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Knowledge and Attitude Regarding Risk Factors of Cardiovascular Diseases among Baghdad University Students

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ABSTRACT

Introduction: Cardiovascular diseases (CVDs) greatly very within countries. Low and middle-income countries (LMICs) and vulnerable communities of high-income countries (HIC) share disproportionately higher burden.

Objectives: To explore the level of knowledge and attitude of Baghdad university students concerning risk factors for cardiovascular diseases.

Methodology: A cross-sectional design study utilizing a stratified random sampling method. Students of all colleges of Baghdad University (BU) in Baghdad city were included. The respondents were randomly selected from each college. The sample size was 200. Knowledge, attitude questionnaire was developed and distributed to the respondents involved. The data collected was analyzed using SPSS version 26.0.

Results: The majority of the study were female who accounted for (65.5%) of the total participants while male constituted (34.5%). Most of the study participants (35%) were ages between 20 and 21 years. Study participants' distribution in equal forms on colleges twenty-five percent for each college. 32.5% of the students were first class. Ninety three percent of the students were single and the remainder was married. Majority (89%) lived in urban areas while the rest (11%) lived in rural areas.

Conclusions: Although more than half of the current study participants had poor knowledge and postive attitude about CVD, there is not satisfactory. The knowledge of CVD symptoms and risk factors is below optimal levels regarding risk factors for cardio vascular diseases, as well as results shows overall students have positive attitude toward preventive measurement about risk factors of cardiovascular needs targeted national campaigns about CVD according to the identified predictors of CVD to prevent and to alleviate the complications due to CVDs.

Keywords: Knowledge; Attitude; Students; Risk Factors for Cardiovascular Diseases.

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INTRODUCTION

Cardiovascular diseases (CVDs) are a set of heart and blood vessel disorders, including Coronary heart disease (CHD), Cerebrovascular disease, peripheral arterial disease, congenital heart disease, rheumatic heart disease, deep vein thrombosis and pulmonary embolism.[1] The World Health Organization (WHO) has estimated that CVD contributed to 32% of deaths globally and interestingly 85% of the deaths were due to

heart attacks and stroke.[2] Furthermore, most of the deaths due to CVD were reported in middle and low-income countries. It is projected that by 2030 more than 22.2 million individuals will die annually.[3,4] The CVDs were associated with the disposition of fatty acids in the arteries, more commonly known as atherosclerosis and increased risk of blood clots, thereby the destruction of the arteries in the brain, heart, kidneys and eyes among the patients. There were four main types of CVD according to NHS, which include coronary heart disease (for example, angina, heart attacks and heart failure) stroke and transient ischemic attacks (TIAs), peripheral arterial disease and aortic diseases.[5] The strong association between behavioral risk factors and CVD onset is widely known, yet substantial potential lies in the prevention, screening and detection of cardiovascular risk factors.[6,7] This plan defined targets for 2025, including a reduction of smoking (30%), hypertension (25%) and no further increase in diabetes or obesity. India is also playing a pivotal role in terms of reaching global CVD targets as defined in the WHO's Global Action plan for the prevention and control of NCDs, given the projected future growth and aging of the population.[8] However, it is unclear how the knowledge of CVD symptoms and modifiable risk factors vary among students with existing CVD and those with CVRFs, as community-based data are not available so far for major CVRFs and heart attack and stroke symptoms. Therefore, it is essentially important to assess the CVD knowledge among the students to create more awareness about the disease, thereby preventing the possible adverse outcomes associated with the Risk of CVD. Furthermore, studies on knowledge of CVD risk factors and its primary prevention practices among the students are rare in Iraq and other international countries. The comprehension of many elements of CVD disease among university students in Iraq has not been the subject of any research. Therefore, the purpose of this study was to assess the knowledge and attitude of CVD risk factors and its primary prevention practices among the students.

