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Risk factors of coronary heart disease patients at Misrata: Awareness and orientation

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Abstract: Many prospective studies have examined the associations between intakes of individual foods and the risk of coronary heart disease (CHD), but few have evaluated the relation of overall dietary patterns to the risk. A descriptive hospital-based study was conducted to assess knowledge of CHD patients about risk factors in Misrata hospitals. The study has consisted of 100 patients with CHD, at different ages, who were selected randomly during 2019. The study data were collected using well-structured questionnaire, patient record, and anthropometric measurements. Pearson correlation was used to examine correlation between risk factors, blood fat profiles, and lifestyle. The results revealed that (52%) of patients fall within the age group 51-70 years, the CHD was widely prevalent among males (55%), most of the patients (41%) were illiterate, majority of patients (92%) were suffering from other chronic diseases such as diabetes, hypertension, and obesity. The majority of patients (63%) were considerably ignorant of the causes and risk factors for CHD (P≤0.05). The majority of patients (54%) have excess weight and engage in sporadic physical activity. When compared to fewer patients (8%) who follow up with a dietician, there is a significant difference (P≤0.05) between patients who have no knowledge of the CHD diet regimen and those who have not received any counseling themselves. The correlation between age groups, chronic illnesses, and blood fat profiles was significant (P≤0.05), according to the results. The majority of patients had no practiced therapeutic lifestyle and little physical activity towards control of CHD. The appropriate nutrition education and patients counseling should be recommended among outpatients of CHD.

Keywords: Awareness, Coronary Heart Disease, Lifestyle, Misrata, Risk factor.

I.INTRODUCTION

Coronary heart disease is a disease of the blood vessels supplying the heart muscle. The primary cause of CHD is atherosclerosis that reduces blood flow through the coronary arteries to the heart muscle, [1]. In the Middle East and North Africa, cardiovascular disease is the most common cause of mortality, resulting in more than one third of all fatalities, or 1.4 million people annually [2]. However, little information is known about their CHD knowledge and CHD risk factors despite estimations proclaiming that heart disease deaths will increase between the years 2010 and 2030 [3].

Many of the risk factors of CHD such as Diabetes Mellitus (DM), dyslipidemia, hypertension (HTN), physical inactivity, and smoking are prevalent in Libya [4, 5]. This places Libya at risk for developing CHD, which is the leading cause of their mortality. Lack of data on Libyan CHD knowledge may limit the assessment of their cardiovascular health status and may limit the ability to plan programs that reduce CHD. This may contribute to the increased morbidity and mortality of heart disease in Libya. Assessment of knowledge is an important first step in addressing the issue of heart disease in Libya. Therefore, additional studies indicated to assess the baseline knowledge of Libyan on CHD, to determine the variables that impact CHD knowledge, and to identify the CHD risk factors. Because of

eliminating health disparities, reducing cardiovascular deaths, and encouraged to educate patients about CHD and promote a healthy lifestyle by counseling their Libyan patients to engage in healthy lifestyles to reduce CHD risk.

A lack of research on the epidemiology of CHD in Africa is another issue. However, modernity and changes in lifestyle have increased CHD prevalence. According to earlier research, the prevalence of coronary heart disease (CHD) has increased by 160% across the Middle East and North Africa, and the condition has a high mortality rate (120 per 100,000 people). Similar to Tunisia, where research shows that between 1997 and 2009, the mortality rates from coronary heart disease (CHD) increased by 11.8% for men and 23.8% for women [5].

Despite the growing numbers of Libyan in Misrata City, it considered a "hidden minority" because of the lack of research-based information on their health. Therefore, little known about their baseline knowledge of CHD even though many of them have at least one CHD risk factor. Which may be a contributing variable to their morbidity and mortality. Research shows individuals who are not aware of their risk for developing a disease are less likely to adopt preventive behaviors [6, 7]. Awareness of CHD and its risk factors are significant in preventing and reducing CHD deaths [6]. The purpose of this study is to examine the baseline knowledge and risk factors of CHD in Misrata City to describe the relationships between knowledge socio-demographic, and socioeconomic characteristic of patients.

II.MATERIAL AND METHODS

The headings and subheadings from introduction to Acknowledgement must be in 9 points, bold face, aligned left, don't underline any words in your paper, subheadings are numbered with 1, 2, 3 etc, delete and type).

A. Area of study

This is study was carried out in some hospitals of Misrata, Libya. Misrata is a city in the Misrata District in northwestern Libya, situated 187 km (116 mi) to the east of Tripoli and 825 km (513 mi) west of Benghazi on the Mediterranean coast near Cape Misrata. With a population of about 550,000, it is the third-largest city in Libya, after Tripoli and Benghazi. It is the capital city of the Misrata District, and it called the trade capital of Libya. It has lied at a longitude is 32 o.377533" N and Latitude is 15o.092017" E. It is located is at 7-meter height, which is equal to 23 ft. above sea level.

B. Research Design

This is a hospital-based cross-section descriptive study, which used to identify the risk factors of coronary heart disease, thereafter, alter to therapeutic lifestyle to prevent progressions of CHD and to stay healthy longer. Thereafter the data conducted and collected from respondents with used questionnaires to investigate risk factors most likely of CHD.

