KNOWLEDGE OF PATIENTS ON CORONARY ARTERIAL DISEASE

CONHECIMENTO DE PACIENTES SOBRE A DOENÇA ARTERIAL CORONARIANA

CONOCIMIENTO DEL PACIENTE SOBRE LA ENFERMEDAD ARTERIAL CORONARIA

Fernanda Maria Alves Lima [1]
Andressa Marques [1]
Sílvia Cristina Mangini Bocchi [1]
Tatiane Roberta Fernandes Teixeira [2]
Milena Temer Jamas [1]
Marla Andréia Garcia de Avila [1]

[1] Universidade Estadual Paulista "Júlio de Mesquita Filho" – UNESP, Faculdade de Medicina de Botucatu, Departamento de Enfermagem. Botucatu, SP – Brazil.
[2] Hospital da Clínicas, UNESP. Botucatu, SP – Brazil.

Corresponding author: Fernanda Maria Alves Lima
E-mail: fma.lima@unesp.br

ABSTRACT

Objective: to verify patients' knowledge of coronary artery disease (CAD) using the Cardiovascular Artery Disease Questionnaire (CADE-Q). **Method:** a cross-sectional and descriptive study with a quantitative approach, performed in a coronary unit and hemodynamic sector of a public teaching hospital. The study participants were individuals aged 18 years old or older, admitted to the coronary care unit, and outpatients treated in the hemodynamic sector for cardiac catheterization or elective coronary angioplasty. To assess knowledge about CAD we used CADE-Q, which classifies knowledge as excellent, good, acceptable, little or insufficient. **Results:** 49 patients were included with a mean age of 58.3 years old, 57.1% male. According to CADE-Q, the knowledge level about CAD was considered acceptable for 19 patients (38.7%), good for eight of them (16.3%), poor knowledge for 13(26.5%) and insufficient for nine (18.3%). **Conclusion:** identifying the profile of the patients treated and their knowledge about CAD is important for establishing appropriate educational strategies for this population, focusing on the control of the risk factors. In addition, it seeks to better cope with the disease and improve the quality of life.
Keywords: Cardiovascular Nursing; Coronary Artery Disease; Health Education; Cardiovascular Diseases; Nursing Assessment.

RESUMO

Objetivo: verificar o conhecimento dos pacientes sobre a doença arterial coronariana (DAC) por meio do Cardiovascular Artery Disease Questionnaire (CADE-Q). Método: estudo transversal, descritivo e de abordagem quantitativa, realizado em uma unidade coronariana e setor de hemodinâmica de um hospital público e de ensino. Os participantes do estudo foram indivíduos com 18 anos ou mais, internados na unidade coronariana e pacientes ambulatoriais atendidos no setor de hemodinâmica para realização de cateterismo cardíaco ou angioplastia coronariana eletiva. Para avaliação do conhecimento sobre DAC utilizou-se o CADE-Q, que classifica o conhecimento como excelente, bom, aceitável, pouco ou insuficiente. Resultados: foram incluídos 49 pacientes com média de idade de 58,3 anos, sendo 57,1% do sexo masculino. O nível de conhecimento sobre a DAC, de acordo com o CADE-Q, foi considerado aceitável para 19 pacientes (38,7%), bom para oito deles (16,3%), pouco conhecimento para 13 (26,5%) e insuficiente para nove (18,3%). Conclusão: identificar o perfil dos pacientes atendidos e seu conhecimento sobre a DAC é importante para o estabelecimento de estratégias educativas adequadas para essa população, com foco no controle dos fatores de risco. Além disso, busca-se melhor enfrentamento da doença e melhoria da qualidade de vida.
Palavras-chave: Enfermagem Cardiovascular; Doença da Artéria Coronariana; Educação em Saúde; Doenças Cardiovasculares; Avaliação em Enfermagem.

RESUMEN

Objetivo: comprobar el conocimiento de los pacientes sobre la enfermedad de la arteria coronaria (EAC) a través Cardiovascular Artery Disease Questionnaire (CADE-Q). Método: estudio de enfoque transversal, descriptivo y cuantitativo, realizado en una unidad coronaria y sector hemodinámico de un hospital público docente. Los participantes del estudio eran individuos de 18 años o más, ingresados en la unidad de atención coronaria y pacientes ambulatorios tratados en el sector hemodinámico

para cateterismo cardíaco o angioplastía coronaria electiva. Para evaluar el conocimiento sobre EAC se utilizó el CADE-Q, que clasifica el conocimiento como excelente, bueno, aceptable, poco o insuficiente. Resultados: se incluyeron 49 pacientes con edad media de 58,3 años, 57,1% hombres. Según el CADE-Q, el nivel de conocimiento sobre EAC se consideró aceptable para 19 pacientes (38,7%), bueno para ocho (16,3%), poco conocimiento para 13 (26,5%). e insuficiente para nueve (18,3%). Conclusión: es importante identificar el perfil de los pacientes tratados y su conocimiento sobre EAC con miras a establecer etrategias educativas apropiadas para esta población, enfocando en el control de los factores de riesgo. Además, se busca enfrentar mejor la enfermedad y mejorar la calidad de vida.

