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ORIGINAL ARTICLE

FUNCTIONAL HEALTH LITERACY IN PATIENTS WITH ACUTE CORONARY SYNDROME

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ABSTRACT

Objective: To describe functional health literacy in patients with coronary artery diseases and analyze its correlation with educational level. Methods: Analytical descriptive study with a quantitative approach conducted in a cardiology hospital in Fortaleza, Ceará (CE), Brazil, from January 2015 to December 2018, with 76 participants. The Care Report Form was used for data collection and literacy categorization was performed using the Short Assessment of Health Literacy for Portuguese-Speaking Adults. Statistical analysis was performed in SPSS software using Pearson's chi-square test ($p<0.05$) for testing the relationships and cross-tabulation of the variables. Results: It was found that 85.5% of the participants had a low level of education and an inadequate level of functional health literacy. The p-value for the association between level of education and level of literacy was 0.890. Conclusion: Nurses' knowledge about aspects related to the management of self-care by patients is an important strategy for providing high quality care.

DESCRIPTORS: Cardiovascular diseases; Coronary Artery Disease; Cardiovascular Nursing; Health Literacy; Health education.

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INTRODUCTION

Due to multiple factors, cardiovascular diseases are the leading causes of morbidity and mortality in Brazil and worldwide. These conditions affect the proper functioning of the heart, causing severe disorders and major cardiovascular events, such as death resulting from Acute Myocardial Infarction (AMI)[1], and Acute Coronary Syndrome (ACS) is one of these pathologies.

ACS is a condition that affects the coronary arteries - the blood vessels that deliver oxygen and nutrients that are essential to the proper functioning of the heart muscle [2]. Patients diagnosed with ACS are prone to cardiovascular complications, and may have a poor prognosis. Primary and secondary prevention measures are essential for the promotion of the population's health, as they reduce hospitalization and death rates [3].

Therefore, to ensure adherence to best practices and a good outcome, patients with ACS must have proper knowledge about rehabilitation, treatment and pathophysiology. The set of information acquired empirically, or even scientifically, by patients defines the concept of functional health literacy (FHL) [4].

The concept of literacy refers to the process and ability of an individual, or a group of individuals, to learn to read and write, as well as to understand and interpret the information received daily in their social context. Functional literacy (FL) is directly linked to social practices and relationships and to the way that the subject relates to and benefits from these processes, according to their expertise, acquired in an empirical, pleasurable or didactic way [5].

Based on the English term Health Literacy, the term FHL was formulated. It is related to the ways in which individuals interact with their self-care process. The term Health Literacy emerged in the early 1970s, in the article "Health education as social policy", and in the late 1990s it was cited by the American Medical Association (AMA), in one of its reports, as a structured concept [5].

Because it is a neologism in Portuguese, there is still no consensus in Brazil on the term "Functional Literacy", and it is erroneously associated with literacy. However, it should be said that the terms FL and FHL, despite their different meanings, should be attributed to the capacity for critical thinking and interpretation, and not to literacy [6].

Based on this ideal, it can be seen that nursing care is a factor that enhances health education, increasing patient self-care and autonomy. Nurses play the role of educators in all areas of practice and, therefore, it is crucial that they are updated on new terms and emerging fields in the area of health education. FHL is currently a new area in which nurses play an active role.

Therefore, this study aims to describe the functional health literacy of patients with coronary artery diseases and analyze its correlation with educational level.

METHOD

Analytical descriptive study with a quantitative approach conducted in a cardiology hospital in Fortaleza, state of Ceará (CE), Brazil, in the inpatient unit. Data was collected by researchers and assistants of the Good Clinical Practice (GCP) program, from January 2015 to December 2018. It consists in a project developed by the hospital in partnership with the American Heart Association (AHA) and the Brazilian Society of Cardiology (SBC), with the participation of the Unified Health System (SUS).

In the study, 255 Care Report Form (CRF) forms of the BPC project from patients with an initial diagnosis of ACS were analyzed. After exclusion of forms with incomplete or no data, there were only 76 forms. Application of the Short Assessment of Health Literacy for Portuguese-Speaking Adults (SAHLPA-18) instrument was analyzed in these forms.

The SAHLPA-18, a short version of the health literacy assessment instrument, translated and validated to the Portuguese language, was applied during the patients' hospital stay, to measure FHL levels according to the following score, concerning the number of correct answers: inadequate literacy (zero to 14 questions) and adequate literacy (15-18 questions). Sociodemographic and clinical information was also collected through the CRF clinical form of the BCP program.

The collected data were used to construct a database in the Statistical Package for Social Sciences (SPSS) software, for statistical analysis. Pearson's chi-squared test ($p<0.05$) was used for testing the relationships and cross-tabulation of the variables.

All ethical principles involving research with human beings were observed, and the study obtained a favorable opinion and was approved by the Committee for Ethics in Research on Human Beings of the *Cor/ Associação do Sanatório Sírio*, São Paulo, Brazil under Protocol No. 1,469,920.

