

Healthy Individuals and Coronary Artery Disease Patients Knowledge Regarding Diet and Exercise in Erbil City: A Comparative Study

معارف الأصحاء ومرضى الشريان التاجي المتعلقة بالنظام الغذائي و التمارين الرياضية
في مدينة أربيل: دراسة مقارنة

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الخلاصة:

الهدف: تهدف الدراسة الى قياس معارف الأفراد الأصحاء ومرضى الشريان التاجي في ما يتعلق بالنظام الغذائي وممارسة التمارين الرياضية في مدينة أربيل: دراسة مقارنة.

المنهجية: دراسة مقارنة بين الافراد الأصحاء والمرضى المصابين بمرض الشريان التاجي بشأن معارفهم بالنظام الغذائي وممارسة التمارين الرياضية في مدينة أربيل. استخدم استبيان مكون من ١٥٠ مفردة وزعت علي جميع الأفراد الأصحاء والمرضى مصابين بمرض الشريان التاجي بشكل منفصل لكلى المجموعتين. ٣٦ من مجموعة الأولى و ٣٦ من مجموعة ثانية اجابوا على الأسئلة.

النتائج: أشارت نتائج الدراسة الحالية بأن النسبة الأكثر من عينة الدراسة ١٩ (٥٢.٨%) من المصابين بمرض الشريان التاجي لديهم متوسط مستوى المعلومات عن النظام الغذائي. في المقابل، ٢٦ (٧٢.٢%) من أفراد الأصحاء لديهم ضعيف مستوى المعلومات عن النظام الغذائي. ٢٢ (٦١.١%) من المصابين بمرض الشريان التاجي لديهم متوسط مستوى المعلومات عن التمارين الرياضية. في المقابل، ٢١ (٥٨.٣%) من أفراد الأصحاء لديهم متوسط المستوى المعلومات عن النظام الغذائي. ٢٦ (٧٢.٢%) من أفراد الأصحاء لديهم متوسط مستوى المعلومات عن النظام الغذائي و التمارين الرياضية مقارنة مع أفراد الأصحاء لديهم متوسط المستوى المعلومات عن النظام الغذائي و التمارين الرياضية ١٨ (٥٠%).

الاستنتاج: وعلاوة على ذلك، استنتجت هذه الدراسة إلى أن أهم معرفة عامة لمرضى المصابين مرض الشريان التاجي في النظام الغذائي و التمارين الرياضية في الفئة المتوسطة ٢٦ (٧٢.٢%)، في حين أن ١٨ (٥٠%) فقط من الأشخاص الأصحاء في الفئة المتوسطة.

الكلمات المفتاحية: مرض الشريان التاجي، الأفراد الأصحاء، النظام الغذائي، التمارين الرياضية.

ABSTRACT:

Aims of study: The study aims to assess the information needed of patients with coronary artery disease and healthy individuals in terms of diet and exercise method in Erbil city.

Methods: A descriptive cross sectional design used to compare and assess knowledge of coronary artery disease patients to a healthy individual on diet and exercise pattern. Seventy-two participants answered questionnaires and took part in the present study; 36 coronary artery disease patients and 36 healthy individuals. The patients received advice from their doctors at their admission.

Results: The current survey illustrates that the highest percentage 19 (52.8%) of coronary artery disease patients had fair level of knowledge on diet. In contrast, 26 (72.2%) of healthy individuals had poor knowledge on diet. 22 (61.1%) of coronary artery disease patients had fair knowledge on exercise and 21 (58.3%) of healthy persons had fair knowledge on exercise. 26 (72.2%) of coronary artery disease patients had fair knowledge on both diet and exercise compared with a healthy individual who had fair knowledge on diet and exercise 18 (50%) without any instruction program.

Conclusion: As revealed in this study, a larger number of the patients with coronary artery disease had overall fair knowledge regarding diet and exercise than the healthy individuals, and this significant difference can be attributed to the fact that coronary artery disease patients are more careful about and pay more attention to their health and diet.