MATERIALS AND METHODS

A cross-sectional descriptive and analytical study to assess the knowledge and attitude regarding risk factors of cardiovascular diseases among undergraduate of Baghdad University, Iraq. This study was conducted at Bagdad University between December, 2023 up to the end of March 2024. A tool of knowledge, attitude questionnaire was developed and distributed to the participants in this study. The questionnaire was validated by conducting the pre-testing among 20 students in a pilot study. The content validity of the questionnaire was verified by expert of faculty of nursing. The questionnaires were distributed to the selected undergraduate students of all the four colleges in Baghdad University. Baghdad city; namely the college of arts, college of Languages, college of Islamic Sciences, college of Ibn-Rushd, given some interval time and collected back after they have completed the questionnaire. The stratified random sampling method was utilized in selecting the participants. The inclusion criteria for the participants were age of 18 years old and above of both genders, male and female, which include Year 1 to Year 4 from each faculty.The sample size calculated was 200, inclusive of the 10% non-response rate. Proportional allocation from all grade levels (1 to 5 or 1 to 6 in all colleges). The response a total of 200 undergraduate students were included in this study distributed as follows: College of Arts (50), College of Languages (50), College of Islamic Sciences (50) and College of Ibn-Rushd (50). The questionnaire consisted of three major parts. The first part was the demographic factors such as age, sex, college, year of study and residence. The second part was close-ended questions on knowledge concerning CVD risk factors, the component knowledge test consisted of 25 closed questions, as follows: 25 affirmations, for which an "X" should be marked for one of the possible alternatives, (Know), (I do not know) (know it was considered as a correct question, (I do not know false it was considered as a incorrect question answered. The third part consists of the attitude questions towards the risk factors of CVD using the likert-scale type of questions. It had three choices ranging from "Strongly Agree" to "Disagree" items. The level of knowledge was ranked into two levels; (0-0.49) are poor score knowledge, (0.50-1) are good score knowledge and the level of attitude was ranked into three levels; (66.67- 77.78) are poor level, (77.79 – 88.89) are moderate level and (88.90 – 100) are high level. All the data that had been collected was analyzed using Statistical Package for Social Science (SPSS) version 26.0.

RESULT

The majority of the comprised were female who accounted for (65.5%) of the total participants while male constituted (34.5%). Most of the study participants (35%) were age between 20 and 21 years old. Study participants' distribution in equal forms on colleges twenty-five percent for each

college (32.5%) of the students were first class. Ninety three percent of the students were single and the remainder was married. Majority (89%) lived in urban areas while the rest (11%) lived in rural areas as showed in Table 1.

Table 1: Distribution of the Studied Sample According to Socio-Demographical Characteristics Variables

N=200 Student

SDCv.	Groups	Frequency	Percent	Cumulative %
Gender	Male	69	34.5	34.5
	Female	131	65.5	100.0
	Total	200	100.0	
Age Groups (Years)	18 – 19	54	27.0	27.0
	20 – 21	70	35.0	62.0
	22-23	61	30.5	92.5
	24 & Above	15	7.5	100.0
	Total	200	100.0	
Faculty	Arts	50	25.0	25.0
	Languages	50	25.0	50.0
	Islamic Sciences	50	25.0	75.0
	Ibn-Rushd	50	25.0	100.0
	Total	200	100.0	
Academic (year)	First Stage	65	32.5	32.5
	Second Stage	51	25.5	58.0
	Third Stage	32	16.0	74.0
	Fourth Stage	52	26.0	100.0
	Total	200	100.0	
Marital Status	Single	186	93.0	93.0
	Married	14	7.0	100.0
	Total	200	100.0	
Residence	Urban	178	89.0	89.0
	Rural	22	11.0	100.0
	Total	200	100.0	

Frequency, Percent, Cumulative percent

Table 2 indicated that students had poor knowledge level concerning risk factors for cardiovascular diseases, which indicated based on total mean of score (MS) which was (0.46).

Table 2: The mean of score of students knowledge concerning risk factors for cardiovascular diseases

Items	Resp.	F	%	MS	SD	A.D
Smoking is main cause for CVD	Know	198	.99	.99	1.00	Pass
	Don't know	2	1.0			
Alcohol is one the causes for CVD	Know	113	56.5	57.	.497	Pass
	Don't now	87	43.5			
High blood pressure increases risk CVD	Know	146	73.0	73.	445.	Pass
	Don't know	54	27.0			
Hypercholesterolemia is one of the causes for CVD	Know	133	66.5	.67	.473	Pass
	Don't know	67	33.5			
Individuals who suffer diabetes mellitus are at more risk for CVD	Know	114	57.0	57.	.496	Pass
	Don't know	86	43.0			

Table cont...

