Original paper

Healthy Lifestyle Behaviors among Medical College Students

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Article information:
Received: 2023-06-27
Accepted: 2023-08-01
Vol. 16, No. 2, Dec, 2023.

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Abstract

Background: Countries are impacted by an increase of a group for unhealthy behaviors that strongly contribute to the raise of chronic diseases that have a close connection to daily life behaviors. These diseases include high blood pressure, diabetes, osteoporosis, and cardiovascular diseases. The study aims to assess the healthy lifestyle behaviors among medical college students, and found out relationship between healthy lifestyle behaviors with their demographic characteristics.

Methodology: The descriptive research design was conducted at medical colleges in university of Kerbala during Sep 26th 2022 to 19th, March, 2023. The sample was collected from a non-probability convenience sample of 150 students between4th January and 27th February 2023. The data were described analyzed through use of a descriptive (frequencies, percentage…) and inferential (Spearman correlation coefficient) statistical analysis procedures.

Results: The findings of the study indicated that the majority of the sample were female (68.7%), most of participants were single (88%), the highest percentage of the sample was living at their family (92.7%), and (61.3%) of them were resident in rural areas with high monthly income. Concerning the healthy lifestyle activities of the students; four fifths (79%) were at moderate level and this was not significantly associated with demographic characteristics.

Conclusion: The results of this study show more than four fifths of the sample have moderate level of health behaviors. Fundamental applicable programs should be undertaken as soon as possible to improve students' health behaviors.

Keywords--- Healthy Lifestyle Behaviors, College Students

Introduction

Lifestyle refers to the habits of people that affects their health. A healthy lifestyle includes behaviors that enable people to take care of their health. It is strongly associated with health problems and chronic diseases such as cardiovascular disease (CVA), diabetes Mellitus (DM), hypertension (HTN), and cancer. The increasing prevalence of chronic diseases has turned off a public health concern. It is projected that by 2020 these diseases will account for more than seven out of ten causes of death in developing countries [(1)].

Among all the health behaviors that a person can adopt to improving people's capacity for health, the study focuses on this topic identifies four divides: a) Behaviors mainly related to physical health: caring for one's body and environment, exercises a balanced diet, as well sufficient quantity and nature of sleep. b) Behaviors primarily associated to mental wellbeing: receiving or offering assistance from others, avoiding undue excessive anxiety, as well resolving difficulties plus tension. c) Protective behavior: health self-monitoring, self-examination, carrying out preventive medical check-ups or safe behavior in everyday life. d) Avoiding risky behaviors: not smoking, limiting alcohol consumption, not abusing over-the-counter drugs, not using other mind-altering substances [(2)].

The amount of physical activity is related to age and gender: older young men and females' less active. The financial situation of a family affects the health of the family. Boys and girls from rich families generally report higher levels of physical activity and more likely to follow medical recommendations. The area of residency also effects on the level of physical activity. Recent research shows that young people living in rural areas and small towns have higher activity levels than young people in big cities [(3)].

Medical students should be more informed and aware about healthy eating and living habits, yet, it's lack of information for securing this notion part translating knowledge into powerful and beneficial practices are usually very impossible, for those studying medicine in particular, who are referred to anxious lead lives that are totally incompatible with maintaining good health [(4)].

Following healthy lifestyle behaviors (HLBs) is very important, and according to studies, about 70% of diseases are related to unhealthy lifestyle

behaviors of individuals. Some cardio-pulmonary and musculoskeletal disorders and other diseases are directly or indirectly related to the individual's lifestyle behaviors [5].

Chronic illness which are the main source of death and disability globally, especially in poorer nations, around sixty percent of all fatalities worldwide. According to the International Health Organization (WHO) 60 percent of illnesses and fatalities are associated with non-communicable diseases (NCDs) is related to behavioral and lifestyle factors [6]. Highlight the need to implement education program and preventive measures to encouraging college students to adapt healthy lifestyle behaviors [7].

This study aimed to assess the healthy lifestyle behaviors among medical college students, and found out relationship between healthy lifestyle behaviors with their demographic characteristics.

