

Research Article

Knowledge about the Dietary and Drugs Used in Coronary Heart Disease and It's Assessment in Misrata Hospital

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Abstract

The primary data was gathered using a questionnaire, which was the major data collecting tool that was specifically created for this purpose and disseminated among CHD patients, in order to address the analytical components of the research topic. This study looked at the knowledge and risk factors of coronary heart disease (CHD) patients in Misurata City, Libya who were connected to primary care facilities. The study also outlined the connections between socio-demographic and socio-economic factors that affect people's understanding of CHD risk factors and recommended dietary practises.

Keywords: Coronary heart disease; Dietary drugs; Risk factors; Dyslipidemia; Hypertension; Physical Inactivity

Introduction

The coronary heart disease is a disease of the blood vessels supplying the heart muscle. The primary causes of CHD are atherosclerosis that reduces blood flow through the coronary arteries to the heart muscle, (WHO, 2015). CHD is the leading cause of death in the United States (U.S.) according to American Heart Association (AHA) that heart and stroke statistics 2010 update indicates that every 25 seconds, an American will have a coronary event related to CHD, and every minute someone will die from CHD. Among those most affected is the world whose leading cause of death is CHD [1-3].

Many of the risk factors of CHD such as Diabetes Mellitus (DM), dyslipidemia, hypertension (HTN), physical inactivity, and smoking are prevalent in Libya [4-10]. This places the Libya at risk for developing CHD, which is the leading cause of their mortality. The two main goals of healthy People 2020 are to increase the quality and years of healthy life and to eliminate health disparities. Initial strategies to improve quality of life and to reduce health inequities of

Libya are to:

- Assess and understand their health risks
- Increase awareness about heart disease
- Include them in research
- Inspire minority advocates and researchers to focus on the cardiac health of Libyan.

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 among living in the U.S. and to the global burden of cardiovascular disease. To date, there are no published data on CHD knowledge of according to [11] knowledge of CHD, its risk factors and its management has shown to influence compliance with recommendations for health care. Additionally, individuals who know their CHD risk factors adhere to lifestyle modification including medication treatment.

Problem statement

Despite the growing numbers of Libyan in the Misurata City, they are considered a "hidden minority" because of the lack of research based information on their health. It is estimated that CHD kills more than half of Libyans in the Misurata city. Despite this, little is 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 [12-

15]. Awareness of CHD and its risk factors are significant in preventing and reducing CHD deaths [16].

This study sought to contribute to the literature concerning CHD knowledge and risk factors among Libyan (Misurata) and to add to the existing literature on heart disease in general.

Research questions

- i. What are the socio-demographic (age, gender, education level, marital status) and socioeconomic (employment status, jobs) characteristics of patients 30 and over years old?
- ii. What is the baseline knowledge of Libyan (Misurata City) on CHD?
- iii. What are the CHD risk factors prevalent in Misurata city?
- iv. What is the relationship between CHD food habits and CHD risk factors?
- v. What is the relationship between lifestyle, CHD knowledge, socio-demographic (age, gender, education level) and socioeconomic (employment status, income, number of jobs) characteristics of misurats between age groups?
- vi. Which socio-demographic (age, gender, education level) and socioeconomic (employment status, income, number of jobs) characteristic variables best predict Misurata City " knowledge of CHD?

Purpose of the study

To examine the baseline knowledge and risk factors of CHD in Libya (Misurata City) to describe the relationships between knowledge, socio demographic (age, gender, education level) and socio economic (employment status, income, number of jobs) characteristic variables. The specific aims and research questions for this study were:

Study aim 1: To assess the CHD knowledge, risk factors and dietary pattern among CHD patients in Misurata.

Study aim 2: To know and classify the relationship between lifestyle, CHD risk factors, socio demographic and socioeconomic characteristics of Misurats of age groups.

Materials and Methods

Area of study

This study was carried out in some hospitals of Misurata, Libya. Misurata is a city in the Misurata District in north-western 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 Misurata. With a population of about 281,000, it is the third largest city in Libya, after Tripoli and Benghazi. It is the capital city of the Misurata District and it has called the trade capital of Libya. It is located at longitude is 32° 37' 53" N and Latitude is 15° 09' 20" E. It located is 7 meters' height, which is equal to 23 ft. above sea level.

Research design

The research design was selected to provide a framework, within which should conduct research and produce answers for chosen questions. This is hospital based descriptive study, that used to identify the risk factors and give awareness about the best dietary patterns to coronary heart disease patients, then alter to therapeutic lifestyle to prevent progressions of CHD and to stay healthy a longer. Thereafter, the data was collected used questionnaire regarding the knowledge and risk factors of CHD.