Obesity is a risk factor of CVD	Know	116	58.0	.58	.495	Pass
	Don't know	84	42.0			
Pattern of unhealthy diets	Know	91	45.5	.46	.499	Fail
	Don't know	109	54.5			
High level of density lipoprotein	Know	93	46.5	46.	500.	Fail
	Don't know	107	53.5			
Physical inactivity	Know	48	24.0	.24	.428	Fail
	Don't know	152	76.0			
Stress	Know	71	35.5	.36	.480	Fail
	Don't know	129	64.5			
CVD is the leading cause of death in world	Know	80	40.0	.40	.491	Fail
	Don't know	120	60.0			
Walking is type of exercise to be a prevention CVD	Know	86	43.0	43.	496.	Fail
	Don't know	114	57.0			
Perform daily exercise can prevent CVD	Know	108	54.0	.54	.500	Pass
	Don't know	92	46.0			
Eating fruits or vegetable is able to prevent from CVD	Know	104	52.0	.52	.501	Pass
	Don't know	96	48.0			
Avoid drinking alcohol decreases the risk of getting heart disease	Know	137	68.5	.69	.466	Pass
	Don't know	63	31.5			
Tobacco cessation prevent the risk of getting heart disease	Know	103	51.5	.51	.501	Pass
	Don't know	97	48.5			
Prayer can help to reduce stress	Know	91	45.5	46.	499.	Fail
	Don't know	109	54.5			
Prime wherefores of heart attacks is stresss	Know	99	49.5	.50	.501	Pass
	Don't know	101	50.5			
BMI of more than 30 is considered as obese	Know	107	53.5	.54	.500	Pass
	Don't know	93	46.5			
Polyunsaturated fats are healthier for the heart than the saturated fats	Know	51	25.5	.25	.437	Fail
	Don't know	149	74.5			
Eating a lot of red meat increases heart disease risk	Know	39	19.5	.20	.397	Fail
	Don't know	161	80.5			
Taking an aspirin each day decreases the risk of getting heart disease	Know	52	26.0	.26	.440	Fail
	Don't know	148	74.0			
Dietary fiber lowers blood cholesterol	Know	62	31.0	.31	.464	Fail
	Don't know	138	69.0			
Most cholesterol in eggs found in the yolk	Know	15	7.5	.08	.264	Fail
	Don't know	185	92.5			
HDL refers to good cholesterol and LDL refers to bad cholesterol	Know	36	18.0	.18	.385	Fail
	Don't know	164	82.0			
Total	Know	2293	45.86	.46		
	Don't know	2707	54.14			

(A.D.): Assessment Degree, M.S = mean of score [(0 -.49) = fail (F); (0.5–1) = Pass (P)]

Table 3 indicated that students had positive attitudes concerning risk factors, with respect to the total relative sufficiency (RS) which was (81.6%) moderate level of attitude.

Table 3: The mean of score of students attitudes concerning risk factors for cardiovascular diseases

Items	Resp.	No	%	MS	RS	A.D
I should be doing exercise to maintain a healthy lifestyle	Strong agree	139	69.5			
	Agree	59	29.5	2.68	89.3	H
	Disagree	2	1.0			
I know smoking is bad for health	Strong agree	130	65.0			
	Agree	63	31.5	2.62	87.3	H
	Disagree	7	3.5			
I should maintain my weight according to my body mass index	Strong agree	139	69.5			
	Agree	59	29.5	2.68	89.3	H
	Disagree	2	1.0			
I should take less oily food for healthy lifestyle	Strong agree	130	65.0			
	Agree	63	31.5	2.62	89.3	H
	Disagree	7	3.5			
Taking a healthy diet maybe reduces my chances of have CVD	Strong agree	101	50.5			
	Agree	87	43.5	2.44	81.3	M
	Disagree	12	6.0			
Exercising for 30 minutes most days is one of the preferable roads for me to ban heart diseases	Strong agree	112	56.0			
	Agree	70	35.0	2.47	82.3	M
	Disagree	18	9.0			
Control on blood pressure decrease my chances of having a heart diseases	Strong agree	114	57.0			
	Agree	73	36.5	2.50	83.3	M
	Disagree	13	6.5			
I should avoid eating fast food during travel and eating out with friends	Strong agree	98	49.0			
	Agree	93	46.5	2.44	81.3	M
	Disagree	9	4.5			
Should avoid stress through day	Strong agree	92	46.0			
	Agree	96	48.0	2.40	80	M
	Disagree	12	6.0			
I should avoid drinking carbonated drinks	Strong agree	69	34.5			
	Agree	84	42.0	2.11	70.3	L
	Disagree	47	23.5			
I should take fruit or vegetable in my diet for maintaining my health	Strong agree	86	43.0			
	Agree	90	45.0	2.31	77	L
	Disagree	24	12.0			
I believe that heart disease is severe	Strong agree	62	31.0			
	Agree	93	46.5	2.08	69.3	L
	Disagree	45	22.5			
Total	Strong agree	1272	53			
	Agree	930	38.75	2.44	81.6	M
	Disagree	198	8.25			