RESULTS

Regarding the sociodemographic profile, 48 (63.2%) patients were male; 68 (89.5%) declared themselves brown and 38 (50%) had an income greater than one and less than or equal to two minimum wages. The average age of the participants was 63 years. As for the clinical profile, 33 (43.4%) had ACS with ST-segment elevation; 24 (31.6%) ACS without ST-segment elevation and 19 (25%) had unstable angina. The main previous comorbidities of the participants are shown in Table 1.

Table 1 – Comorbidities associated to patients with ACS. Fortaleza, CE, Brazil, 2020

Previous Comorbidities*	n (76)	%
Systemic Arterial Hypertension (SAH)	60	78,9
Diabetes Mellitus (DM)	28	36,8
Dyslipidemia (DLP)	28	36,8
Previous AMI	14	18,4
Heart Failure (HF)	7	9,2
Dialysis IRC	4	5,3
Cerebral Vascular Accident (CVA)	4	5,3
Chronic kidney disease (CKD)	1	1,3
Atrial Fibrillation/Atrial Flutter	1	1,3
Valve Disease	1	1,3
Chronic Obstructive Pulmonary Disease (COPD)	1	1,3

*An individual patient may have more than one underlying condition.
Source: The authors (2020).

Regarding lifestyle, eight (10.5%) patients reported current smoking; 40 (52.6%) previous smoking; 12 (15.8%) current alcohol consumption; 26 (34.2%) previous alcoholism and one patient (1.3%) reported current use of illicit drugs. Regarding physical activities, only eight patients (10.5%) reported performing physical activities regularly (two or more times a week). Information on the level of education is shown in Table 2.

Table 2 – Educational level of patients with ACS. Fortaleza, CE, Brazil, 2020

Educational Level	n	%
Not literate	12	15,8
Incomplete Elementary Education	40	52,6
Complete Elementary Education	13	17,1
Incomplete Secondary Education	4	5,3
Complete Secondary Education	6	7,9
Complete Higher Education	1	1,3
Total	76	100

Source: The authors (2020).

As for the level of literacy, based on the analysis of 76 questionnaires, it was found that the great majority of patients completed the short assessment of FHL inappropriately: 65 (85.5%) participants had an inadequate FHL level and 11 (14.5%) an adequate FHL level. The association between educational level and FHL level is shown in Table 3.

Table 3 – Association between educational level and FHL level. Fortaleza, CE, Brazil, 2020

Educational Level	Level of FHL		p-value*
	Inadequate n (%)	Adequate n (%)	
Not literate	10 (83,3)	2 (16,7)	p=0,890
Incomplete Elementary Education	33 (82,5)	7 (17,5)	
Complete Elementary Education	12 (92,3)	1 (7,7)	
Incomplete Secondary Education	4 (100)	0 (0)	
Complete Secondary Education	5 (83,3)	1 (16,7)	
Complete Higher Education	1 (100)	0 (0)	
Total	65 (85,5)	11 (14,5)	

*Pearson's chi-square test.
Source: The authors (2020).

DISCUSSION

The predominant profile of the sample is the standard profile of patients with ACS, with regard to national surveys: men with coronary artery disease with ST-segment elevation, mean age of approximately 63 years, brown, with incomplete elementary education and income greater than one and less than or equal to two minimum wages[2-3].

Regarding clinical characteristics, the most prevalent risk factors observed (Table 1) in the sample were hypertensive, diabetic, dyslipidemic patients with a history of acute myocardial infarction (AMI). In addition, most of these individuals had these and/or other comorbidities associated with a cardiovascular disease process.

An integrative review that compared the clinical and demographic profiles of patients with AMI in the Brazilian territory revealed similar data regarding the associated comorbidities, as follows: in the Northeast region, 40.5% was related to DLP and 52.4% to SAH: in the Southeast region, 29% related to DLP and 58.1% to SAH. The prevalence rates of DLP and SAH are generally maintained [7].

As for lifestyle habits, 63.1% of the respondents reported smoking or having smoked cigarettes; 50% drink or have drunk alcohol. Information bias may occur, as the data was reported by the participants, and omissions or non-reliable answers may result from the social stigma involved.

In addition to the high rates of smoking and alcohol consumption, the study found that only a small percentage of the respondents performed some type of regular physical exercise, showing poor adherence to good practices and risk behavior, since alcohol and/or tobacco consumption, as well as a sedentary lifestyle, impair the functioning of the cardiovascular system [8].

Education level assessment (Table 2) showed that only a small percentage of the respondents managed to complete secondary education and more than half of the sample had incomplete elementary education. A study carried out in the Southeast region of Brazil that aimed, among other things, to assess FHL in patients with type 2 Diabetes Mellitus, found that most participants also had only incomplete elementary education. With the use of SAHLPA-18, the authors of the referred study also found that more than half of the participants (53.9%) obtained poor outcomes in the completion of the instrument [9].