Study population

All of the participants were informed about study purpose. The study proposal was approved by meeting of the Therapeutic Nutrition Department board, and all procedures were followed in accordance with the ethical standards of the Misurata University. The study was interviewed about 100 (CHD) patients of both sexes, where selected randomly from two public hospitals (Rastopa and Almahjoub hospitals) in Misurata City, Libya. The study was targeted age groups, who were 30 years old and over. Eligibility was determined through who are coronary heart disease patients and they are living in Misurata.

Study duration

The study was conducted within six months since December 2018 up to June 2019. The duration of study was distributed among four steps such as designing of questionnaire, data collection, analysis and interpretation and report writing.

Data collection procedures

Questionnaires: Well-designed questionnaire according to objectives of study. Three parts of questionnaire were compiled and face to face interview of CHD patients in selected hospitals in Misurata. The first part of questionnaire was included socio-demographic and socioeconomic (age, gender, occupation, family size, education level and marital status), second part was included medical history and lifestyle (family history of heart disease, history of other diseases, smoking and anthropometric assessment, physical exercise, knowledge about diseases, follow up with health care provider, weighing regular) and third part was included dietary pattern (fat profile, follow up with nutritionist, dietary assessment, cooking methods, patient counseling).

Anthropometric data

The weight and height of each respondent were measured. The anthropometric data was collected then BMI was calculated using procedure stipulated by WHO (2004) for taking anthropometric measurements and evaluation

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 profile were collected from patient's files then it is used to identify who would be included in the study.

Data quality management

Structured questionnaire was prepared by English and translated into Arabic language. Pre-test of questionnaire was done before actual data collection just to check its accuracy, response to analysis and estimate which time it is need.

Primary sources

In order to address the analytical aspects of the research topic, the primary data was collected using a questionnaire, which was the main data collection instrument that was designed specifically for this purpose and distributed among CHD patients.

Statistical analysis

To perform calculations for statistical analysis, SPSS Statistical Version 18 and Graphs were used. Descriptive statistical methods: represented in the Frequency and Percent as well as Pie Chart. Pearson Correlation was used to study the relationship between variables. The relationship be-

Table 2: Standard values of blood lipid profile.

Lipid profile	Desirable	Borderline	Risk factor
Total cholesterol	less than 200 mg/dl	200-239 mg/dl	Over 240 mg/dl
(LDL)	less than 100 mg/dl	100-159 mg/dl	Over 160 mg/dl
(HDL)	More than 60 mg/dl	60-40 mg/dl	less than 40 mg/dl
Triglycerides	less than 150 mg/dl	150-199 mg/dl	More than 200 mg/dl

The Table 3 shows that the age groups of CHD patients, the most patient 52% fall within age group 51-70 years old. Were few patients greater age than 70 years. That meant the CHD prevalent between 51 and 70 years, this finding was closed to [17], he stated that 85% of CHD patient were at range 51-70 years. The Tables 4 and 5 shows that the gender groups of CHD patients, the CHD was widely common among male 55% than female 45%. The findings are agreed by the studies performed by [18,19]. However, CHD is the leading cause of death both in men and in women. But the reason of gender variation is not clear may be attributed protective effect of estrogen [20]. 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 [21]. The Table 6 results are close to the results given by Mohamed [22]. He mentioned that, almost CHD patients as housewives, this is reflecting that most of women are depend on their husbands and relatives; they don't have a chance to choose appropriate types of food.

The Table 7 shows that greater number of CHD patients were illiterates that indicate they are facing difficulty in counseling and disease management. The educated people have more chance to receive information about the causes, risk factors, treatment and prevention of CHD, also have ability to take measures through diet control and therapeutic lifestyle more than illiterate ones.

Table 3: Age groups of CHD patients.

Age	Frequency	Percent
From 30 to less than 50	17	17%

tween two variables is significant if $P < 0.05$.

Results and Discussion

This study examined the knowledge and risk factors of coronary heart disease (CHD) patients, whose were connected to primary care services in Misurata City, Libya. The study also described the relationship between socio-demographic and socioeconomic characteristics variables that influence on knowledge of CHD risk factors and appropriate dietary patterns (Table 1 and 2).

Table 1: Standard of BMI according to WHO.