Recommendations: Education program needs to be introduced for coronary artery disease patients by the nurse in teaching hospitals on diet and performing structured, planned and repetitive exercise. Furthermore, healthy persons should be encouraged to participate in performing regular exercise pattern and importance of diet in preventing coronary artery disease.

Keywords: Coronary Artery Disease, Healthy person, Diet, Exercise.

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INTRODUCTION

Coronary Artery Disease (CAD) is the leading cause of mortality in worldwide, and the prevalence increases with age of both men and women ^(1, 2). Ukraine and Russian Federation have the highest death rate from CAD with 718 and 654 deaths per 100,000 populations

respectively, while South of Korea and Japan have the lowest with 36.5 and 47.0 deaths per 100.000 populations respectively ⁽³⁾.

In 2015 an estimated 7.4 million people died from CAD, and in 2012 17.5 million people died from CVDs which consisted 31% of global death 1.2 as well as nearly 17.7 million people died from CVDs in 2015, representing 31% of the global ⁽⁴⁾. Coronary Artery Disease (CAD) is characterized by atherosclerosis in coronary artery by a blockage that prevents blood from flowing to the heart and the most common risk factors for developing CAD unhealthy diet, physical inactivity, and tobacco use as well as the harmful use of alcohol ^(3, 4).

Consequently, these behavioral risk factors lead to raising blood pressure, high blood cholesterol, diabetes mellitus, and metabolic syndrome ^(3, 4, 5, 6, and 7). Also, decreasing physical activity and physical exercise among CAD patients directly associated with increasing co-morbid condition of this population ⁽⁸⁾.

The benefits of exercise for cardiovascular disease patients include maintaining lipid metabolism, improving blood pressure, and strengthening patients' heart to works more efficiently ⁽⁹⁾. It also helps to keep a healthy weight and reduces the risk of diseases (such as obesity and diabetes) that might lead to CAD ⁽⁹⁾.

Thompson et al .who reported that CAD patients may not have adequate knowledge regarding diets that are required for their disease condition ⁽¹⁰⁾. Khan et al. added that, it's necessary to maintain dietary and lifestyle factors in high-risk persons and cardiovascular disease patients; however, it is not easy to follow a healthy diet and a structured exercise program even for cardiovascular disease patients ⁽¹¹⁾.

Rising affluence, rapid modernization associated with sedentary but stressful life-style in summation is suggested as additional risk factors for CAD ⁽¹²⁾. In the study done in Karachi, Pakistan focusing on knowledge of cardiovascular disease risk factors among the Canadian population and their relationships with socioeconomic status, it was found that the healthy people lacked good knowledge regarding modifiable risk factors that may lead to heart diseases ⁽¹³⁾. In Addition, the same study recommended that there is a necessary educational program for Pakistani population about prevention of aggravating factors that may lead to CAD ⁽¹³⁾. Furthermore, people need to improve modifiable risk factors such as smoking, lack of exercise, obesity, and consumption of low fatty foods to decrease the probability of heart disease ^(14, 15). The prevalence of CAD has progressively increased in Iraq ⁽¹⁶⁾. In Iraqi Kurdistan Region (IKR) in 2014 rate of premature CAD in this region alarmed and it was mostly related to the clustering of cardiovascular risk factors ⁽¹⁷⁾.

However, investigators carried out a study regarding diet and exercise to find out more about CAD patients and healthy people in this region. The study illustrated that exercise is going to be defined as a subset of physical activity that is planned, structured, repetitive and purposeful in the sense that improvement ⁽¹¹⁾. Moreover, a proper education program needs to be introduced for coronary artery disease patients by the nurse in teaching hospitals on diet and performing structured, planned and repetitive exercise. Furthermore, healthy persons should be encouraged to participate in performing regular exercise pattern and importance of diet in preventing coronary artery disease, this study aimed to explore the knowledge of CAD patients and healthy individuals in Erbil, Iraq in regarding with diet and exercise pattern. Therefore the study aimed to reveal the information needed about patients with coronary artery disease and individual health in terms of diet and exercise method in Erbil City, Iraq.

