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PERCEPTION OF EMERGENCY NURSES IN USING A CHEST PAIN ASSESSMENT PROTOCOL

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ABSTRACT: A qualitative and descriptive study aimed at identifying the perception of nurses at the emergency service of a hospital in Southern Brazil on the use of a nursing protocol for classifying chest pain, implemented at a private hospital in the Brazilian Southeast. The protocol considers, among others, the characteristics of the chest pain, risk factors and flowcharts that lead to the nursing action of classifying the risk. Seven nurses participated in the study through semi-structured interview, between January and February 2014. For the data analysis, Content Analysis was used. The results reveal a consensus among nurses that the protocol prioritizes care; identifies risk factors for acute myocardial infarction more easily and identifies the type of pain. The lengthiness and time consumption were revealed as negative considerations. For the nurses, the protocol is applicable to the service as it supported their conduct.

DESCRIPTORS: Chest pain. Acute myocardial infarction. Assistance in nursing. Risk classification. Protocols.

PERCEÇÃO DOS ENFERMEIROS DE EMERGÊNCIA NA UTILIZAÇÃO DE UM PROTOCOLO PARA AVALIAÇÃO DA DOR TORÁCICA

RESUMO: Estudo qualitativo, descritivo que objetivou identificar a percepção de enfermeiros do serviço de emergência de um hospital do Sul do Brasil sobre a utilização de um protocolo de enfermagem para classificar dor torácica, protocolo esse, já implementado em um hospital privado localizado na região sudeste brasileira. Contempla, entre outros, as características da dor torácica, fatores de risco e fluxogramas que conduzem a ação do enfermeiro ao classificá-la. Participaram do estudo sete enfermeiros por meio de entrevista semiestruturada, em janeiro e fevereiro de 2014. Para análise dos dados utilizou-se a análise de conteúdo. Os resultados apontam consenso entre os enfermeiros de que o protocolo prioriza o atendimento, identifica mais facilmente os fatores de risco para Infarto Agudo do Miocárdio e, também, o tipo de dor. Como considerações negativas apontam ser extenso e demorado. Para os enfermeiros, o protocolo é aplicável ao serviço, pois proporcionou respaldo em sua conduta.

DESCRIPTORIOS: Dor torácica. Infarto Agudo do Miocárdio. Assistência em enfermagem. Classificação de risco. Protocolos.

PERCEPCIÓN DE ENFERMEROS DE EMERGENCIA EN LA UTILIZACIÓN DE UN PROTOCOLO DE EVALUACIÓN DEL DOLOR TORÁCICO

RESUMEN: Estudio cualitativo, descriptivo que objetivó identificar la percepción de enfermeros del Servicio de Emergencias de un hospital del Sur de Brasil sobre la utilización de un protocolo de Enfermería para clasificar el dolor torácico, implementado en un hospital privado de la región sureste de Brasil. Contempla, las características del dolor torácico, factores de riesgo y flujogramas, que conducen a la acción de enfermeros para clasificar el riesgo. Participaron del estudio siete enfermeros por medio de entrevista semi-estructurada, en enero-febrero del 2014. Para el análisis de datos se utilizó el análisis de contenido. Los resultados revelan consenso entre los enfermeros de que el protocolo prioriza el atendimento, identifica más fácilmente los factores de riesgo para el Infarto Agudo de Miocardio e identifica el tipo de dolor. Como consideraciones negativas destacan ser extenso y demorado. Para los enfermeros el protocolo es aplicable al servicio, pues proporcionó respaldo en su conducta.

DESCRIPTORIOS: Dolor torácico. Infarto Agudo de Miocardio. Asistencia en enfermería. Clasificación de riesgo. Protocolos.

INTRODUCTION

Chest pain is appointed as one of the main complaints in patients seeking emergency care. According to studies by the Brazilian Society of Cardiology, it is estimated that about four million people are attended due to chest pain per year in Brazil. Between 5 and 15% of the patients mentioning chest pain are diagnosed with Acute Myocardial Infarction (AMI), that is, in relative data, 400 thousand per year in Brazil.¹

Considering that this pain is a classical symptom of Acute Coronary Syndrome (ACS), which requires doubled attention. Nurses working in risk classification at an emergency service need to heed chest pains, whose origins may include a cardiac ischemia and, in view of its subjectivity, assessing and classifying chest pain is not an easy task. Therefore, in this case, identifying the severity in the classification should be done quickly and the service should be specialized, as time is a determinant factor for successful care.²

In this context, the care protocols emerge as a care technology and tool to support nursing practice, which respond to the nurses' needs for decision making during risk classification.

