Patients' awareness about Cardiovascular Disease and the Causes of Coronary Artery Disease

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المستخلص:

الهدف :تهدف هذه الدراسة لتقييم مدى وعي المرضى الذين يعانون من أمراض القلب والأوعية الدموية.

المنهجية: تم تطبيق تصميم وصفي في هذه الدراسة .وأجريت مقابلات مع عينة غرضية تتألف من (100)المرضى من الذين يعانون من أمراض القلب والأوعية الدموية في مستشفيات الموصل لتحقيق أهداف الدراسة .تم استخدام استبيان لجمع البيانات بعد اختباره للصدق والثبات بدراسة التجريبية.

النتائج: أظهرت نتائج الدراسة أن ان معدل وعي المرضى (١,٧٨) من نقطة قطع (٣) وان غالبية المرضى٨٤ %كانت أعمارهم أكثر من ٥٠ سنة ،الذكور أكثر قليلا من الإناث .نسبة الحالة الزواجية ٨١% للمتزوجين، كذلك المتقاعدون والمدخنون كانت نسبتهم أكثر من غيرهم،فترة ألإصابة بالمرض كانت اقل من سنة ،كذلك اظهرت الدراسة فروق ذات دلالة نوعية حول وعي المرضى الذين كانت مدة الإصابة لديهم اقل من سنة واحدة٤٧%.

التوصيات: أوصت الدراسة على ضرورة التعليم المستهدف بشأن عوامل الخطر، وخصوصا بين الأشخاص الذين يعالجون من عوامل الخطر المعروفة مثل مرض ارتفاع ضغط الدم ومرض السكري.

Abstract:

Objective: This study aims to assess the awareness of patients suffering from cardiovascular diseases.

Methodology: A descriptive design was applied in this study. A purposive sample consisted of (100) patients with cardiovascular disease in the Mosul's hospitals were interviewed to achieve study objectives. A questionnaire was used for data collection after tested for validity and reliability by pilot study.

Results: The study results showed the mean of patients awareness are (1.78) cut point of (3) and the majority of patients84% were aged more than 50 years or above. Slightly increase proportion of male more than females. Most of them are married81%, retired, smokers, and a period of developing the disease are less than one year47%.

Recommendations: the study recommended the need for targeted education regarding risk factors, especially those who are treated for hypertension and diabetes mellitus.

Keywords: Awareness, Cardiovascular diseases

Introduction:

Cardiovascular risk factors are generally divided into two main categories: those that can modify and those that cannot be modified [(1)]. Modifiable or partially modifiable risk factors include smoking, elevated cholesterol level, lack of exercise, obesity, hypertension, and diabetes. Non modifiable risk factors include a family history of cardiovascular disease, sex, and age. To address the factors that influence control of risk factors, several studies evaluated the beliefs among the general public about the causes of heart disease.1- investigators documented widespread lack of knowledge of the main causes of heart attacks in a sample of 617 adults." Only 28% of the subjects identified cigarette smoking, 21% identified high blood pressure, and 13% identified cholesterol or fat in the diet as cardiovascular risk factors. More than one half of the subjects did not name any of these risk factors, and only 1% of the sample named all three. Studies conducted in the 1980s documented an increased awareness and understanding of the risk factors for coronary artery disease (CAD), although the level of knowledge remained somewhat superficial. In a population-based study with 3122 adults, more than 70% of the sample correctly identified at least one of the three main modifiable risk factors; however, less than 5% of the respondents could name all three,[(2)] The response most frequently offered as a cause of heart disease was stress or worry. Most studies that have examined individuals' beliefs about CAD have involved samples of healthy persons in a community setting[(3 and 4)].