Methodology

A quantitative design, (a descriptive cross-sectional study) that was used to assess the healthy lifestyle behaviors of undergraduate medical colleges students. The current study was conducted from 26th September, 2022 to19th March, 2023. Selecting of three colleges at the university of Kerbala including (Nursing, Dentistry, and Medicine). The participants were chosen from a convenience (non-probability) sample of 150 students, the inclusion criteria were that students from the morning study who are in the fourth class and were available for data collection. The ethical committee in the university of Kerbala approved the study, and all participants provide informed consent. A self-administered questionnaire was used for data collection. The questionnaire was developed from original questionnaire (Polat & Celik, 2021)[8], which consist of two parts: Part one included demographic characteristic (Gender, marital status, living status, residency environment, and monthly family income). The part two; healthy lifestyle behaviors that consist of six components: dealing with drugs and substance (7 items), psychosocial health (7 items), physical activity (7 items), nutrition (13 items), coping stress (7 items) and health responsibility (7 items). The researcher was dependent on the 3- Likert scale that is rating "Never" (1), "Sometimes" (2), and "Always"(3). The overall score of HLBs was estimated by calculating the range score for a mean of total score after calculating the range from minimum score and maximum score; the range score was rated into three levels and scored as follows: Poor= 48– 80, Moderate= 81 – 112, Good= 113 – 144. The score of each sub-domains was estimated by calculating the range score for mean of total score of that domain after calculating the range from minimum score and maximum score; the range score rated into three levels and scored as follows: 7 – 11.66, Moderate= 11.67 – 16.33, Good= 16.34 – 21, except the domain of "nutrition" which was scored as follows: Poor= 13 – 21.66, Moderate= 21.67 – 30.33, Good= 30.34 – 39The level of each item in scale was estimated by calculating the cutoff point for the mean of score and rated into three levels also as follow: Poor= 1– 1.66, Moderate= 1.67 – 2.33, Good= 2.34 – 3. The validity examined by eight experts to evaluate the instruments for clarity, relevance, and suitability. A pilot study was conducted on fifteen students at the University of Kerbala from 15 to 21, December, 2022. The pilot study shows the questionnaire items were clear and understood, and the time required to answer the questionnaire ranged from 15 to 25 minutes. Reliability carried out by applying the Alpha Cronbach correlation coefficient = 0.80. The Statistical Program for Social Sciences (SPSS) program was applied descriptive statistics (frequency, mean score, percentage, and standard deviation). Inference statistical include (Cronbach Alpha, Point Biserial Correlation, and Spearman correlation coefficient). Results were determined as significant at ($p \leq 0.05$) and not significant at ($p > 0.05$).

Results

The Demographic characteristics showed that 68.7% of students at medical colleges were females. In the terms of marital status reveals that more of students were single as reported among 88% of them. Regarding living status, 92.7% of students reported that they are living with their families. In the terms of residence; about two thirds (61.3%) of students were resident in rural area. In the terms of monthly incomes reveal that half of students (50%) in the students reported high monthly income (table 1). The total mean of Healthy Lifestyle Behavior score was 16.25±2.264 which indicate moderate level (table 2). The assessment of Healthy Lifestyle Behavior related to Physical Activity indicated that the total mean was 13.16± 3.207 which indicate moderate level (table 3). The assessment of Healthy Lifestyle Behavior related to nutrition domain showed that the total mean was 25.53±4.138 which indicates Moderate level (table 4). The assessment of Healthy Lifestyle Behavior related to coping with Stress domain showed the total mean was 14.67±2.638which indicates moderate level (table 5). The assessment

of Dealing with Drugs and Substance Use Disorders domain showed that the total mean was 17.38±2.215which indicates good level (table 6). The assessment of Healthy Lifestyle behavior related to Domain of "Psychosocial Health" indicated that the total mean was 16.29±2.465which indicates Moderate level (table 7). The distribution of the total Healthy Lifestyle Behaviors Score Medical students showed that four fifths of students had Moderate score and the total mean score was 103.29 ± 9.769 (table 8). The correlation of the total mean score with the demographic characteristics of the students showed that no significant Correlation was discovered and the correlation coefficients were weak (table 9).