(A.D.): Assessment Degree, (RS): Relative sufficiency with Scoring Scales: [(66.67 - 77.8) = Low level(L); (77.79 - 88.89) = Moderate level (M); (88.9 –100)] = high level (H).

Table 4 indicates that there is no significant association between students' knowledge score and the demographic characteristics (age, gender, academic year and marital status).

Table 4: Association between Students Knowledge and various factors (age, gender, academic year and marital status)

Factors	Value	df	Asymp. Sig. (2-sided)
Age	2.118a	3	.548
Gender	.526a	1	.468
Academic year	3.507a	3	.320
Marital status	.900a	1	.343

*: P ≤ 0.05; **: P ≤ 0.01,χ^2, t-test

Table 5: Association between Students Attitudescore and various factors (age, gender, academic year and marital status)

Factors	Value	df	Asymp. Sig. (2-sided)
Age	7.814a	6	.252
Gender	.269a	2	.874
Academic year	7.921a	6	.244
Marital status	4.592a	2	.101

*: P ≤ 0.05; **: P ≤ 0.01,χ^2, t-test

Table indicates that there is no significant association between Students Attitude score and the demographic characteristics (age, gender, academic year and marital status).

DISCUSSION

Throughout the course of the data analysis of the current study, the findings indicated the majority of the study were female who accounted for (65.5%) of overall participants while male constituted (34.5%). Most of the study participants (35%) were age between 20 and 21 years. Study participant's distribution in equal forms on colleges were twenty-five percent for each college. (32.5%) of the students were from first class. Ninety three percent of the students were single and the remainder was married. Majority (89%) lived in urban areas while the rest (11%) lived in rural areas. These results are in accordance with the findings obtained from other study, who state that between the study sample, 53.6% were women and 46.4% were men. The plurality of the entrant (85%) was 18 to 23 years old, (7.7%) were 24 to 26 years old and the residual (7.3%) were (27) years old or older. The average age of the inhabitance was 21.77 (SD = 5.1), median age was 21 and rates was (18–57). About 60% of the population lived off campus while 40% lived on campus.[9] The findings of study is the same line with other researcher he reported that (100) students college participants were analysed for this survey and of the sample, 66.9% were women (n = 85) and (33.1%) were men (n = 42). The mean age of participants was 20 years old (SD = 2.32), with a range of 18-38 years of age. All the students surveyed stated that they were undergraduates, with (33.9%) (n = 43) of the participants as college freshman. (37.8%) were sophomores (n = 48), 22.8% of participants were juniors (n = 29) and (5.5%) were seniors (n = 7).[10] Our findings are similar to study done by other researcher who reported that the average age of the respondents is 22.5±1.3 years old with the majority (99.4%), (158) of them were single. (22.6%) (36) and (77.4%) (123) were males and females, respectively.[11]

