ATTITUDES AND PREVENTIVE BEHAVIORS REGARDING RISK FACTORS OF CARDIOVASCULAR DISEASE AMONG EMPLOYEE IN Al-ANDALUS UNIVERSITY OF MEDICAL SCIENCES

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ABSTRACT:

Background: Cardiovascular diseases (CVD) are the number one cause of death globally and contributing significantly to the health costs in both developed and developing countries.

Aim: The current study was conducted to understand the knowledge, attitude and preventive behavior of university employee regarding cardiovascular risk factors.

Methodology: This descriptive cross-sectional study was done between October and December 2017 on 127 employees of all faculties of Al- Andalus University of medical sciences (AU) in Syria. The sampling method was convenience sampling. Data collection in the study by filling a structured questionnaire (KAP) of 37 questions that measured three dimensions of knowledge, attitude, and preventive behavior associated with cardiovascular disease risk factors. The data collected was analyzed using SPSS version 20.

Result: Most of the sample were ≤ 30 (50.4%). Level of knowledge was good 72%, while the level of preventive behavior was moderate 33%. Mean score for the participants' knowledge, attitude and preventive behavior levels about risk factors on cardiovascular disease were 19.50±3.36, 17.37±1.77 and 19.11±2.38, respectively. Significant difference according to knowledge scores were found between different faculties (p=0.046), while there are no significant differences between sociodemographic characteristics and attitude and practice.

Conclusion: Current need is to enhance the preventive behavior of the people towards CVD, and divert attention towards primordial techniques.

Key words: knowledge, cardiovascular disease, risk factors, attitude, preventive behaviors.

INTRODUCTION:

Cardiovascular diseases (CVD) are the number one cause of death globally.[1] and contributing significantly to the health costs in both developed and developing countries.[2] In the beginning of the twenty first century, cardiovascular diseases are responsible for nearly half of the deaths in developed countries and 25% in developing countries. It is projected that, by the year 2020, such diseases will cause 25 million deaths every year, and be the primary cause of death in the world.[3] Several risk factors for CVD can be targeted to reduce and/or eliminate modifiable risk factors for CVD Hereditary plays an important part in CVD occurrence; however behavior related factors like cigarette smoking, alcohol, obesity, physical inactivity, stress and other unhealthy lifestyle practices can greatly accelerate its

development.[4] Early recognition of risk factors of CVD is considered to be an important step in preventing such events.[5] Lack of CVD knowledge could result into inadequate behavioral changes and eventually poor clinical outcomes. So addressing knowledge and perceptions regarding CVD will be helpful in prevention, early diagnosis and management of this disorders. The role of the individual's attitude and behavior is significant in the occurrence of these diseases, such as cardiovascular diseases.[6,7] The most important step in improving prevention against cardiovascular disease is altering the habits into ingrained lifestyle. Such a change would be more efficient and cost-effective.[8] On the other hand if the risk factors are well known a significant amount of deaths can be prevented by identification of individuals with these factors by implementing preventative programs accordingly. Several studies indicated that improvement in awareness of CVD risk factors and prevention may be prerequisite for adopting healthy lifestyle behaviors.[9] Bush et al, (2008) examined the knowledge and awareness of peripheral vascular disease (PVD) among women categorized to three risk levels of CVDs; low, moderate and high. He asserted that the knowledge was low regardless of the risk level.[10] Lambert et al. (2012) investigated the relationship between the knowledge and the risk of heart attack and stroke in the emergency department in a suburban, public tertiary-care academic medical center in

US, he found that people having high risk score had low knowledge level.[11] Perception of risk factors of cardiovascular disease and preventive behavior by general population are very important for nurses. Results of such researches can help health-care providing officials and politicians to improve health education programs. On the other hand, these studies are crucial for providing a context in terms of evaluating the effectiveness of interventional programs and can reveal aspects of education needed to be strengthened knowledge, attitudes and practice of CVD risk factors among employee who working in a university for medical sciences in Syria have not yet been studied. In the light of thesefacts, this study aims to assess and determine the knowledge about risk factors, attitudes and preventive behaviors of cardiovascular disease.