Table 1. Demographic characteristics of Medical College students (n=150)

Variables	Group	Frequency	Percentage
Gender	Male	47	31.3
	Female	103	68.7
Marital status	Single	132	88
	Married	18	12
	Total	150	100
Living with	Family	139	92.7
	Friends	1	0.7
	Relatives	2	1.3
	University Apartment	8	5.3
Residence	Urban	58	38.7
	Rural	92	61.3
Monthly income (Iraqi Dinars)	≤ 300000	8	5.3
	301000 – 600000	34	22.7
	601000 – 900000	33	22
	901000 ≤	75	50
	Total	150	100

Table 2. Assessment of Healthy Lifestyle Behavior related to Domain of Health responsibility among Medical College students (n=150)

Health responsibility	Mean	SD	Assessment
Feel healthy and well	2.36	.583	Good
Take the necessary measures to prevent infectious diseases	2.31	.592	Moderate
Take the necessary measures when you suffer from any pain	2.35	.604	Good
read or watch television programs about improving health	1.76	.692	Moderate
Maintain a degree of proportion between your weight and height	2.16	.752	Moderate
Take a shower daily	2.63	.523	Good
Aware of the health and quality of the water you drink	2.67	.587	Good
Total mean	*16.25*	*2.264*	*Moderate*

SD: Standard Deviation, Assess: Assessment, Poor= 1– 1.66, Moderate= 1.67 – 2.33, Good= 2.34 – 3 Total mean: Poor= 7 – 11.66, Moderate= 11.67 – 16.33, Good= 16.34 – 21

Table 3. Assessment of Healthy Lifestyle Behavior related to Physical Activity among Medical College students (n=150)

Physical Activity questions	Mean	SD	Assessment
Exercise at least a few times a week	1.79	.720	Moderate
Do vigorous exercise for 20 minutes or more at least three times a week, such as brisk walking	1.77	.781	Moderate
engage in light to moderate physical activity (such as continuous walking 30-40 minutes 5 or more times per week)	2.14	.742	Moderate
Participate in leisure physical activities such as swimming	1.47	.721	Poor
Do regular walking	2.12	.759	Moderate
Exercising during normal daily activities (such as walking after lunch, using stairs instead of elevators	1.95	.727	Moderate
Avoid using the computer more than 3 hours a day	1.92	.773	Moderate
Total mean	***13.16***	***3.207***	***Moderate***

SD: Standard Deviation, Assess: Assessment, Poor= 1– 1.66, Moderate= 1.67 – 2.33, Good= 2.34 – 3 Total mean: Poor= 7 – 11.66, Moderate= 11.67 – 16.33, Good= 16.34 – 21

Table 4. Assessment of Healthy Lifestyle Behavior related to Nutrition domain among Medical College students (n=150)

Nutrition questions	Mean	SD	Assessment
Eat breakfast daily regular	2.11	.787	Moderate
eat three main meals and two secondary meals	2.01	.671	Moderate
Choose a diet low in fat, saturated fat, and cholesterol	1.97	.649	Moderate
Reduce the use of sugar and food containing sugar	1.82	.656	Moderate
Eat honey or molasses as a substitute for sweets	1.72	.677	Moderate
Concentrate in your food on a very small percentage of white salts	1.82	.656	Moderate
Avoid soft drinks, tea and coffee	1.73	.732	Moderate
Drink water and fluids (6-8) glasses during the day	2.21	.669	Moderate
Eat 6-11 servings of bread, cereal, rice and pasta each day	1.83	.757	Moderate
Eat 2-4 servings of fruits every day	2.08	.597	Moderate
Eat 3-5 servings of vegetables every day	2.08	.597	Moderate
Eat 2-3 servings of milk, yogurt or cheese every day	1.93	.692	Moderate
Eat 2-3 servings of meat, poultry, fish, dried beans, eggs, and the nut combo every day	2.24	.587	Poor
Total mean	***25.53***	***4.138***	***Moderate***

SD: Standard Deviation, Assess: Assessment, Poor= 1– 1.66, Moderate= 1.67 – 2.33, Good= 2.34 – 3, Total mean: Poor= 13 – 21.66, Moderate= 21.67 – 30.33, Good= 30.34 – 39

Table 5. Assessment of Healthy Lifestyle Behavior related to "Coping with Stress" domain among Medical College students (n=150)

Coping with Stress	Mean	SD	Assessment
Sleep 8 hours a day	2.31	.675	Moderate
Tend to go to bed earlier than you usual bedtime	1.91	.806	Moderate
Feel easy to fall back asleep when you wake up at night	2.13	.766	Moderate
Focus on pleasant thoughts at bedtime	2.10	.693	Moderate
Accept those things in your life that you cannot change	2.24	.610	Moderate
use specific techniques to control your stress	2.23	.549	Moderate
Practice relaxation or meditation for 15-20 minutes a day	1.75	.675	Moderate
Total mean	***14.67***	***2.638***	***Moderate***