Classification	BMI(kg/m ²)
	Principal cut-off points
Underweight	<18.49
Normal range	18.50-24.99
Overweight	25.00-29.99
Obese	≥ 30.00
Obese class I	30.00-34.99
Obese class II	35.00-39.99
Obese class III	≥ 40.00

The socio-demographic and socioeconomic characteristics

From 51 to less than 70	52	52%
Greater than 70 years	31	31%
Total	100	100%

Table 4: Gender among CHD patients.

Gender	Frequency	Percent
Male	55	55%
Female	45	45%
Total	100	100%

Table 5: Marital status among CHD patients.

Marital status	Frequency	Percent
Single	4	4%
Married	90	90%
Widow	5	5%
Divorced	1	1%
Total	100	100%

Table 6: Occupation of CHD patients.

Occupation	Frequency	Percent
Labor	1	1%
Employee	18	18%
Student	5	5%
Housewife	37	37%
Trader	14	14%
not working	25	25%
Total	100	100%

Table 7: Education level of CHD patients.

Education level	Frequency	Percent
Read and Write	41	41.0
Primary	21	21.0
Secondary	15	15.0
University	3	3.0
post university	20	20.0
Total	100	100.0

Life style activities

The Table 8 indicates the significant variation ($p \leq 0.05$) between the groups. As majority of patients were overweight and suffered from obesity, this is due to a lack of awareness by the most patients who are illiterate about risks of excess weight. Weight monitoring is important to keep you normal and prevent obesity. The Table 9 indicated a significant variation ($p \leq 0.05$) between two groups. The majority of patients didn't know about the causes and risk factors of CHD. The probable reasons may be high proportion of illiteracy. In addition to they didn't pay attention to advice given by doctors on the first CHD attack. The Table 10 shows that the majority of patients didn't know about CHD but more of them advised mainly by their doctors, this proportion is lower than that reported by Mohamed [23]. The Table 11 shows that most of patients with coronary heart disease had duplicated illnesses; the most patients had diabetes 41% with hypertension 51%. The majority of patients had chronic illnesses more than that reported by [24] that are 72%, there were hypertension, diabetes and combination of both in increasing rates. The 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, [25]. Table 12 shows that the highest percentage of patients had practiced occasionally physical exercises. This result estimated that over 20% of CHD in developed countries was due to physical inactivity. Guilbert recommended physical activity levels are 30 minutes of moderate physical activity on five or more days per week [26]. Table 13 revealed that most patients were overweight and obese. They were not attentive to the risks with poor lifestyle due to the lack of regular weight control and insufficient awareness about the risk of weight gain definitely increased risk factors of CHD. In this study the majority of CHD patients were overweight that may obvious indicator for risk factor for 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 [27-30]. The Table 14 showed a diet regimen with dietitian, almost 92% patients not followed a diet regimen with dietitian, while few patients, i.e., 8% followed a diet regimen with dietitian before, the significant variation ($p \leq 0.05$) between two groups has been determined. It is seen that majority of CHD patients were not counseled and followed up with dietitian. Table 15 shows that there is a

significant variation ($p \leq 0.05$) between two groups. The majority of CHD patients had no knowledge about relationship between diet and CHD

Table 8: Who are weighing up regularly

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

Table 9: Knowledge about causes of coronary heart disease.

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

Table 10: Source of information about CHD.

Source of information	Frequency	Percent
Doctor	30	30%
Nurse	1	1%
Other	6	6%
None	63	63%
Total	100	100%

Table 11: Patients having chronic illnesses.

Chronic illnesses	Frequency	Percent
Asthma	3	2.4%
Diabetes	52	41.6%
Hypertension	64	51.2%
Liver diseases	1	.8%
Hypo/ hyperthyroidism	3	2.4%
Other	2	1.6%
Total	125	100%

Table 12: Performance of 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%
Never	1	1%
Total	100	100%

Table 13: Anthropometric Assessment.

Classification BMI	Frequency	Percent
Normal range	22	22%
Overweight	56	56%
Obese I	19	19%
Obese II	2	2%
Obese III	1	1%
Total	100	100%

Table 14: Followed a diet regimen with dietitian.

Followed a diet regimen with dietitian	Frequency	Percent	P-value
No	92	92%	0.004
Yes	8	8%	
Total	100	100%	

Table 15: Advice about recommended diet for CHD.