However, beliefs about risk factors for CAD may differ between a healthy population and patients with risk factors or known cardiac disease. knowledge about risk for CAD were examined in a study of 80 unaffected siblings of persons who had recently been hospitalized for CAD and who were experiencing symptoms of CAD at a young age (thus establishing high family risk)[(5)]. The siblings had moderate general knowledge of risk for CAD but were unaware of their family members' specific risk factors and did not perceive their own high relative risk for CAD. Perceptions about personal risk were not associated with general knowledge scores. Perceptions about the causes of CAD were studied in a sample of patients with acute MI (n = 25) at the time of discharge from the hospital.14 Patients emphasized different causes of heart attacks depending on whether they were focusing on general risk factors or what they perceived to be their own personal risks. Smoking, being overweight, and eating a fatty diet were the most frequently cited general causes of heart attack. However, subjects most often attributed their own heart attacks to causes such as overwork or overexertion and stress. Although it is useful to

understand patients' perceptions about the most common causes of CAD, the actual pattern of risk factors differs among individuals. It is necessary to examine not only the extent of patients' general knowledge but also the accuracy of patients' beliefs about their own personal risk profile. Identifying the accuracy of patients' awareness may help health professionals understand patients' responses to risk reduction and therapy.

This study was an assess of awareness about the causes and timeline of cardiovascular disease and the accuracy of these perceptions in a sample of patients with newly diagnosed CAD.

Methods:

Design: A descriptive study design was aimed of this study.

Subjects: Two groups of subjects with newly diagnosed CAD participated in the study, they were chosen purposively. The first group consisted of patients who were admitted because of acute MI. These patients had not received a diagnosis of CAD before experiencing the MI. The second group were patients admitted to the hospital for diagnostic coronary angiography because symptoms and noninvasive diagnostic tests (e.g., exercise stress testing) suggested CAD. These groups were chosen because of the likelihood that they had risk factors for CAD but had little experience living with that diagnosis. Subjects were recruited in consecutive order over an 8-month period. The purposive sample consisted of 100 patients—57 patients who had had acute myocardial infection (MI) and 43 patients about to undergo coronary angiography. Subjects were eligible to participate if they (1) were admitted for coronary angiography because of other evidence of CAD or admitted with MI confirmed by the presence of at least two of the following criteria: clinical history of symptoms typical of myocardial ischemia lasting more than 30 minutes; (2) had no history of CAD; (3) were older than 18 years; (4) were in thermodynamically stable condition and free of pain for 24 hours; (5) were oriented to person, place and time; and (6) were able to speak and understand Arabic. Seventy-one patients with MI were eligible to participate; six refused. Fifty-three patients for whom coronary angiography was scheduled were eligible to participate. Two declined, and 11 were found to have normal coronary arteries and were excluded from the study. The reasons cited for refusal to participate primarily included fatigue or unwillingness to talk with more people. The demographic characteristics of both MI and angiography samples are presented in Table I.

Interview: Subjects were asked a series of open-ended questions to ascertain their know about the causes of CAD. Examples

of questions included the following: "What do you believe are the causes of heart disease?" "What do you believe are the causes of heart disease in your own situation?" "Is heart disease an illness that is an acute, short-term or chronic, long-term problem?" Open-ended questions were used instead of a list of risk factors because of the concept that was being measured. Questionnaires listing risk factors are likely to measure recognition, whereas open-ended questions are likely to measure recall.12 Ability to recall risk factors may reflect depth of understanding of concepts. Medical records were reviewed to identify documentation of the presence of selected risk factors. The written documentation by the admitting physician and the consulting cardiologist were examined to identify the presence of the following risk factors: elevated cholesterol level, family history of CAD, current smoking, hypertension, and diabetes. If a risk factor was not identified, it was assumed to be normal.

Patients with MI were invited to participate in the study after they had been transferred to the cardiac step-down unit and were free of pain for 24 hours. Patients for whom coronary angiography was scheduled were invited to participate after they had been admitted to the hospital and were awaiting the procedure. Interviews were tape recorded and later transcribed. Four subjects refused tape recording; extensive notes were taken during the interview.

Data analysis: The verbatim interviews or notes were transcribed. The responses to the questions were reviewed to identify common themes. Once the common themes or categories were identified, two raters classified the subjects' responses into the categories. Initially there was 88% agreement between the raters. When there was disagreement, the raters discussed the case until consensus was reached.

