

PROFILE OF PATIENTS WHO RECEIVE CARDIAC CATHETERIZATION: SUPPORT FOR PREVENTION OF CARDIOVASCULAR RISK FACTORS

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ABSTRACT: This descriptive, transversal study, with a quantitative approach, aimed to identify the profile of the patients who received cardiac catheterization in the Interventional Cardiology Department in a teaching hospital. For a period of six months, the procedures were monitored using a checklist-type questionnaire. The study included procedures scheduled for patients receiving inpatient and outpatient treatment in the hospital, excluding emergency procedures. The results indicated the predominance of male patients, patients aged between 62-69 years old, hypertension, dyslipidemia and diabetes. The identification of the profile contributes to the development of prevention strategies against risk factors for coronary artery diseases and, in this regard, the work of the nursing team becomes decisive.

DESCRIPTORS: Health profile; Patients; Cardiac catheterization; Nursing.

PERFIL DE PACIENTES SUBMETIDOS AO CATETERISMO CARDÍACO: SUBSÍDIO PARA PREVENÇÃO DE FATORES DE RISCO CARDIOVASCULAR

RESUMO: Este estudo descritivo, transversal e de abordagem quantitativa teve como objetivo identificar o perfil dos pacientes submetidos ao cateterismo cardíaco em serviço de hemodinâmica de hospital de ensino. Durante seis meses os procedimentos foram monitorados através de formulário tipo checklist e foram incluídos no estudo procedimentos agendados de pacientes internados no hospital e de procedência ambulatorial, e excluídos procedimentos de urgência/emergência. Os resultados apontaram a predominância de pacientes do sexo masculino, com idade entre 62-69 anos, hipertensão, dislipidemia e diabetes. A identificação do perfil contribui para o desenvolvimento de estratégias de prevenção de fatores de risco para doenças arteriais coronarianas e, nesse sentido, a atuação da equipe de enfermagem se torna decisiva.

DESCRIPTORIOS: Perfil de saúde; Pacientes; Cateterismo cardíaco; Enfermagem.

PERFIL DE PACIENTES SOMETIDOS AL CATETERISMO CARDÍACO: SUBSIDIO PARA PREVENCIÓN DE FACTORES DE RIESGO CARDIOVASCULAR

RESUMEN: Este estudio descriptivo, transversal y de abordaje cuantitativo tuvo como propósito identificar el perfil de los pacientes sometidos al cateterismo cardíaco en servicio de hemodinámica de hospital de enseñanza. Durante seis meses, los procedimientos fueron acompañados por medio de formulario tipo checklist y fueron incluidos en el estudio procedimientos agendados de pacientes internados en el hospital y de procedencia ambulatorial, y excluidos procedimientos de urgencia/emergencia. Los resultados apuntaron la predominancia de pacientes del sexo masculino, con edad entre 62-69 años, hipertensión, dislipidemia y diabetes. La identificación del perfil contribuye para el desarrollo de estrategias de prevención de factores de riesgo de enfermedades arteriales coronarianas. Considerando esas cuestiones, la actuación del equipo de enfermería se vuelve decisiva.

DESCRIPTORIOS: Perfil de salud; Pacientes; Cateterismo cardíaco; Enfermería.

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INTRODUCTION

According to the World Health Organization (WHO), approximately 75% of all cardiovascular diseases (CVD) can be attributed to modifiable risk factors such as smoking, alcoholism, hypertension, dyslipidemia and obesity. Among the non-modifiable factors are the advance in age and being male⁽¹⁾.

It is known that in 2008, of the 57 million deaths worldwide, 36 million were caused by non-communicable diseases – and that of these, more than 17 million people died from CVD; this represents 30% of deaths worldwide, being one of the main causes of death and disability⁽²⁾.

In 2030, almost 23.6 million people will die from CVD, and more than 3 million of these deaths will occur before the age of 60 years old. Although many of these deaths are avoidable, their proportions continue to increase, principally due to inadequate preventive measures⁽³⁾.

In 2007, the main cause of mortality in Brazil was noncommunicable diseases (72%), including the cardiovascular diseases⁽⁴⁾. Currently, the ischemic coronary diseases are the most evidenced; in 2010, their specific rate of mortality – deaths per 100,000 inhabitants – was 52.4⁽⁵⁾. Due to its high incidence and mortality, coronary artery disease (CAD), responsible for ischemic manifestations which initiate an acute coronary syndrome, must be diagnosed early⁽⁶⁾.