MATERIALS AND METHODS:

The descriptive cross-sectional study was performed at Al- andalus university of health sciences in Syria. The study was conducted from October 2017 to December 2017. People who are over 18 age, can both read and write well participated in this study. A total of 127 people meeting these criteria were selected. Data were collected by questionnaire that included Cardiovascular Disease Risk Factors Knowledge Level Scale (CARRF-KL) prepared by Arıkan et al, 2009 in the related study. The questionnaire consisted of four main sections with

several sub-sections. The first section was the demographic factors such as age, gender, faculty, family history of CVD. The second section consist of questions about knowledge of risk factors of CVD, section three comprised of the attitude questions towards the risk factors of CVD using the Likert-scale type of questions. The fourth section contains questions about the preventive behavior by participants. First section had three choices "yes", "no", "I don't know". The second section used the scheme of two answer choices: "Agree" "Disagree" . The third section had three choices ranging from "Always", "Seldom" and "Never" items. Level of knowledge was calculated by percentage of correct answers, and level of preventive behavior was calculated by percentage of always behavior. 30% and less considered poor, 30-70% considered moderate, 70% and above considered good knowledge and preventive behavior. All the data that had been collected was analyzed using Statistical Package for Social Science (SPSS) version 20. Descriptive statistics (frequency and percentage) were used to describe the socio-demographic characteristics, attitudes and preventive behavior. Anova test was used to compare knowledge, attitudes and preventive behavior between the different socio-demographic characteristics.

RESEARCH ETHICS:

Approval for the study was obtained from the administration of Al Andalus University, Also, a verbal informed consent was obtained from each respondent. In addition the questionnaire was placed anonymously and participants were assured that all information will be kept strictly confidential and used only for the research purposes.

RESULTS:

Out of 134 questionnaire that distributed to participants selected from the study population, seven did not complete the questionnaire, leaving for analysis 127 subjects who constituted the study sample. Most of them were ≤ 30 (50.4%) years old with 22% (28) and 78% (99) were males and females, respectively. Most of them were had university degree 83(65.4%). 20.5%, 29.9%, 28.3%, 3.1%, 3.1%, and 15% of the respondents from the faculty of, Medicine, Dentistry, Pharmacy, Nursing, Hospital administration and Medical engineering respectively, were involved in this research. Only 30.7% of the respondents' fathers, mothers or others have a family history of CVD. The sociodemographic characteristics of the respondents are summarized in Table 1.

The results of this study revealed that 50.1%, 89.9% of the respondents correctly knew that CVD is associated with other diseases like diabetes, hypertension respectively. Again, 90.6%, 92.1%, 88.2%, 83.5%, 86.9% and 78% of the respondents correctly knew that CVD is associated with certain disease conditions like stress, obesity, hypercholesteremia, smoking, lifestyle

regarding with salt and fatty food respectively. Whereas, 31.5%, 27.6% of the respondents had don't knowledge about association of good cholesterol (HDL) and bad cholesterol (LDL) with CVD . The mean of total knowledge scores is 19.50, (SD= 3.363). These are summarized in Table 2. Table 3 showed attitude regarding risk factors of CVD , The total attitude scores were 17.37, (SD= 1.77). The items with the highest proportions of positive attitude were "I should be doing exercise to maintain a healthy lifestyle" (125, 98.4%) , "I should take fruit or vegetable in my diet for maintaining my health" (125, 98.4%), and "I should control my stress to avoid from getting any disease" (121, 95.3%) . whereas only (22, 17, 3%) prefer to play with my laptop instead of doing exercise. Among the lowest correct answers given were "I choose to eat or buy fast food when going out with friends" (73,57.5%) and "I read the nutrition information of each product that I intended to buy" (95, 74.8%). The mean total scores for preventive behavior is 19.11, (SD= 2.38). In this study, practice on healthy lifestyles was moderate 33%. The results showed that there were only 3.1% (4) of the respondents claimed that they walk for at least 10 minutes to closed places. Moreover, there were only 2.4% (3), 3,9% (5) admitted to always taking vegetables and fruit respectively in their diet. Whereas, 78% (99) sometimes took fast food and 65.4%(83) sometimes took fried food as your main course, 74% (94) never took any supplement or special diet and only 23.6% (30) always spend