However, in this study, regarding the association between FHL and education variables (Table 3), the inadequate literacy level of the participants, regardless of their educational level, was found to be similar, as no significant results were found (p=0.890) to associate these outcomes in a directly proportional way.

Corroborating the abovementioned, a recent Brazilian study revealed that patients with a high level of education, which could presuppose considerable literacy, had a low level of FHL, with risk behavior and non-compliance with preventive and therapeutic measures during the self-care process [10]. Therefore, health education interventions by nurses should be carefully examined, as they are supposed to take into consideration the social and cultural characteristics of the individuals, not generalizing strategies and considering all relevant factors.

The introduction of a prior literacy assessment is suggested, so that educational methodologies that optimize the communication of the nurse-patient dyad can be chosen. Measures tailored to address the results of each group should be developed, so that health professionals can adjust their language and/or communication tools to the needs and skills of patients more susceptible to difficulties in absorbing and assimilating information [11].

A study with patients with chronic kidney disease undergoing pre-dialysis treatment revealed the difficulty of FHL-related investigation, due to the lack of national descriptions

to support the study. On the other hand, the importance of nurses intervening in the processes and limitations of users to improve and strengthen their skills, as well as for assertive decision-making in the health-disease process, was emphasized [12].

The success of nursing care is also related to the self-care that each patient must adopt after the deinstitutionalization process. Nurses are often the health professionals who guide patients about their routines regarding the use of medication, food, care in daily activities, physical activity and signs and symptoms of their diseases after receiving a new diagnosis, such as cardiovascular events [13].

To ensure a consistent and effective action, education and updating, at first of the health professionals themselves, is required, since the field of recognition/measurement of FHL levels of patients or the population assisted is still incipient, and also due to the lack of a supportive relevant literature in Brazil.

A study reinforces this statement, explaining that low FHL in the elderly is directly linked to non-adherence to drug therapy and stresses that nurses, by improving their knowledge on the subject, undergoing proper training and collaborating with the best practices for the treatment of patients, play the most important role to change this scenario[14].

Therefore, the nursing consultation, an activity carried out exclusively by nurses, was regulated in Brazil by Law No. 7.498/86 (professional practice), emerges as an opportune moment to encourage adherence to self-care and increase FHL. This action aims to guide and hence improve assertive decision-making to increase physical well-being, and to develop critical thinking for patients beyond the hospital environment.

It should be stressed that the understanding of the profile of patients associated with the level of FHL contributes significantly to the definition of the health actions to be developed. According to a study, in their health education activities, health professionals should consider sociodemographic and health variables related to the population's FHL, as each individual seeks, understands and uses information in their own way[15].

Thus, when the referred factors and the uniqueness of the subjects are considered, the educational work of nurses provides all patients with effective access to and use of information, consequently minimizing health conditions and vulnerabilities to the population's health [15].

The educational role is extremely relevant in these contexts, considering the potential and emerging risk of major cardiovascular diseases and events related to ACS. It should be noted that flow issues, logistics of access and late search for health services contribute to disease worsening, a poor prognosis for recovery and overcrowding of cardiology referral centers.

Therefore, this study also suggests raising awareness on the theme, which has not been sufficiently approached, as a measure to cope with the situation of patients with ACS, reducing the negative impacts on health conditions over the years of treatment [10].

Some limitations of the present study include the small sample size, the lack of studies on FHL in cardiovascular nursing and the reliability of the responses generated from the participants' reports when answering questions that generally involve stigmatizing attitudes, which can lead to misrepresentation of statements or concealment of relevant information for fear of judgment.

CONCLUSION

A large number of participants obtained inadequate FHL index, and there is no direct

association with this outcome and their level of education. This factor draws attention to bias and mistaken inferences of health professionals when they categorize the patients solely and exclusively as capable or not of managing their health-disease process and self-care practices based on their level of education.

The study provides contributions that reinforce the need for longitudinal care by health professionals to patients with ACS, in order to avoid complications and promote adaptive strategies for health maintenance and responsible self-care.

The role of nursing in the organization of educational processes is highlighted here, and nurses should be prepared for this action in the early stages of their professional training. The present study also supports reflections on the importance of investigating FHL as part of data collection for the development of cardiovascular health care by nurses.

This study raised the reflection that nursing assessment to identify weaknesses in the management of patient self-care should not infer that low level of education alone is associated with inadequate health literacy. Experimental studies aimed to assess the impacts of FHL investigation on the maintenance of the health of individuals with cardiovascular diseases in the medium and long term, and the development of a specific instrument to assess FHL in the context of cardiovascular diseases are recommended.

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Role of Authors:
Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work - Costa FAS da; Drafting the work or revising it critically for important intellectual content - Costa FAS da, Frota KC da; Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved - Costa FAS da. All authors approved the final version of the text.

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