Results:

Table 1. Distribution of demographic characteristics of the study subjects (N=100)

Age	Frequency	Percentage
Less than (40) years	4	4%
(40-45) years	12	12%
(50) years and more	84	84%
Total No.	100	100%
Gender		
Male	51	51%
Female	49	49%
Marital status	100	100%
Single	19	19%
Married	81	81%
Occupation	100	100
Employment	14	14%
Retired	86	86%
Duration of diseases		
Less (1) year	47	47%
(5-10) years	29	29%
(5-10) years	16	16%
More than (10) years	8	8%
Total	100	100%

Table 2. Distribution of patients' awareness regarding risk factors about cardiovascular diseases.

Number of subjects	Mean of awareness	Cut-off point
100	1.78	3

This table indicates that the high patients' awareness regarding risk factors about cardiovascular diseases

Table 3. One-way analysis of variance for the difference between patients' awareness and their age

S.O.V	D F	S.S	MS	F.	P. value
Between group	2	4.01	1.34	0.37	0.05 N.S
Within group	98	210.33	3.63		
Total	100	214.34			

S.O.V= sources of variance, DF=degree of freedom, S.S= Summation of Square, MS=Mean of Square, F=F-statistics, P value =probability value

Table 4. One-way analysis of variance for the difference between patients' awareness and their gender

S.O.V	D F	S.S	MS	F.	P. value
Between group	1	34.16	8.54	2.70	0.05 S
Within group	99	180.18	3.16		
Total	100	214.34			

S.O.V= sources of variance, DF=degree of freedom, S.S= Summation of Square, MS=Mean of Square, F=F-statistics, P value =probability value

Table 5. One-way analysis of variance for the difference between patients' awareness and their marital status

S.O.V	D F	S.S	MS	F.	P. value
Between group	1	7.04	7.04	2.04	0.05 N.S
Within group	99	207.29	3.45		
Total	100	214.34			

S.O.V= sources of variance, DF=degree of freedom, S.S= Summation of Square, MS=Mean of Square, F=F-statistics, P value =probability value

Table 6. One-way analysis of variance for the difference between patients' awareness and their employment

S.O.V	D F	S.S	MS	F.	P. value
Between group	1	0.85	0.85	0.24	0.05 N.S
Within group	60	213.49	3.56		
Total	61	214.34			

S.O.V= sources of variance, DF=degree of freedom, S.S= Summation of Square, MS=Mean of Square , F=F-statistics, P value =probability value

Table 7. One-way analysis of variance for the difference between patients' awareness and their duration

S.O.V	D F	S.S	MS	F.	P. value
Between group	3	34.16	8.54	2.70	0.05 S
Within group	97	180.18	3.16		
Total	100	214.34			

S.O.V= sources of variance, DF=degree of freedom, S.S= Summation of Square, MS=Mean of Square , F=F-statistics, P value =probability value

Table 8. One-way analysis of variance for the difference between patients' awareness and their smoking

S.O.V	D F	S.S	MS	F.	P. value
Between group	1	0.85	0.85	0.24	0.05 N.S
Within group	99	213.49	3.56		
Total	100	214.34			

S.O.V= sources of variance, DF=degree of freedom, S.S= Summation of Square, MS=Mean of Square , F=F-statistics, P value =probability value

Discussion:

The subjects in this study were persons who had risk factors for CAD for many years, even though the diagnosis of CAD was new. Health professionals generally acknowledge that primary pre-vention of CAD is the most cost-effective way of reducing morbidity and mortality, with emphasis on examining and educating patients in the primary care setting about their risk factors[6]. the results of this study, however, demonstrate that patients with newly diagnosed CAD were largely ignorant of their own personal risks. These data demonstrate that 84% of samples were age 50 years or above, 81% are married and 47%are less than one year of disease duration. It although show no significant differences between age, marital status, and their smoking (F – value 0.37, 2.04, and 0.24, at 0.05) respectively of all subjects named at least one of the three key modifiable risk factors (smoking, diet and cholesterol, or high blood pressure), Similarly, Folsom et al[7]. reported that 80% of a general population doesn't knew at least one of the three modifiable risks but only 5% named all three. Individuals with actual risk factors are no more knowledgeable than the general public about the causes of CAD.