Received diet advice	Frequency	Percent	P-value
No	73	73%	0.000
Yes	26	26%	
None	1	1%	
Total	100	100%	

Dietary patterns of CHD patients

The Figure 1 illustrates that number of meals ate by CHD patients during the day, the three meals 55% was widely common during the day compared to two or more than three meals. The result of this study is closed to that reported by Mohamed [31], the majority of CHD patients ate three meals per day, and most of patients after discharge took their meals at home 97%, because it was prepared according to their food habits. Figure 2 results indicate that, the most patients were used steaming method for food preparation, where lower proportion of patients was used Boiling method for cooking. The patient should be aware about risks of grilling and fried foods, [32-40] which increased risk of CHD. Figure 3 shows that the higher proportion of patients ate lean meat compared to unhealthy kinds of meat were turned out. The patients who ate low fat meat had lower risk of coronary heart disease, and this indicates awareness about healthy diet [41-50]. More than half patients consumed lean meat but high percentage of CHD patients consumed fatty meat containing high saturated fat and cholesterol. Table 16 shows that number of times per day or week, you eat fresh vegetables. The most patients were eating fresh vegetables on a daily basis. It is clear from Table 17 that p-value for all ages is >0.05 . This indicates no correlation between age and family history of heart problems. The Table 18 shows that $p < 0.05$ among age group 30-50 years. This indicates high significant correlation between age group (30-50 years) and other illnesses. As the same has observed with age group (51-70 years), the $p < 0.05$, this indicate there is significant correlation between age group (51-70 years) and other illnesses, while p-value for ages over 70 years is >0.05 . This indicates no correlation between age and other illnesses. The Table 19 shows that p-value for all ages is >0.05 . This indicates no significant correlation between age groups and smokers. Table 20 shows that p-value for all blood fat levels is >0.05 . This indicates no significant correlation between blood fat levels and kind of chicken meat. CHD risk was related to cholesterol levels. Some studies suggested that 45% of heart attacks in Western Europe are due to abnormal blood lipids. People with low levels of HDL cholesterol have an increased risk of CHD [50-56]. The Table 21 shows that p-value for all blood fat levels is >0.05 . This indicates no significant correlation between blood fat lev-

els and eggs consumption. Whereas, the Table 22 shows that p-value for all blood fat levels is >0.05 . This indicates no significant correlation between blood fat levels of CHD patients and fish consumption. The Table 23 shows that p-value for total cholesterol level is <0.05 . This indicates there is a significant correlation between total cholesterol level of CHD patient and consumption of olive oil while the p-value for other blood fat levels without total cholesterol are >0.05 . This indicate the there are no significant correlation between other blood fat levels level of CHD patient and consumption of olive oil. The Table 24 shows that p-value for all blood fat levels is >0.05 . This indicates no significant correlation between blood fat levels of CHD patients and adds butter to their diet.

Table 16: Number of times you eat fresh vegetables.

Eat fresh vegetable	Frequency	Percent
Daily	53	53%
4-6 times/week	7	7%
3-1 times/week	31	31%
Occasionally	8	8%
None	1	1%
Total	100	100%

Table 17: Correlation between age groups & family history of CHD.

Family history of CHD	Correlation	P-value	Design
30-50	-.075-	.774	No correlation
51-70	.260	.063	
Over 70	.047	.803	

Table 18: Correlation between age groups & chronic illness.

Other illnesses	correlation	P-value	Design
30-50	.611**	.009	significant correlation
70-51	-.010-	-.010-	Significant correlation
Over 70	.152	.415	No significant correlation

Table 19: correlation between age groups & smokers.

Smokers	correlation	P-value	Design
30-50	.115	.683	There is no correlation
70-51	-.068-	.653	
Over 70	-.131-	.507	

Table 20: Correlation between blood fat profile & kind of chicken meat.

Blood fat profile	Correlation	P-value	Design
Total cholesterol	-0.07-	.493	There is no correlation
HDL	0.122	0.228	
LDL	0.023	0.820	
Triglycerides	0.053-	0.630	

Table 21: Correlation between blood fat profile & eat egg.

Blood fat profile	Correlation	p-value	Design
Total cholesterol	0.035	0.734	between
HDL	0.074-	0.469	between
LDL	0.147	0.150	between
Triglycerides	0.091	0.374	between

Table 22: Correlation between blood fat profile& times per week eating fish.

Blood fat profile	Correlation	P-value	Design
Total cholesterol	.011	.913	There is no correlation
HDL	.060	.560	
LDL	-.130-	.205	
Triglycerides	.125	.222	

Table 23: Correlation between blood fat profile& add olive oil.

Blood fat profile	correlation	P-value	Design
Total cholesterol	.269	.003	There is significant correlation

HDL	-.039-	.705	There is no correlation
LDL	.188	.064	
Triglycerides	-.031-	.759	

Table 24: Correlation between blood fat profile& add butter.