SD: Standard Deviation, Assess: Assessment, Poor= 1– 1.66, Moderate= 1.67 – 2.33, Good= 2.34 – 3 Total mean: Poor= 7 – 11.66, Moderate= 11.67 – 16.33, Good= 16.34 – 21

Table 6. Assessment of Healthy Lifestyle behavior related to Domain of "Dealing with Drugs and Substance Use Disorder" among Medical College students (n=150)

Dealing with Drugs and Substance Use	Mean	SD	Assessment
Avoid using any kind of tobacco (cigarettes and water pipes)	2.38	.872	Good
resort to using medicines only when necessary	2.55	.574	Good
Carefully follow the instructions that come with medicine Prescribed by the doctor	2.49	.653	Good
Avoid taking sedatives and hypnotics	2.56	.690	Good
only take medicines prescribed by doctors	2.47	.564	Good
Avoid mixing medicines without a doctor supervision	2.54	.609	Good
Try to know the side effects of any medication you are taking	2.40	.635	Good
Total mean	***17.38***	***2.215***	***Good***

SD: Standard Deviation, Assess: Assessment, Poor= 1– 1.66, Moderate= 1.67 – 2.33, Good= 2.34 – 3 Total mean: Poor= 7 – 11.66, Moderate= 11.67 – 16.33, Good= 16.34 – 21

Table 7. Assessment of Healthy Lifestyle behavior related to Domain of "Psychosocial Health" among Medical College students (n=150)

Psychosocial Health	Mean	SD	Assessment
Easily express your feeling to those close to you	2.17	.727	Moderate
Meaningful and fulfilling relationships with others	2.47	.599	Good
You have complete confidence in your personal abilities	2.56	.596	Good
You have a person who is trying to engage you in activities that help you forget about your problems	2.18	.686	Moderate
Enjoy communicating with relatives	1.95	.717	Moderate
Feel good and at peace with yourself	2.48	.621	Good
Work on long term goals in your life	2.48	.663	Good
Total mean	***16.29***	***2.465***	***Moderate***

SD: Standard Deviation, Assess: Assessment, Poor= 1– 1.66, Moderate= 1.67 – 2.33, Good= 2.34 – 3 Total mean: Poor= 7 – 11.66, Moderate= 11.67 – 16.33, Good= 16.34 – 21

Table 8. The distribution of the total Healthy Lifestyle Behaviors Score Medical students (n=150)

Levels	Frequency	Percentage
Poor	4	2.7
Moderate	116	79.3
Good	27	18
Total	150	100

Poor= 48 – 80, Moderate= 81 – 112, Good= 113 – 144

Table 9. Relationships between medical Students' healthy lifestyle behaviors with regard to their demographic variables

Variables		Healthy Lifestyle Behavior score				Correlation coefficients
		Poor	Moderate	Good	Total	
Gender	Male	0	38	9	47	r_{pb} = .090 P-value= .271 Sig= N. S
	Female	4	81	18	103	
	Total	4	119	27	150	
Marital status	Unmarried	4	101	27	132	r_S = .017 P-value= .833 Sig= N. S
	Married	0	18	0	18	
	Divorced	-	-	-	-	
	Widowed/er	-	-	-	-	
	Total	4	119	27	150	
Living with	Family	4	109	26	139	r_S = .002 P-value= .983 Sig= N. S
	Friends	0	1	0	1	
	Relatives	0	2	0	2	
	University Apartment	0	7	1	8	
	Total	4	119	27	150	
Residency	Urban	3	46	9	58	r_{pb} = .042 P-value= .610 Sig= N. S
	Rural	1	73	18	92	
	Total	4	119	27	150	
Monthly income	≤ 300000	0	8	0	8	r_S = .030 P-value= .715 Sig= N. S
	301000 – 600000	2	21	11	34	
	601000 – 900000	0	28	5	33	
	901000 ≤	2	62	11	75	
	Total	4	119	27	150	

r_S = Spearman correlation coefficient, r_{pb}= point biserial correlation coefficient, P= Probability, Sig= Significance, N. S= Not significant, S= Significant