AIMS OF STUDY

The study aims to assess the information needed of patients with coronary artery disease and healthy individuals in terms of diet and exercise method in Erbil city.

METHODOLOGY

Research design: A descriptive cross sectional design used to conduct this study.

Settings: Erbil Teaching Hospital

Subjects: Non-probability of convenient sampling technique was used for this study. 150 questionnaires were distributed to CAD patients and healthy individuals separately. Only 36 of CAD patients and 36 of healthy individuals responded to participate in this study. Subjects included in the study were those diagnosed with CADs in coronary care unit and medical department in Erbil Teaching Hospital. However, cardiomyopathy, heart block with pacemakers and valvular disorders (e.g.: stenosis and regurgitations) were excluded. CAD patients and healthy persons aged between 25-55 years and above were eligible. Then written consent from patients was obtained.

Tool of data collection: A questionnaire was used to collect data which consisted of three sections. Section one included demographic characteristics of participants such as age group, educational status, occupation, and diet category (vegetarian and non-vegetarian), knowledge of participants on the importance of exercise, and family history of participants on having CAD, Sections two involved ingredient of food and types of food as well as types of vegetables, Sections three questioned on structured, planned and repetitive exercise as well as the type of exercise were asked from the participants. The responds of the diet and exercise knowledge items were include two answers (0 = Incorrect and 1= Correct). The calculation of levels of each diet and exercise knowledge (10 and 10 items) was categorized to three groups of Poor knowledge (0-3.33), Fair knowledge (3.34-6.67), and Good knowledge (6.68-10). For calculation of overall levels of diet and exercise knowledge (20 items) was categorized to three groups of Poor knowledge (0-6), Fair knowledge (7-13), and Good knowledge (14-20).

Reliability/ validity:

Pilot study:

Filed work:

Prior to commencement of the study, written confirmation was obtained from Research Committee in College of Nursing in Hawler Medical University, and then written permission was obtained from administration of Hawler Teaching Hospital to recruit participants for this study. Both participants CAD patients and healthy individuals signed and informed consent and were told they could withdraw from the study at any time for any reason. Participants were assisted by verbal interviews based on the questions in the questionnaire and the appropriate responses were recorded. Data collected from July 1, 2015, to February 20, 2016. The data were analyzed through using SPSS software for statistical analysis Version 23, for calculating descriptive (Frequency, Percentage, Mean, and Standard Deviation) and inferential (Chi-square and ANOVA-One Way F-tests).

RESULTS:

Table (1): Demographic characteristics of the study sample

Samples classified according to the demographic variables N = 72					
		Coronary artery disease patients		Healthy individuals	
		F	%	F	%
Age group	25-34	7	(19.4)	0	(0)
	35-44	7	(19.4)	6	(16.7)
	45-54	11	(30.6)	12	(33.3)
	≥ 55	11	(30.6)	18	(50)

Education status	Primary	18	(50)	11	(30.6)
	Secondary	11	(30.6)	9	(25)
	Graduate	6	(16.7)	11	(30.6)
	Professional	1	(2.8)	5	(13.9)
Occupation	Business	4	(11.1)	8	(22.2)
	Service man	3	(8.3)	6	(16.7)
	Laborer	5	(13.9)	9	(25)
	Any other	24	(66.7)	13	(36.1)
Diet	Vegetarian	16	(44.4)	21	(58.3)
	Non-Vegetarian	20	(55.6)	15	(41.7)
Do you do exercise Regularly?	Yes	9	(25)	14	(38.9)
	No	27	(75.0)	22	(61.1)
Do you think exercise is important for your health?	Yes	33	(91.7)	31	(86.1)
	No	3	(8.3)	5	(13.9)
Is there a family history of coronary heart disease?	Yes	19	(52.8)	13	(36.1)
	No	17	(47.2)	23	(63.9)
If yes, which member in the house	Father	10	(52.6)	3	(23.1)
	Mother	3	(15.8)	9	(69.2)
	Others	6	(31.6)	1	(7.7)

