karachi [13] and another multicountry study, our student are much less physically active.

CONCLUSION

Health status and lifestyle pattern are examples of health-related practice and the determinant of the individual's future health, performance and life expectancy. World health organization (WHO) indicated that 60% of an individual's health- related quality of life depends on life style. The health status can be controlled by adopting the important aspects for a healthy life style;dietary habit, stress management, physical activity and smoking cessation.

This study was conducted in Qassim College of Medicine to assess the health promoting lifestyle behavior of Medicine students and to determine the affect of studying medicine and socioeconomic factors on those behaviors students.

The main findings of this study is that 61% of participants were under the age of 22 year while 39% were above 22 year, 54% of participants were male while 46%% were female, majority of participants were singles (94%), the class distribution of participant was 1st class (26%), 2nd class (17%), 3rd class (18%), 4th class (21%) and 5th class (18%), near to three quarters of participants (73%) had a good economical status.

The study also showed that the average of total score regarding to health promotion for all participants related to the different variable is too less 2.33 out of 4. In addition there is no statistical significant relation between HPLP Total Score and the different study variables; P Value > 0.05.

Our study indicated there strong positive correlation between HPLP Total Score and subscales level of significant 0.05 and 0.01 so the null hypothesis that state there is no relationship between HPLP total score and subscales was rejected and the alternative hypothesis that stated there is relationship between HPLP total score was accepted.

Also the study mentioned that there is no statistical significant relation between different health promotion scales and gender; P Value is > 0.05, there is no statistical significant relation between Health Responsibility, Physical Activity, Nutrition and Stress management and students' 1st and 5th class; P Value is > 0.05 while there is statistical significant relation between Spiritual Growth and Interpersonal Relations and students' 1st

and 5th class; P Value is < 0.05.

Also there is no statistical significant relation between Health Responsibility , Physical Activity and Nutrition and age group; P Value is > 0.05 while is statistical significant relation between Spiritual Growth, Interpersonal Relations and Stress management and age group; P Value is < 0.05 and finally there is no statistical significant relation between Health Responsibility , Physical Activity, Nutrition, Spiritual Growth and Interpersonal Relations and marital status; P Value is > 0.05 while is statistical significant relation between Stress management and marital status; P Value is <0.05.

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