CAD presents several clinical manifestations; a thorough evaluation is therefore necessary to confirm it or not. Its manifestations include severe obstructions in the coronary arteries without the presence of symptoms, situations of stable and unstable angina, Acute Myocardial Infarction (AMI) and complaints of non-specific chest pain. In various clinical situations of the disease it is necessary to investigate the arterial pattern and ventricular function to define the best treatment. In this context, cardiac catheterization is indicated⁽⁷⁾; a procedure in which catheters, under local anaesthetic, are introduced into peripheral arteries or veins leading to the heart, for the purposes of diagnosis, termed angiography, and the therapy, called Percutaneous Transluminal Coronary Angioplasty (PTCA) for CAD⁽⁸⁾.

Due to the large proportion of individuals affected by CVD, especially that of ischemic etiology and related factors, it is essential to

know the profile of the patients who receive the procedure of catheterization, such that CAD may be better explained and that the health professionals may develop prevention strategies for such factors, especially those which can be modified. In this regard, it falls to the nurse, as part of the multi-professional team, to implement preventive actions for the appropriate management of CVD⁽⁹⁾.

The transformations which have occurred in the Brazilian epidemiological profile, with a greater number of non-communicable diseases, are a consequence of urbanization, changes in lifestyle, and globalization^(6,10). However, the majority of the illnesses must not be seen as the inevitable result of the current model, but rather as something which can be prevented - and generally at little cost⁽¹⁰⁾.

In this context, this study aims to identify the profile of the patients who received diagnostic and therapeutic catheterization in the interventional cardiology department in a teaching hospital, such that the risk factors for the population attended may be known, contributing to the carrying out of measures for preventing health problems for these individuals.

METHOD

This is a descriptive, transversal study, with a quantitative approach, undertaken in an interventional cardiology department in a teaching hospital. The following inclusion criteria were established for the study: the diagnostic and therapeutic procedures of cardiac catheterization, for patients receiving inpatient treatment or being treated in the outpatient department; and as exclusion criteria, emergency procedures.

Data collection was made up of all of the patients who underwent the procedure of diagnostic or therapeutic cardiac catheterization during February – July 2012, using a checklist-type instrument previously developed in accordance with related literature, and subdivided in items which covered the aspects related to the characterization of the patients and their risk factors.

During the research period, 255 procedures were undertaken, of which 214 were part of the study, which corresponds to a sample with 2.69% error and 95% confidence. The software R 2.9.0 and the TamAmostra.r application were used in this calculation.

The analysis was undertaken using simple descriptive statistics. The categorical variables are expressed with absolute frequencies and percentiles and the continuous variable is described by the median, quartiles, mean, standard deviation and variance.

The project was approved by the Committee for Ethics in Research in Human Beings under record n. 2650.257/2011-11.

RESULTS

The profiles of 214 patients were analyzed; of these, 114 (53.3%) were male and 100 (46.7%) were female.

In the sample studied (n=214), the most commonly undertaken procedure was diagnostic catheterization (82.2%). Therapeutic catheterization, or angioplasty, was undertaken in 38 patients (17.8%). Regarding origin, (57%) were from inpatient units, and (43%) were being treated on an outpatient basis.

The main diagnosis presented by the patients was CAD, representing 42.5% of the sample; however, a significant number of patients undertook the procedure for investigative reasons (38.3%).

In relation to associated comorbidities, the factors which stand out were Systemic Hypertension (SH) in 82.2% of the patients, followed by dyslipidemia (DSLIP) (61.2%), diabetes (41.1%), ex-smokers (39.2%) and smokers (18.2%).

The ages were grouped in categories by quartiles, varying between 28 (minimum) years old and 90 (maximum) years old, with the first quartile (Q1) being 55 years old, median 61 years old, third quartile (Q3) 69; a mean of 61.6 years old \pm 1.45, with a confidence interval of 95%; standard deviation of 10.8 years and variance of 117.7. The highest concentration of people was in the age range 62 – 69 years old (n=63), making up a total of 29.4% of the sample.

DISCUSSION

In this study, it was observed that the most prevalent risk factor that preceded the undertaking of the diagnostic and therapeutic catheterization was SH, followed by DSLIP and Diabetes Mellitus (DM), with most of the patients being male (53.3%) aged between 62 – 69 years old.