C. Study population

All the participants informed about the study purpose and signed the study consent forms. The study proposal approved by the Therapeutic Nutrition Department board, and all procedures followed by the ethical standards of the Misrata University. The study interviewed about 100 (CHD) patients of both sexes, who selected randomly from some public hospitals (Safwa, Elshifa, Algarawy, Ras-Ali, and Almahjoub Clinical Campus) in Misrata City, Libya. The study was targeted all age groups. Eligibility was determined through who coronary heart disease patients are and who are living in Misrata.

D. Study duration

The study was conducted within six months. From December 2019 up to April 2020. The duration was distributed among designing of questionnaire, data collection, analysis and interpretation, and report writing.

E. Data collection procedures

1. Questionnaire

Well-designed questionnaire according to objectives of the study. Three parts of the questionnaire were compiled and face-to-face interviews of CHD patients in selected hospitals in Misrata. The first part of the questionnaire was included sociodemographic and socioeconomic, the second part was included medical history and lifestyle and the third part was included dietary practices.

2. Anthropometric data

The weight and height are measured. The anthropometric data recorded then BMI calculated using the procedure of anthropometric measurements and evaluation [8].

3. Blood lipid profile

A lipid profile is a blood test that measures the amount of cholesterol and fats called triglycerides in the blood. The primary data of lipid profiles were collected from patient's files used to identify who would be included in the study.

F. Data quality management

A well-structured questionnaire was prepared according to study purposes and aims. A pre-test of the questionnaire was done before actual data collection just to check its accuracy, response to analysis, and estimate which time it is needed.

G. Statistical analysis

SPSS (version 18) and graphs were used for data analysis. Descriptive statistical methods are represented in the frequency and percent as well as Pie charts and histograms. Pearson Correlation was used to study the relationship between variables. The relationship between the two variables is significant if P-value is less than 0.05.

III.RESULTS AND DISCUSSION

The study was conducted to examine the knowledge about risk factors of coronary heart disease (CHD) of those were attended primary care services in selected hospitals at Misrata City, Libya. Also, it was described the relationship between socio-demographic and socioeconomic characteristics variables that influence knowledge of CHD risk factors.

A. The socio-demographic and socioeconomic characteristics

Table (1) shows the age groups of CHD patients, most patients 52% fall within the age group 51-70 years old. This finding was closed to the study reported that 85% of CHD patients were at range 51-70 years [9]. While CHD was greater prevalent among males 55% than females 45% thus was shown in gender groups. This is finings agreed with studies stated that CHD has been considered a disease of men. However, CHD is the leading cause of death both in men and in women [9,10]. However, the reason for gender variation is not clear; it may be attributed to the protective effect of estrogen [11]. It is estimated that 82 percent of people who die of coronary heart disease are 65 and older at the same time, the risk of stroke doubles every decade after age 55 [12].

The education level of CHD patients, the almost patients 41% were illiterates, primary education percent 21%. The result revealed that a greater number of CHD patients had illiterate, which means

they have facing difficulty in bringing counseling and disease management. The educated people have more chance to receive information about the causes, risk factors, treatment, and prevention of CHD, thus can apply to prevent measure through diet control and therapeutic lifestyle more than illiterate ones.

Table (2) shows whose weighing-up regularly, the most of patients 63% were significant ($p \leq 0.05$) weighing regularly compared to 37% careless patients, who were not weighing regularly. A clear majority of patients were overweight and suffered from obesity, this is due to a lack of awareness among patients who are illiterate about the risks of excess weight. Weigh monitoring is important to keep you normal and prevent obesity.

The results revealed a significant difference ($p \leq 0.05$) between the two groups, as shown in Table 3: few patients are aware of the causes of coronary heart disease, whereas more patients—63%—have no notion.

The probable reasons may be the high proportion of illiteracy perhaps patients didn't pay attention to the advice given by doctors on the first CHD attack.

In table (4) shows, who have chronic illnesses, the majority of patients have Diabetes 42% percent and Hypertension 51% percent. The result has shown the most patients with coronary heart disease had duplicated illnesses. The majority of patients had chronic illnesses more than that is 72%, there were hypertension, diabetes, and a combination of both in increasing rates [9]. Diabetes substantially increases the risk of CHD and magnifies the effect of other risk factors for CHD such as raised cholesterol levels, raised blood pressure, smoking and obesity, [11].

The performance of the physical exercise, very few patients had performed daily, were 9%, compared with who were exercise occasionally 54%, thus was shown in table (5). The highest percentage of patients had practiced a sedentary lifestyle. This result agreed to the finding estimated that over 20% of CHD in developed countries was due to physical inactivity [13]. It recommended physical activity levels are 30 minutes of moderate physical activity on five or more days per week [14].