The American Heart Association has recently focused on physical inactivity as a major modifiable risk factor in addition to smoking, hypertension, and elevated cholesterol level[8]. in our study only 15% of the subjects recognized lack of exercise as a cause of CAD. Since physical activity has recently received attention in the popular press, knowledge about the link between lack of activity and cardiovascular disease may have increased among the general public.

Although the majority of subjects could identify risk factors in general, they had difficulty articulating their own risk factors. Twenty-seven percent of the sample stated that they were unsure about the cause of their CAD. There are several possible explanations related to subjects' apparent lack of knowledge. First, individuals' global understanding about the common causes of CAD may not translate to a comprehensive

understanding of the risk factors appropriate to their own situation. Further, subjects may not have received specific information about risk factors that was applicable to their own situation. Alternatively, at the time of diagnosis patients may be experiencing anxiety and denial related to the diagnosis. The ability to distance oneself from knowledge of personal risk factors that contribute to the disease process may be a form of coping with the situation.

Subjects often did not identify the risk factors documented in their medical record. It is of particular concern that few subjects treated for hypertension and diabetes recognized these as risk factors. What remain unclear are the reasons why risk factors such as hypertension were not identified. Hypertension was not recognized because the patient was being treated and the hypertension was believed to be controlled, or did the patient not recognize the association between hypertension and CAD? Further research is needed on the changes in perceptions about risks and susceptibility as individuals modify their risk factors.

Patients undergoing angiography were significantly more likely to be unsure of both the general causes and their personal risk for CAD. The subjects in the angiography group were interviewed before the angiography; therefore they had not yet received a definitive diagnosis of CAD. This situation of uncertainty may have allowed subjects a greater opportunity to distance themselves from knowledge about CAD[4].

Although the majority of subjects believed CAD was a chronic situation, 41% believed it was either an acute or short-term situation or were unsure about the timeline. A patient's perspective on the length of time that she or he will have to deal with this event may have serious implications for compliance with therapy. Meyer et al.[5] found perceptions about illness timeline to be a good predictor of whether patients remained in treatment. Patients with newly diagnosed hypertension who perceived the illness as cyclic or acute were less likely to continue in treatment than patients who viewed hypertension as a chronic illness. Further research is needed to examine the relation between patients' perceptions about the timeline of CAD and their adherence to therapy, particularly in relation to risk factor modification.

The results of this study provide important implications for clinical practice, especially in the area of patient education. Individuals are usually informed about the variety of factors associated with increased risk for CAD. It is generally assumed that individuals will then be able to recognize from that list

the factors applicable in their own situation. However, the findings from this study indicate that patients may need individualized instruction about their own risk profile. Particularly, patients with hypertension or diabetes need to understand the consequences of these diseases. For example, someone who receives the diagnosis of hypertension may not understand his or her increased risk for several different cardiovascular problems. The patient might benefit from clear directions on how to reduce his or her entire risk profile for CAD.

Most of the subjects in the sample in this study were white men. The extent to which these findings can be generalized to women, members of minorities, and persons with low levels of education is not known. Research has shown that minorities (African-Americans and persons of Hispanic descent) and persons with less education have lower levels of knowledge about CAD [7 and 9] than do other persons; consequently, these groups should be targeted for future studies in which patients' beliefs about CAD are examined.

Recommendations:

1. Overall, these results suggest the need for targeted education regarding risk factors, especially among persons treated for know risk factors such as hypertension and diabetes mellitus.
2. Because risk factors can be multiplicative in effect, persons with one know risk factor should be examined with regard to their total risk factor profile. As indicated by the common sense model, identifying causes is the first step in formulating a representation about illness and associated risk. Identification of the role of risk factors as potential contributors to the development of CAD is an important first step in initiating modification of risk factors.

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