Palabras clave: Enfermería Cardiovascular; Enfermedad de la Arteria Coronaria; Educación en Salud; Enfermedades Cardiovasculares; Evaluación en Enfermería.

INTRODUCTION

Chronic Noncommunicable Diseases (CNCDs) have stood out worldwide for their growth over the years. Data from the World Health Organization (WHO) show that the CNCDs are responsible for, at least, 38 million annual deaths.[1] Among the CNCDs, cardiovascular diseases (CVDs), especially cerebrovascular diseases and ischemic heart diseases, play an important role because they are associated with premature deaths. This aspect is directly related to the growing socioeconomic impact of the CVDs. It is a disabling disease, considered a public health problem, which increasingly affects working-age adults. In Brazil, the costs related to hospitalizations due to CVD are the highest.[2,3]

Because it is a multi-factorial disease, the CVD approach includes the control of the modifiable risk factors. Integrated and sustainable strategies for disease prevention and control can help better self-perception of health and better coping by patients.[4] In this context, health professionals play an important role, especially when it comes to health promotion, with a view to global well-being. Health promotion should involve a set of requirements, including health education.[5]

The concept of health education should not be limited to the transmission of information only. The educational process is complex and involves several dimensions in the search for changes in attitude, better knowledge about the disease and especially the autonomy of individuals, so that they are able to participate in decisions about their health, family and community.[6]

For Nursing, health education stands out as one of the main guiding axes of the practice and is directly related to the quality of provided care. The use of educational practices appropriate to the reality in which patients are inserted promotes the exchange of knowledge between nurse and patient, favors the development of critical awareness and individualizes the care provided.[7,8]

In the health education process, it is important to highlight the prior knowledge of the patients. In general, better knowledge about the disease, its signs and symptoms, lifestyle, associated risk factors and the proposed treatment promote better coping with the disease. To this end, some instruments can be used to measure the knowledge of these patients. These instruments are very valid for knowing the real needs of the patients, for the effects of educational activities to be measured and for the content of these activities to be appropriate to the patients' context.[9-11]

An American study[12] developed a questionnaire to assess heart disease knowledge for an adult population. Its use in other studies demonstrated the need to address CVD patients in continuing health education programs, with emphasis on primary control and prevention of risk factors.[13,14] In Brazil, the coronary artery disease education questionnaire, or Cardiovascular Artery Disease Questionnaire (CADE-Q), is an instrument built and validated in the country to assess the knowledge of patients with CAD about their disease.[15] This is an important questionnaire for the contextualization of the patients, especially when seeking to institute health education strategies.

Patients with CAD need effective approaches to risk factors, with the reinforcement or institution of healthy habits and the control of other aspects altered by the disease. Often, these are the strategies that will bring significant changes to these' patients health. Thus, investigating the knowledge of patients with CAD becomes relevant when thinking about appropriate strategies for coping with the disease. This study aimed to verify patients' knowledge about CAD through CADE-Q.

METHOD

A cross-sectional and descriptive study with a quantitative approach and intentional non-probability sampling. It was conducted in the hemodynamics sector and in the coronary unit of a public and teaching hospital in the inland of the state of *São Paulo*.

Adult patients treated in the hemodynamics sector before cardiac catheterization or admitted to the coronary care unit diagnosed with CAD during the stipulated period of data collection were included. The participants were characterized by means of sociodemographic data, which included age, gender, self-reported skin color, occupation, marital status, family income and education. Information regarding previous guidance and obtaining CVD educational materials was also obtained.

The knowledge level about CAD was obtained with the application of CADE-Q. The questionnaire was constructed and validated in Brazil, with good reliability (Cronbach's alpha = 0.68) and good internal consistency (intraclass correlation coefficient = 0.78). It is composed of 19 questions that address topics related to CAD, divided into the following areas: A1- pathophysiology, disease

signs and symptoms; A2- diagnosis, treatment and medications; A3- risk factors and lifestyle; A4- physical activities.[15] The questions are arranged randomly with four alternatives. Each one has a score according to the level of knowledge of the answer: correct alternative (three points), incomplete alternative (one point), wrong alternative (zero points) and the "I don't know" alternative (zero points). The sum of the scores of the 19 questions leads to a total score, which will indicate the degree of knowledge about CAD and in each specific area. With the maximum score set at 57 points, the level of knowledge is rated as:

- **51 - 57 points (90 – 100% of correct answers):** great knowledge
- **40 - 50 points (70 – 89% of correct answers):** good knowledge
- **29 - 39 points (50 – 69% of correct answers):** acceptable knowledge
- **17 - 28 points (30 – 49% of correct answers):** poor knowledge
- **Below 17 points (below 30% of correct answers):** insufficient knowledge

The questionnaires were handed to the subjects to be self-administered and answered manually at an appropriate time and place, after proper guidance.