Table (6) shows the anthropometric assessment of CHD patients during the survey in the hospitals, that frequency of normal range 22%, overweight 56%, Obese percent 22%. The result revealed that the majority of patients were overweight and obese. They were no paying attention to risks with poor lifestyle due to the lack of weight control and poor awareness about the risk of weight gain increased risk factors of CHD. Obesity is an independent risk factor for CHD. It is also a risk factor for hypertension, hyperlipidemia, diabetes, and impaired glucose tolerance. Central or abdominal obesity is most significant. Those with central obesity have over twice the risk of heart attack [15].

The age groups (30–50) and (51–70) have a highly significant link with other ailments, according to Table 7. While epidemiological research has shown that diabetes, hypertension, and hyperlipidemia are independent risk factors for CHD, there is no association between elders older than 70 and other disorders [16]. it also indicates there is no correlation of age groups with family history and smoking, this find is slightly agreed with some research estimates that over 20% of CVD is due to smoking and disclosed that finding mentioned premature CHD is that before age 55 years in men and 60 years in women. [17, 18].

The blood lipid profile of CHD patients is shown in "Figure 1": 55% of them had total cholesterol above 181 mg/dl, 15% had triglycerides above 174 mg/dl, 23% had LDL above 125 mg/dl, and 42% had HDL below 40 mg/dl.

IV.CONCLUSION AND RECOMMENDATION

According to the findings of the current study, most CHD patients are between the ages of 51 and 70. They have only received a primary education, are illiterate, and are overweight and obese, which may be obvious indicators of coronary heart disease risk factors. They exercise only occasionally and live a largely sedentary lifestyle, and they are unaware of the causes or even risk factors for coronary heart disease. Age groups showed a statistically significant association ($P \leq 0.05$) in the results.

By choosing a nutritious diet, avoiding trans-fatty acids in processed foods, engaging in regular exercise, maintaining normal blood glucose levels, and maintaining their blood fat profiles as advised, patients can lower their risk factors by adopting a therapeutic lifestyle change.

The first steps in enhancing Libyans' quality of life and addressing health disparities are to (a) evaluate and comprehend their health risks; (b) raise public awareness of heart disease risk factors; (c) include them in research; and (d) motivate minority advocates and researchers to concentrate on Libyans' cardiac health. Additionally, studies on the cardiac health of the Misrata people may encourage minority health advocates to increase knowledge of the risk factors for CHD.

Table 1. Shows the socio-demographic of CHD patients

Variables	Groups	Percent
Age groups (year)	30 - 50	17%
	51 - 70	52%
	>70 years	31%
Gender groups	Male	55%
	Female	45%
Education level	Illiterate	41%
	primary	21%
	secondary	15%
	university	3%
	post-university	20%

Table 2. Shows who is weighing up regularly

Weighing up regular	Frequency	Percent	P-value
No	37	37%	0.000
Yes	63	63%	
Total	100	100%	

Table 3. Shows the Knowledge about causes of coronary heart disease

Known the causes of CHD	Frequency	Percent	P-value
No	63	63%	
Yes	37	37%	0.000
Total	100	100%	

Table 4. Shows who has chronic illnesses

Chronic illnesses	Frequency	Percent
Asthma	3	3%
Diabetes	52	41%
Hypertension	64	51%
Liver diseases	1	1%
Hypo/ hyperthyroidism	3	2%
Other	2	2%
Total	125	100%

Table 5. Shows the performance the physical exercise

Performance the physical exercise	Frequency	Percent
daily	9	9%
3-4 days/week	7	7%
1-2 days/week	29	29%
occasionally	54	54%

Table 6. Shows the anthropometric Assessment

Classification BMI	Frequency	Percent
Normal range	22	%22
Overweight	56	%56
Obese	22	%22
Total	100	%100

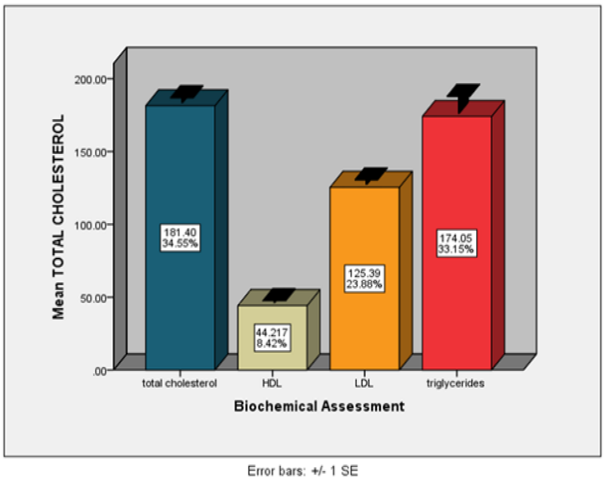

Fig.1. Blood fat profile of CHD patients during the survey

Table 7. Shows the correlation between age groups and other variables

Variables	Age Groups	(r)	P-value
Family history	30 - 50	-.075-	.774
	51 - 70	.260	.063
	>70 years	.047	.803
Other illness	30 - 50	.611**	.009
	51 - 70	-.010-	-.010-
	>70 years	.152	.415
Smoking	30 - 50	.115	.683
	51 - 70	-.068-	.653
	>70 years	-.131-	.507

r= correlation, ** P≤0.001

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