their leisure time to exercise. The details are shown in Table 4. On the other hand, the comparison of total knowledge scores, significant difference was found between the different faculties (p = 0.046). The post-hoc test shows that the significance difference lies between the faculty of medical engineering with faculty of medicine (p =0.012), dentistry (p = 0.004) and hospital management (p = 0.021). However, there was no significant difference in comparing the total attitude and preventive behavior scores according to characteristics of participants. The full results for comparing the total knowledge, attitude and preventive behavior scores are shown in Table5.

DISCUSSION:

This study aimed to evaluate the knowledge, attitude and preventive behavior among employee in university of medical sciences toward CVDs risk factors. In this study, level of knowledge between participants was good 72% which findings present that some aspects of CVDs are known among adult Syrian people at a good level. Present study showed that most of participants had knowledge that diabetes, hypertension, stress, obesity, hypercholesteremia, smoking, lifestyle regarding with salt and fatty food are risk factors of CVD. This finding has not been approved by other studies, In a study conducted to access the knowledge of modifiable risk factors among the masses it was observed that the majority (58%) of individuals sampled lacked adequate knowledge of modifiable risk factors. Study about

Knowledge of modifiable risk factors of Coronary Atherosclerotic Heart Disease in India revealed that a significant percentage (70%) of participants failed to identify DM as a risk factor. Importantly, 67.7% of participants correctly identified smoking cigarettes as a modifiable risk factor of CVD.[12] .Whereas, results of another study conducted in Kuwait showed that the most factors that have been attributed to risk the life's are smoking, obesity, unhealthy diet and physical inactivity.[13] In another research conducted by Kurt et al, 2006, about cardiovascular disease risk factor awareness in American Indian communities, showed that positive answers for risk factor knowledge ranged from 70% for family history of heart disease to 90% for being very overweight. Heart disease risk factor awareness was higher, but not statistically significant, among participants without heart disease than those with heart disease for five of the nine risk factors: being very overweight, cigarette smoking, high blood pressure, high cholesterol, and not exercising regularly.[14] On the another hand this research revealed that level of preventive behavior was moderate 33%. In congruent study, practice on healthy lifestyles was not very good. Only 3.1% (5) never took fast food and 13.8% (11) always spend their leisure time to exercise.[15] Our study showed that there was no statistically significant between the sociodemographic data and total attitude and preventive behavior score, whereas, the is statistically significant

between the total knowledge score and faculties, which is confirmed by previous research conducted by Ibrahim et al ,2016 in Malaysia to understand the knowledge, attitude and practice (KAP) of University students regarding cardiovascular diseases showed that a significance difference lies between the faculty of science with faculty of medicine ($p < 0.001$), pharmacy ($p < 0.001$) and dentistry ($p = 0.043$). The other significant differences were between the faculty of nursing with faculty of pharmacy . ($p = 0.013$) and medicine ($p = 0.041$) [15] Another studies revealed that the highest level of education was associated with a higher general knowledge of established and modifiable cardiovascular risk factors.[16,17,18] Also, It is stated that the knowledge levels and awareness regarding the cardiovascular diseases and risk factors are higher in women than men.[18,19,20] In the study by Jafary et al. (2005), it is noted that together with the individuals who have DM, HT and CVDs as well as a family history of CVDs have high knowledge base about cardiovascular disease. Again, in the studies conducted, the knowledge level of the individuals who have heart disease, hypertension in their family history is higher.[21,22]. In the study conducted by Andsoy, et al ,2015 for identify the knowledge and attitudes towards cardiovascular disease in a population of North Western Turkey, there was not any statistical meaningful difference between age, education, alcohol consumption, smoking, exercise, nutrition, body mass index, general

health condition, regular check up status and existence of hypertensive conditions of the individuals who have participated in the study and the point averages for the knowledge of the risk factors for cardiovascular diseases.[23]