Discussion

As based on the study of the population characteristics in the table (1), It shows that more than half (68.7%) of students were female in the medical group This study result was consistent with Dörtkol and Özdemi, (2021) who found (54.3%) of participants were female [9]. Regarding to the marital status, results of study show that more than three quarters of medical (88%) were unmarried respectively. These results agree with study by Alzahrani et al., (2019) who revealed that majority (95.1%) were unmarried [6]. In regarding property of the living status, the majority of students living with their families and represented more than three quarters. The study findings agree with study done by study by Sok et al., (2020) which reported that majority of participants in study sample living with their families and represented the percentage (48.4%) [10]. The residency shows that more than half of students in the medical colleges are resident in rural area. The current results agree with study by Wang et al., (2013) They found the (44.56%) of participants are resident in rural areas, 30.26 in urban areas, and 25.04 in towns [11]. About the financial income that half of students in the medical colleges have high level. The result agrees with study of by Alzahrani et al., (2019) who revealed that over fifty percent of students having high monthly income [6]. Outcomes reveal that students at medical colleges show that moderate level regarding health responsibility. The findings agree with study done by Azami Gilan et al., (2021) who reported that a moderate level for health responsibility subscale of students which represented (2.10 ± 0.54) [12]. The results of table (4) indicate that HLBs of the medical colleges students showed moderate behavior regarding physical activity. The findings consisted with study of Ifroh et al., (2022) who mentioned that the physical activity scores (2.47) as moderate level [13]. Point of view this result

refers to several reasons, including to lack of time for physical activity in college. Lack of sports facilities in college. Another reason for the low level among females may be cultural restrictions that exist to participate in public outdoor exercise. The result of table (5) indicates that the students in medical colleges show moderate behavior regarding nutritional habits. The current finding agrees with study done by Rahimi et al., (2021) about lifestyle of medical college students in Tehran, who stated that the nutrition score (25.08±4.15) was moderate [(14)]. The barriers students face to eating a healthy, balanced diet, including limited time. Also, most university students do not care to drink water, and it was found that most students do not drink milk and its derivatives on a daily basis. The analysis of the of HLBs regarding domain of coping with Stress among medical colleges Students showed moderate behavior table (6). These findings of study agree with study done by Dhiman & Chawla, (2017) whose shows that the stress management were (2.6±0.4) were moderate [(15)]. The results of the study showed that some of students have sleep problems and do not use stress management techniques such as taking time to relaxation, focusing on interesting ideas because of academic pressure, fear of failing in exams, lack of time management and not taking enough breaks for self-care. The analysis of HLBs scale regarding to domain of dealing with drug and substances use indicated that the students in medical colleges show good behavior table (7). The results agree with study done by Bastani et al., (2018) who mentioned that the highest mean was observed in avoiding medicines and drugs (5.14 ± 1.08) [(5)]. The findings of table (8) showed that the medical colleges students had moderate behavior regarding psychosocial health. The results of study agree with the study done by Mohamed et al., (2022) whose reported that the interpersonal relations scores 21.33±4.93 was moderate [(16)]. The results of table (9) show moderate level of healthy lifestyle as reported among 79.3% of students in medical colleges (M±SD=103.29 ± 9.769). The results agree with study by Dortkol & Ozdemi, (2021) who reported that the students had moderate level healthy behaviors which represented (125.7±17.1)[(9)]. Also, the results of study consisted with study of Rahimi et al., (2021) who use the same instrument and they stated that the majority of college students' medium level of lifestyle with mean score was (138.28±21.18) [(14)]. Concerning the of the Relationship between Students' Healthy Lifestyle Behaviors with their demographic data, the current analysis demonstrates there is no significant relationship between the healthy lifestyle behaviors of medical students and their demographic characteristics such as gender, marital status, living status, residency and family monthly income. This study was in similarity with Amiri et al., (2019) reported there is no meaningful statistics. relationship in average HLBs scores with Marital status, an area residence, economic status for family [(17)].

Conclusion

Research results indicate that the healthy lifestyle behaviors (HLBs) of medical students is at a moderate level. In addition, the results demonstrate there's no relationship between students' HLBs and their demographic characteristic, including the gender, marital status, living status, place of residence, and monthly family income. Findings highlight the need of having college- based healthy lifestyle intervention programs and

Acknowledgments

I really want to express my thanks to the University of Karbala/ College of Nursing for their guidance as well as advice. and my respect and thanks for all the educators to get assisting them when providing and gathering checks reconnaissance. As well thank every one of the participants who took part in the research.

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