Data was stored in a database in Excel (©Microsoft, Redmond, WA, USA) and analyzed in the R software version 3.4.3 and in Microsoft Excel 2016. The sample characterization was performed through absolute and relative frequencies and measures of central tendency (mean and median). A nonparametric test was applied to verify the existence of associations with the global CADE-Q score, with the Spearman's correlation test for quantitative characteristics and the Kruskal-Wallis test for the qualitative ones. The significance parameter in the final model was p<0.05.

This is a subproject of the study entitled "Cultural Adaptation and Validation of the Heart Disease Knowledge Questionnaire (HDKQ) for Brazilian Portuguese", with the approval of the institution's Research Ethics Committee (REC), respecting Resolution N° 466/2012 on the ethical aspects of research involving human subjects.[16]

RESULTS

The survey took place between May and August 2018 and included 49 patients with a mean age of 58.3 years old. Table 1 presents the sociodemographic characteristics of the study population, associated with the final CADE-Q scores. It can be observed that 57.1% of the participants were male, with a final score of 32.8. The final score of the female participants was 21.1, which revealed a significant difference (p≤0.001). Regarding

family income, 55.1% had a family income between two and five minimum wages (MW). The association between family income and the final CADE-Q score was borderline (p = 0.05), demonstrating a possible relationship between the variables. The years of study were, on average, 8.2 and a significant relationship was verified with the questionnaire final score (p = 0.001). More than half of the respondents (55.1%) reported not having received any prior CVD guidance.

Table 1 - Sociodemographic variables of the participants and association with the final score of CADE-Q. *Botucatu*, SP, Brazil, 2018 (n=49)

Variables	N(%)	Final score CADE-Q**	p**
Age	58.3 (11.12) *	–	0.58
Schooling years	8.2 (4.3) *	–	0.001
Gender			
Male	28 (57.1%)	32.8 (8.9)	p≤0.001
Female	21 (42.9%)	21.1 (12.9)	
Family income			
1 MW	15 (30.6%)	20.7 (14.2)	
2 to 5 MWs	27 (55.1%)	31.2 (9.1)	0.05
6 or more MWs	7 (14.3%)	29.7 (12.9)	
CVD prior guidance			
Yes	16 (32.7%)	28.1 (11.9)	
No	27 (55.1%)	26.3 (13.3)	0.78
Did not answer	6 (12.2%)	–	
CVD educational material			
Yes	09 (18.3%)	33.2 (7.4)	
No	34 (69.5%)	25.3 (11.8)	
Did not answer	06 (12.2%)	–	

* Mean and standard deviation.
** Spearman's correlation test and Kruskal-Wallis test.

Table 2 shows the patients' level of knowledge about CAD. According to CADE-Q, knowledge was considered acceptable for 19 patients (38.7%) and little for 13 patients (26.5%). Regarding the final score, the highest values indicating good knowledge were obtained by eight patients (16.3%), while the lowest final score was obtained by nine patients (18.3%), indicating insufficient knowledge.

Table 2 - Classification of the levels of knowledge about CAD according to CADE-Q. *Botucatu*, SP, Brazil, 2018 (n=49)

Level of knowledge	N(%)	Final score CADE-Q
Good	8 (16.3%)	42.8
Acceptable	19 (38.7%)	33.8
Little	13 (26.5%)	23.8
Insufficient	9 (18.3%)	7.2

Regarding the CADE-Q questions score, it can be verified that the lowest means occurred in questions 12, 10, 8 and 15. Regarding the questions answered correctly, considering the classification of three points, the lowest frequencies occurred in questions 11, 9 and 10. These values may indicate that there were more doubts in these questions, as observed in Table 3.