CONCLUSION:

This study is a suggestive measure to let people know that still a lot has to be attained in the area of knowledge, attitude and practice and still a lot is to be known about the risk factors along with modifiable risk factors. The public would require a continued effort to learn about the nature of cardiac disease, their risk, their symptoms etc. the current need is to enhance the preventive behavior of the people towards CVD, and divert attention towards primordial techniques. lack of knowledge not only will affect their health status but would also deteriorate their condition in case of need such as during a heart attack or stroke. It could be concluded from this study that enhanced knowledge and attitude levels have an important role in preventing risk factors related CVD in

human population. Thus, knowledge enhancement through training interventional programs is the key target for preventing and managing cardiovascular diseases and their risk factors.

Recommendation: Based on the research conducted, it is recommended that there is a need to create awareness about the importance of preventive of cardiovascular disease among people so as to improve the practice of it. Further research studies should be undertaken on the Syrian women to study causes of inadequate preventive behavior of CVD among Syrian people. Training programs to increase the level of preventive behaviors of cardiac risk factors can be recommended to these sample.

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TABLES:

Table 1: The sociodemographic characteristics of the respondents

Demographic data		N	%
Age	Less than 30	64	50.4%
	30-40	56	44.1%
	40-50	5	3.9%
	More than 50	2	1.6%
Gender	Male	28	22%
	Female	99	78%
Marital status	Married	66	52%
	Single	61	48%
Economic status	Good	19	15%
	Moderate	79	62.2%
	Poor	29	22.8%
Educational level	Essential	16	12.6%
	Secondary	28	22%
	University	83	65.4%
Faculty	Medicine	26	20.5%

	Dentistry	38	29.9%
	Pharmacy	36	28.3%
	Nursing	4	3.1%
	Hospital administration	4	3.1%
	Medical engineering	19	15%
family history	yes	39	30.7%
	No	88	69.3%

Table 2: knowledge regarding Risk Factors of CVD (n=127)

	yes		No		I don't know	
Statement	**N**	**%**	**N**	**%**	**N**	**%**
The avoidable cause of deaths and diseases in our country is smoking.	65	51.2%	54	42.5%	8	6.3%
Smoking is a risk factor for heart disease	106	83.5%	18	14.2%	3	2.4%
Consuming red meat more than 3 times a week is harmful	92	72.4%	27	21.3%	8	6.3%
Salty food provokes hypertension.	123	96.9%	3	2.4%	1	8%
Fatty foods do not elevate the cholesterol level in blood.	22	17.3%	99	78%	6	4.7%
Overweight people have higher risk of heart disease.	117	92.1%	10	7.9%	0	0
Stress, grief, and sadness increase risk of heart disease.	115	90.6%	8	6.3%	4	3.1%
Human body increases the blood pressure in stressful situations	119	93.7%	4	3.1%	4	3.1%
Hypertension is a risk factor for heart disease.	114	89.8%	7	5.5%	6	4.7%
High cholesterol is a risk factor for heart disease.	112	88.2%	6	4.7%	9	7.1%
If good cholesterol (HDL) is high, there is risk of heart disease.	59	46.5%	33	26%	35	27.6%
If bad cholesterol (LDL) is high, there is risk of heart disease.	58	45.7%	29	22.8%	40	31.5%
Diabetes is a risk factor for heart disease.	70	50.1%	37	29.1%	20	15.7%
If sugar is kept under control in diabetic patients, risk decreases.	75	59.1%	28	22%	24	18.9%

Table 3: Attitude regarding Risk Factors of CVD (n=127):