Blood fat profile	Correlation	P-value	Design
Total cholesterol	-.036-	.729	There is no correlation
HDL	.074	.474	
LDL	.119	.248	
Triglycerides	.015	.885	

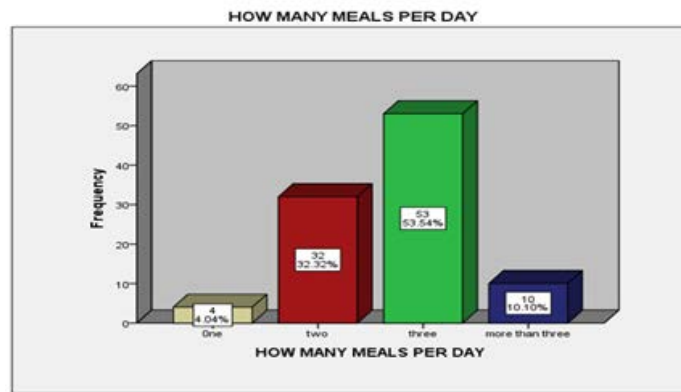


Figure 1: Number of meals ate by CHD patients per day

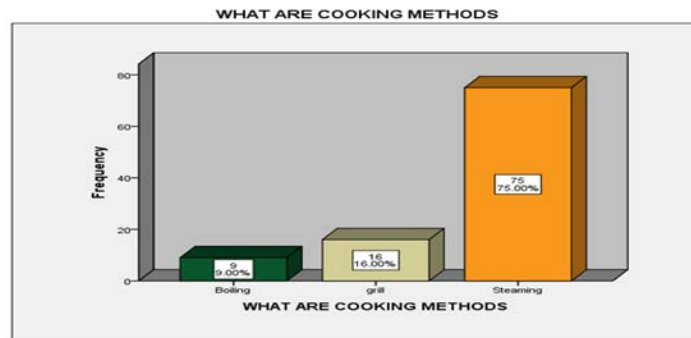


Figure 2: Food preparation methods for CHD patients

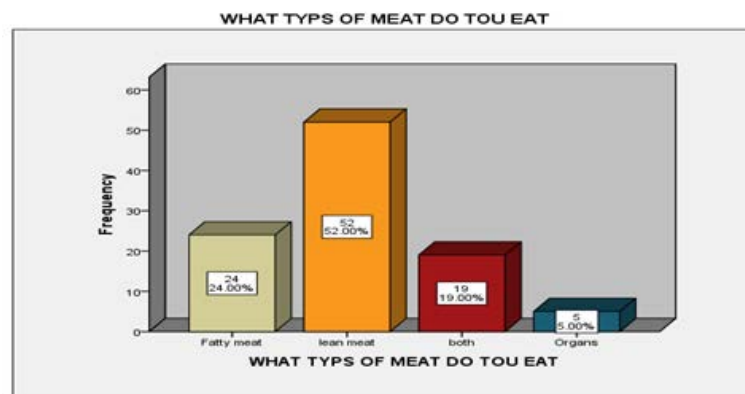


Figure 3: Kinds of meat ate by CHD patients

Conclusion

The present study concluded that

The majority of CHD patient's i.e. 52% fall within age group 51-70 years, the CHD was widely common among male 55%, the education level was low as most of the patients 41% were illiterate, most of patients 90% as married, 37% as housewife and no work. There is no correlation between family history and age groups while almost patients suffering from chronic diseases such as diabetes, hypertension and obesity. These diseases were considered the main risk factors for CHD.

The majority of patients 63% had no idea about causes and risk factors of CHD. The nutrition education and counseling were poor and almost of patients 73% not received any advice regarding diet therapy and control of disease, very little ones had received information and advice from doctors, it was observed that no communication was found between nutritionist and patients.

Obviously, majority of the patients were found to be ignorant about the foods that increase risk for CHD, no therapeutic lifestyle change, poor dietary habits and insufficient application among food regimen towards chronic diseases their intake of full fat milk, soft beverages, food high in fat such as egg yolk, fatty meat, butter, sweets.

In this study, the majority of CHD patients 56% were overweight that may obvious indicate risk factor for CHD. It is also a risk factor for hypertension, hyperlipidemia, diabetes and impaired glucose tolerance. Whereas, most of patients 54% practiced physical exercises occasionally and irregular weighing, this is indicator of increase weight gain and risk factor for CHD.

The results revealed that there is significant correlation between age groups and chronic diseases, while no relation between age groups and smokers or family history whereas, significant correlation between CHD patients, who have consumed olive oil and used it in their diet.

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