Table 1 shows that the age of CAD participants were 11 (30.6%) 45 years old and above, and 11 (30.6 %) were 55 years old, while lowest percentage of age 7 (19.4%) were above 25 and below 44 among CAD patients. Regarding the age of healthy individuals, the highest percentage of age was 18 (50.0 %) 55 years old and above. The level of education in CAD patients shows that the highest percentage 18 (50.0 %) of participants had the primary level of education. Similarly, level of primary education among healthy individuals was 18 (50.0 %). Regarding the occupation of CAD patients, the highest percentage 24 (66.7 %) was in any other, while the lowest percentage 3 (8.3 %) were in serviceman. Likewise, among healthy individuals, highest percentage 13 (36.1 %) were in any other, while lowest percentage 6 (16.7%) were in serviceman. Regarding the diet among CAD patients, highest percentage 20 (55.6 %) were in non-vegetarian, whereas highest percentage 21 (58.3 %) were vegetarian among healthy individuals. Regarding doing exercise regularly, highest percentage 27 (75.0%) in CAD patients responded “No” compared to healthy individuals 22 (61.1 %). CAD patients 33 (91.7 %) and healthy individuals 31 (86.1 %) believed that exercise is important for their health.

Table (2): Distribution of the samples according to knowledge of coronary artery disease patients and healthy individuals on diet

		Coronary artery disease patients		Healthy individuals		P-Value F-test
		F	%	F	%	
Overall knowledge of Diet	Poor	17	(47.2)	26	(72.2)	0.072 S*
	Fair	19	(52.8)	9	(25.0)	
	Good	0	(0)	1	(2.8)	

*S=Significant

Table (2) illustrates that highest percentage 19 (52.8 %) of CAD patients had the fair level of knowledge on diet. In contrast, 26 (72.2 %) of healthy individuals had poor knowledge on diet.

Table (3): Distribution of the samples according to knowledge of coronary artery disease patients and healthy individuals on exercise

		Coronary artery disease patients		Healthy individuals		P-Value F-test
		F	%	F	%	
Overall knowledge of Exercise	Poor	14	(38.9)	15	(41.7)	0.813 NS*
	Fair	22	(61.1)	21	(58.3)	
	Good	0	(0)	0	(0)	

*NS=Non-Significant

Table (3) demonstrates that 22 (61.1 %) of CAD patients had fair knowledge on exercise and 21 (58.3 %) of healthy persons had fair knowledge on exercise. Both CAD 0 (0.0 %) patients and 0 (0.0 %) healthy individuals did not have good knowledge on exercise.

Table (4) Distribution of the diet and exercise knowledge among the coronary artery disease patients and the healthy individuals

		Coronary artery disease patients		Healthy individuals		p-Value F-test
		F	%	F	%	
Overall knowledge of Diet and Exercise	Poor	10	(27.8)	18	(50)	0.050 S*
	Fair	26	(72.2)	18	(50)	
	Good	0	(0)	0	(0)	

*S=Significant

Table (4) shows that 26 (72.2 %) of CAD patients had fair knowledge on both diet and exercise compared with a healthy individual who had fair knowledge on diet and exercise 18 (50 %). More importantly, there was significant association between CAD patients and healthy individuals.