	Agree		Disagree	
Statement	**N**	**%**	**N**	**%**
I should be doing exercise to maintain a healthy lifestyle	125	98.4%	2	1.6%
If I need to go to places somewhere near, I choose to walk rather than taking any other mean of transportation. E.g. Going to class or café	119	93.7%	8	6.3%
I know smoking is bad for health.	108	85%	19	15%
I should maintain my weight according to my body mass index (BMI(	114	89.8%	13	10.2%
I should take less oily food for healthy lifestyle	118	92.9%	9	7.1%
I prefer to play with my laptop instead of doing exercise	22	17.3%	104	81.9%
I read the nutrition information of each product that I intended to buy	95	74.8%	32	25.2%
I choose to eat or buy fast food when going out with friends	54	42.5%	73	57.5%
I can manage my stress	100	78.7%	27	21.3%

I should avoid drinking carbonated drinks	104	81.9%	23	18.1%
Sometimes I eat supper late at night before sleep	47	37%	80	63%
I believe walking a lot can give benefits to my health	112	88.2%	15	11.8%
I should take fruit or vegetable in my diet for maintaining my health	125	98.4%	2	1.6%
I should control my stress to avoid from getting any disease	121	95.3%	6	4.7%

Table 4: Preventive behavior regarding Risk Factors of CVD (n=127)

Statement	Always		Seldom		Never	
	N	%	N	%	N	%
Do you walk for at least 10 minutes to get to and from places such as café, classes, mosque etc.	4	3.1%	46	36.2%	77	60.6%
Do you spend your leisure time to exercise at least 20 minutes per session	30	23.6%	71	55.9%	26	20.5%
Do you take any supplement or special diet? E.g. Evening Primrose oil, oat diet	5	3.9%	28	22%	94	74%
How often do you take fruits in your diet	5	3.9%	41	32.3%	81	63.8%
How often do you take vegetables in your diet	3	2.4%	31	24.4%	93	73.2%
How often do you eat fast food	19	15%	99	78%	9	7%
Do you take fried food as your main course	34	26.8%	83	65%	10	7.9%
Do you like to eat in between main meals? (E.g. snacking, eating biscuits, etc(.	33	26%	80	63%	14	11%
Do you lead a stressful life	28	22%	43	33%	56	44.1%

Table 5: Comparison of CVD Risk Factors Knowledge, attitude and preventive behavior scores according to some characteristics of participants (N=127).

		knowledge		Attitude		Preventive behavior	
Demographic data		M(SD)	P value	M(SD)	P value	M(SD)	P value
Age	Less than 30	19.468(3.5.4)	0.699	17.047(1.463)	0.242	19.125(2.134)	0.807
	30-40	19.321(3.087)		17.571(2.096)		19.125(2.683)	
	40-50	20(3.535)		18(1.224)		19.400(2.302)	
	More than 50	24(4.949)		18.500(0.707)		17.500(2.121)	
Gender	Male	19.285(3.077)	0.196	17.703(1.793)	0.233	18.750(3.340)	0.367
	Female	19.565(3.452)		17.242(1.767)		19.212(2.041)	
Educational level	Essential	20.562(3.285)	0.365	17.812(1.046)	0.415	18.687(2.088)	0.584
	Secondary	19.607(3.285)		17.071(1.585)		18.892(1.852)	
	University	19.265(3.411)		17.341(1.938)		19.265(2.590)	
Faculty	Medicine	18.961(2.891)	0.046*	17.461(1.771)	0.901	18.846(2.935)	0.484
	Dentistry	18.789(3.032)		17.108(2.294)		19.473(2.929)	
	Pharmacy	19.833(3.2.2)		17.527(1.647)		18.888(1.488)	
	Nursing	19.750(4.924)		17.500(1.290)		21(1.632)	
	Hospital administration	21.473(4.114)		17.368(0.955)		18.736(1.627)	
	Medical engineering	17.250(2.217)		16.750(1.258)		19.250(2.753)	
family history	yes	19.435(3.210)	0.880	17.210(1.491)	0.589	19.948(2.625)	0.613
	No	19.534(3.447)		17.397(1.890)		19.181(2.277)	