Discussion of the mean of score for the items students' knowledge concerning risk factors for cardiovascular diseases. Twenty-five questions to evaluate general knowledge of CVD. Only (46%) of the study sample answered correctly and (54%) responded incorrect "do not know". Knowledge questions were split to food pattern, epidemiological, medical and risk factors. Knowledge related to risk factors for CVD was answer correctly (Know) by (99%) majority of participation answer smoking main causes for CVS, most of them stated 56.5% alcohol main risk factors for CVS, most of them reported (73%) hypertension risk factors for CVD, (66.5%) answer hypercholesterolemia one of causes CVS and most of them told (57%) diabetes mellitus all of them answer these main risk factors for cardio vascular disease. The finding of the study agree with result obtained from other study who reported Respondents' knowledge regarding the CVD risk factors. The median score for knowledge about the nine CVD risk factors was (1.67) moderate knowledge The commonest risk factors identified by over four-fifths of respondents were smoking, obesity, unhealthy diet and physical inactivity.[12] Students' knowledge regarding risk factors for CVD. The most of the participants answered the danger factors questions items know like ambulation is type of exercise to be a preventive of CVD (57%), taken up fruits or vegetable is able to prevent from CVD (52%), avoid drinking alcohol reduced the risk of getting heart disease (68.5%), tobacco cessation prevent the risk of getting heart disease (51.5%) and body mass index of more than (30) is considered as obese (53.5). From all the risk factor questions, knowledge concerning physical inactivity (24%), stress (35.5%), CVD is the significant cause of inanimateness in world (40%), polyunsaturated fats are healthier for the heart than the saturated fats (25.5%), dietary fiber

lowers blood cholesterol (31%) and HDL refers to good cholesterol and LDL refers to bad cholesterol (18%) majority of participated of all item answer don't know. These findings are in good agreement with other studies done by other researchers who reported that the high percent of the population answered the hazard factors questions correctly like this trudging and horticulture lowers CVD risk (n = 453, 86.8%), taking red meat in excess CVD risk (n = 395), (75.7%), high blood glucose increases risk of CVD (n=383), (73.4%), and food rich fibers reduce the opportunity of developing CVD (n=317), (60.7%). From all the peril factor questions, knowledge about tobacco and stress were found to be low between the operatives (n = 228), (43.7%) and (n = 164), (31.4%). Fifty-five percent of the operatives answered the questions on dietary knowledge correctly. Questions such as knowledge about cholesterol content of vegetables (n = 357), (68.4%), dietary fiber's role in blood cholesterol (n = 320), (61.3%) and cholesterol in the yellow part of an egg (n = 309), (59.2%) showed higher correct responses.[11-14] Discussion of the mean of score for the item's students attitude concerning risk factors in cardiovascular diseases. Twelve questions exploring students attitude concerning of CVD. The item with the highest proportion of positive attitude was I should be doing exercise to maintain a healthy lifestyle (89.3%), I should maintain my weight according to my body mass index (BMI) (89.3), I should take less food for healthy lifestyle (98.3), Eating a healthy diet will decrease my chances of having CVD (81.3), exercising for 30 minutes most days is one of the best ways for me to prevent a heart diseases (82.3), Control on blood pressure decrease my chances of having a heart diseases (83.3%) , I should avoid eating fast food during travel and eating out with friends (81.3), should avoid stress through day (80). These results of study are good agreements with other studies done by other researchers whose reportedshown positive attitude regarding the risk factors such as physically inactive (71.5%) was lower (over 88%), tobacco chewing/smoking (61.8%) was higher (over 55%), high fatty, oily/cholesterol diet (63.9%) was lower (over 91%) than that of the study conducted in University students.[15-18] Association between students' knowledge score and the demographic characteristics (age, gender, academic year and marital status. The association between sociodemographic and students' knowledge score was explored. There are no significant relationship between gender and students' knowledge (Chi-square = .526a), age (Chi-square = 2.118a) academic year (Chi-square = 3.507a) and marital status (Chi-square = .900a). This result agrees with that of the other researchers who reported that in comparing the total knowledge scores, there is no significant difference between males and females (p = 0.837) or between the different years of study (p = 0.573).[16,19] The association between sociodemographic and students' attitudes Score was explored. There is no significant relationship between (age, gender, academic, marital status) and student's attitude scores. This finding disagree with results obtained from the study done by who reported there was no significant difference in comparing the total attitude scores between the different faculties (p = 0.211 respectively) or between the different years of study (p = 0.848 respectively) (20).

CONCLUSIONS

This study demonstrates that, despite poor students knowledge regarding risk factors in cardiovascular diseases, overall students have positive attitude toward preventive measurement about risk factors of cardiovascular. We recommended health education programs about risk factors of cardiovascular diseases; seek to improve to understand the trouble of heart disease and work cooperatively to reduce them. Should be transmitted through the medium of radio and television, posters, pamphlets, social media like Facebook and Twitter to be beneficial to accessing to younger people.

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