DISCUSSION

The discussion of the present study was based on the findings obtained from the descriptive and inferential statistical analysis of collected data. It is presenting the view of the objectives of the study. The current study indicated that CAD patients have more Knowledgeable regarding (Diet and Exercise) than the healthy persons. The results of this investigation illustrate that age of CAD patients were mainly 11 (30.6%) in age groups 45- 54 years and > 55 years old and above. Similarly, a study has found that 95 (47.5 %) of CAD patients had knowledge on diet belong to the age group of 47-58 year and healthy persons 18 (50.0 %) were primarily > 55 belong to age group 55 years old ⁽¹⁰⁾. Thirty three (91.7 %) of CAD patients and 31 (86.1 %) healthy persons believed that exercise is important for their health, but 27 (75.0 %) of CAD patients and 22 (86.1 %) healthy persons were not performing exercise respectively. The present study revealed that 17 (47.2 %) of CAD patients had poor knowledge, 19 (52.8 %) of CAD patients had the fair knowledge and 0 (0.0 %) had good knowledge on diet. Likewise, findings of a study revealed that among 200 CAD patients, 125 (62.5 %) of CAD patients had inadequate knowledge, 64 (32 %) had the moderate knowledge and 11 (5.5 %) had adequate knowledge levels among target population ⁽¹⁰⁾.

In other words, this present study has revealed that 26 (72.2 %) of healthy persons had poor knowledge, 9 (25.0 %) had fair knowledge and 1 (2.8 %) had good knowledge on diet. This study specified that 14 (38.9 %) of CAD patients had poor knowledge and 22 (61.1%) had fair knowledge of exercise. In contrast, 15 (41.7 %) of healthy individuals had poor knowledge and 21 (58.3 %) had fair knowledge on exercise. Due to lack of high quality studies reporting inconsistent findings, limited evidence is available on physical exercise ⁽¹⁸⁾. Therefore, few studies on the knowledge of healthy persons on diet and exercise have been done ⁽¹⁹⁾.

Conducted a cross-sectional study on knowledge gap and misconceptions about coronary artery disease among South Asians in the United States ⁽¹⁹⁾ the sample sizes of the study were 270 South Asian adults and discovered that few participants (49 %) and (37 %) believed that exercise is useful for preventing heart disease respectively. On the other hand, a study which carried out by Stewart et al. 2013 involved 15486 (97.8%) participants from 39 countries completed a lifestyle questionnaire and found out that co-morbid condition is common among participants who had low physical exercise ⁽⁷⁾.

Another finding of present study is that knowledge of CAD patients on diet and exercise have fallen mainly on fair category 26 (72.2 %) followed by poor category 10 (27.8 %) compared with healthy persons which have equally fallen on poor and fair categories 18 (50 %) and 18 (50 %) respectively. In Iraq, Kurdistan region especially in Erbil city people are physically inactive they do not move much, they are careless about doing sport and eating healthy food, the only care when they are physically ill. Thus, doctor instructs CAD patient to do sport exercise and not to eat unhealthy food.

The main limitation of the present study is the low sample size of both CAD patients and healthy individuals, which restricted the generalizability of the findings obtained from the correlation between variables. Another weakness of this study was that association between demographic characteristics of CAD patients and healthy individuals was not presented due to low sample size.

CONCLUSION

According to the results of the present study and based on the knowledge statement, it was concluded that the majority of coronary artery disease patients and healthy individuals had fair knowledge on exercise. Moreover, most of the healthy individuals had poor knowledge on diet. The most significant feature of the present study is that the overall knowledge of the CAD patients on diet and exercise fell on fair category, whereas fewer

healthy individuals fell on fair category. Additionally, most of the CAD patients and healthy individuals did not perform regular exercise.

RECOMMENDATIONS:

1. A study can be done to assess the effectiveness of the Self Instructional Module on the knowledge level of coronary heart disease patients & the healthy individuals of Erbil City.
2. A study to assess the knowledge about the diet & exercise pattern among patients suffering with CAD and healthy individuals in Erbil City .
3. Education program needs to be introduced for CAD patients by the nurse in teaching hospitals on diet and performing structured, planned and repetitive exercise. Furthermore, healthy persons should be encouraged to participate in performing regular exercise pattern and importance of diet in preventing coronary artery disease.
4. Further research with large sample size needs to be conducted to find the association between variables.

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