It is observed that this last aspect is also found in studies on the profiles of patients who receive the catheterization procedure, in a percentage of 65% with a focus on PTCA(11), and 51.4% in a study focusing purely on diagnostic catheterization⁽¹²⁾. The factor of advanced age, of 60 – 69 years, was also prevalent in both the studies⁽¹¹⁻¹²⁾.

Despite the fact that male gender is an important risk factor, due to the high proportion of women who received the procedure of cardiac catheterization in this study (46.7%), it must be emphasized that female gender, associated with advanced age, has a significant impact on cardiovascular function; furthermore, risk factors such as diabetes and dyslipidemia contribute to the increase of risk of cardiovascular diseases in this group. However, the physiological reasons for this, principally after the menopause, have not yet been totally explained⁽¹³⁾. In addition to this, the inequalities related to gender in the distribution of resources between: healthcare, adequate food and income are associated with poor health in this specific population⁽¹⁴⁾.

SH and dyslipidemia, on the other hand, are addressed in the hemodynamics laboratory as risk factors for CAD in inpatients⁽¹⁵⁾. Associations may also be made between these risk factors. SH, for instance, is observed in the literature associated with the diagnosis of DM and dyslipidemia. Equally, cardiovascular events are more frequent in hypertensive patients⁽¹⁶⁾. Regarding SH and gender as prevalent factors in this research, they were also found in the literature, in which hypertension in the male population is very common⁽¹⁷⁻¹⁸⁾, it also being observed that this is a population which has greater difficulty in adhering to treatment⁽¹⁸⁾.

According to the WHO, hypertension contributes in approximately half of all cardiovascular diseases, being the main factor for ischemic heart diseases, along with DM. In the same way, dyslipidemia increases the risk of coronary artery disease^(1,19).

In the light of the above, in which SH is an important risk factor for the individuals with coronary diseases, it is noted that addressing it must be prioritized at all levels of health care, principally in primary care, in which the prevention of health problems and the promotion of health is the key focus. Hence, studies

which demonstrate this context, whether in the identification of profiles or in the identification of non-adherence factors⁽²⁰⁾, contribute to a better clarification of this panorama.

The risk factors, generally speaking, are easy to identify and are easily avoided or controlled. Considering this, one of the nurse's responsibilities is health education, this being an important prevention strategy, which allows the population's re-education regarding CVD, mainly regarding the changing of habits as one of the most efficient ways of maintaining cardiovascular health⁽⁹⁾.

Knowledge of all the factors mentioned is relevant, and confirms the findings in the literature, which remain insufficient, in relation to the profile of patients who undergo cardiac catheterization. In this way, clarifying the questions related to the profile of patients who undergo a procedure, whether diagnostic or for treatment of the coronary arteries, brings benefits for the entire population inserted in a characteristic context subject to the various comorbidities of CAD. Furthermore, knowledge of the cardiovascular risk factors can improve the nurse's professional practice, benefitting health care, with a view to the prevention of health problems.

However, it is considered that due to this study being limited - in that it does not include all the procedures which took place in the sample - it did not favor a global analysis of the population studied.

CONCLUSION

This study evidenced that the profile of the patients who underwent diagnostic and therapeutic cardiac catheterization was made up of male patients with hypertension, diabetes and dyslipidemia.

As a result, the identification of this profile contributes to the development of strategies for the prevention of risk factors for coronary artery diseases. In this regard, emphasis should be placed on the importance of the nursing team in the recognition of the risk factors for cardiovascular diseases and, later, in the construction of means for confronting and reducing the risk factors.

The participation of the health team throughout the health process is relevant, and in relation to the prevention of CVD, education in health translates into policies of basic actions for the affected individual

in the process of falling ill. In this aspect, the nurse, as a person responsible for health education at all the levels of health care, has a unique strategy; however, this tool must be valued more in the nurse's work process, considering the innumerable possibilities which are there to be explored.

Nevertheless, one must consider that the prevention of risk factors is not only associated with the nurse's conducts in relation to the patient cared for, but also to the participation of the entire family and the patient's involvement with his or her own health, bearing in mind that the patient must be considered the center of the health care. For this, the nurse must be an articulator and promoter throughout this context, as she facilitates the achieving of goals previously established jointly with the patient, which aim for the quality of life, through the efficacious control and/or prevention of modifiable risk factors.

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