Table 3 - Distribution of score means by question and frequency of correct answers from CADE-Q. *Botucatu*, SP, Brazil, 2018 (n=49)

Questions	Mean score in the question	Number of correct answers (%)
02. Which factors combination most influences the development of CAD?	2.48	40 (70)
03. Which of the following is related to a typical CAD symptom?	2.44	39 (68)
04. Still about CAD, we can assert that:	1.97	32 (56)
19. What interventions used to treat CAD can prolong and improve patients' quality of life?	2.00	31 (54)
18. About stress, an element so present today, we can say that:	1.91	30 (52)
14. Physical activity for patients with CAD should:	1.87	27 (47)
16. Physical activity for people with CAD should be performed:	1.44	22 (38)
17. High blood pressure (BP) values indicate a state of hypertension (high pressure). Given this, in CAD:	1.40	21 (36)
07. What is the ideal treatment for lowering blood lipids (blood fat)?	1.46	20 (35)
05. The best time of day for patients with CAD to practice prescribed exercise is:	1.24	19 (33)
13. Based on your knowledge of exercise and CAD, answer:	1.42	18 (31)
01. Coronary Artery Disease (CAD) is:	1.44	16 (28)
12. If you experience any discomfort related to your heart problem, such as angina (chest pain), you should:	0.34	16 (28)
06. Of the tests listed below, which are the most accurate in diagnosing and prognosing CAD?	1.30	12 (21)
15. Which changes considered favorable, resulting from the regular practice of physical exercise, are most important for the patient with CAD?	0.91	12 (21)
08. About coronary vasodilators such as nitrites and nitrates, why and how should they be used?	0.81	12 (21)
10. Which values of total cholesterol, LDL and HDL are, respectively, ideal in patients with CAD (values in mg/dL):	0.77	9 (15)
09. What is the most recommended diet for patients with CAD?	1.00	3 (5)
11. What corresponds to an absolute contraindication to physical exercise?	1.44	2 (3)

Table 4 shows the correlation between the scores by area of knowledge and the final questionnaire score. The participants' performance in different areas of knowledge is statistically related to the final CADE-Q score (p<0.05).

Table 4 - Mean score by knowledge area and correlation between final and mean score by knowledge area. *Botucatu*, SP, Brazil, 2018 (n=49)

Area of knowledge	Maximum score	Mean score (SD)	p*
A1 - Pathophysiology, signs and symptoms	15	8.2 (4.1)	0.001
A2 - Diagnosis, treatment and medications	24	12.5 (5.9)	0.001
A3 - Risk factors and lifestyle	24	10.7 (5.6)	0.003
A4 - Physical activities	24	10.7 (5.8)	0.009
CADE-Q final score	57	27.7 (12.3)	

Source: own preparation. Data collected from this research.

DISCUSSION

Health education can be understood as a complex, multidimensional process that seeks to contribute to the development of critical awareness in individuals.[17] In this sense, it is necessary that the use of educational practices is aligned with the social, political, economic and cultural context of the population. These characteristics allow the educational practice to facilitate individual and community development, with a view to improving health conditions.[18]

The sociodemographic characteristics of this study participants' showed that gender and years of study were factors that influenced the knowledge about CAD. Some studies indicate the influence of education on cardiovascular health, which includes a better distribution of the risk factors in individuals with low schooling and more difficulty participating actively in treatment or self-care. Regarding the influence of gender, women tend to have better levels of cardiovascular health, mainly because they seek health services more often than men.[19-22]

Although the knowledge about CAD, according to CADE-Q, was not statistically influenced by the receipt of previous guidance and educational materials on CVDs, it can be observed that a high number of patients reported absence of such information. The use of educational materials, along with appropriate guidelines for the population, has been widespread and positively contributed to the improvement of risk factors, knowledge about the disease and adherence to the proposed treatment, especially when it comes to CVDs.[23-25] In addition, printed educational materials allow later reading and information sharing with other family members.

Regarding the level of knowledge according to CADE-Q, it was demonstrated that the population studied had little knowledge about CAD (mean final score of 27.7). This score is

lower than in other studies using CADE-Q[26-29] and highlights the need for restructuring educational processes aimed at this population. Patients with CAD need effective approaches to the risk factors, with the reinforcement or institution of healthy habits, as well as the control of other aspects altered by the disease. Often, these are the strategies that will bring significant change, and especially, well tolerated by patients.[30]

It is important to emphasize that these results should be interpreted with caution, as it is a non-probabilistic sample and by the characteristics of the health institution.

Knowing the context in which patients with CAD are inserted and their knowledge about the disease are essential stages when considering the establishment of appropriate educational strategies. In addition to contributing to a better understanding of the entire health-disease process, such strategies can assist in adherence and success of the proposed treatment, in the search for control and/or risk factors prevention and better quality of life of these patients.[31]

CONCLUSIONS

The study found that the patients had little knowledge about CAD, with a final mean CADE-Q score of 27.7. It was also shown that low schooling and being male negatively influenced the assessment of knowledge about the disease.

The identified gaps in the study were important, especially regarding the performance of the nurse. Developing educational activities strengthens individuals to promote their health and autonomy, in addition to promoting improved quality of life and the recognition of Nursing actions.

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