Concerning the coronary events, the reduction of cases like AMI in ACS occurs through the use of evidence-based guidelines. The use of clinical protocols is useful to further the quality of care.³

Nowadays, in Brazil, specifically regarding nursing professionals' practice, there is a lack of studies on the use of tools that support the professionals' conduct, the protocols. The use of protocols in health grants an evolution to care, as their goal is to provide the professionals with scientific background. The adoption of this technology for health care promotes significant improvements in care.⁴

Welcoming with Risk Classification (WRC) emerged to better coordinate the order of care, excluding the order of arrival and including the classification of the severity or associated risk factors predisposing to a possible life-threatening risk. For the sake of risk classification, the work of a baccalaureate nurse is needed, fitted with a protocol to support the conduction of the case and assess its gravity or potential worsening. The care protocols systemize the professionals' actions and are fundamental for the actual risk classification and assessment of patients' vulnerability.⁵

In line with the context of the problem, that is, the risk assessment by nurses in cases of chest pain assessment, the following research question

emerges: How do the nurses from a Hospital Emergency Service perceive the use of a specific chest pain assessment protocol during risk classification? In that perspective, the objective in this study was to identify the perception of nurses from a hospital emergency service in the use of a specific nursing protocol for chest pain assessment.

METHOD

A qualitative and descriptive study was undertaken during WRC at the Emergency Sector of a university hospital in the South of Brazil. At the time of the study, the service used for Risk Classification purposes a tool that a medical professional from the institution adapted from the Manchester⁶ protocol. Since the implementation of WRC about three years earlier, there has been a consensus between the medical and nursing teams to use the tool. This adapted tool is common for all complaints the patients refer.

Between January and February 2014, a chest pain assessment protocol was used at the service: the Cardiology Nursing Screening Flowchart Protocol. This tool has been used at a referral health care service, the *Hospital Israelita Albert Einstein* (HIAE), since 2010, to recognize cases of acute coronary syndrome predisposing to sometimes irreversible damage early.

The nurses working at the emergency service of the hospital participated in the application of the protocol, according to the following inclusion criteria: being a tenure nurse or nursing resident at the institution; working at the WRC service and being professionally active at the time of the data collection. Each nurse received the chest pain assessment protocol. Next, after providing proper orientations for its use, they were asked to apply it to patients whose main complain to visit the service was chest pain.

For the data collection, semistructured interviews were used, addressing questions related to the potentials and weaknesses of presenting and applying the protocol. All interviews were audiotaped and transcribed. To analyze the data, content analysis was used.⁷

The study complied with the ethical principles of National Health Council Resolution 466/2012 and received approval from the Research Ethics Committee at *Universidade Federal de Santa Catarina* (UFSC) under protocol 12.494 and from the research institution. To preserve the participants' secrecy and anonymity, they were identified as nurse (N), followed by a number from 1 to 7.

RESULTS AND DISCUSSION

Seven nurses participated in this study, all female, four of whom are tenured and three residents. Ages ranged between 26 and 38 years, with an average age of 30 years. The length of experience in the profession ranged between two and sixteen years, with an average of seven years. In emergency care, the length of experience ranged between one and four years, with an average of three years. Concerning education, six nurses hold a specialization degree and four are taking a Master's program. The institution encourages professional education in short and long-term programs like the Multiprofessional Master's program implemented in 2011 at the hospital, affiliated with the UFSC.

The results reflect the nurses' perception in using the HIAE chest pain protocol for classifying the 67 cases of chest pain in this study. Consequently, the following categories emerged: Using a new protocol; Adapting to the new tool; Comparing the tools.

In the category Using a new protocol, the nurses assessed the use of the tool, addressing positive and negative aspects. Concerning the positive aspects, all nurses mentioned that the use of the protocol granted better conditions to conduct the therapeutics and care delivery to patients with chest pain. The tool prioritized care for ACS and AMI, permitted a clearer identification of the risk factors and was easy to apply. These perceptions can be evidenced in the following statements:

It permits a service time that prioritizes patients with symptoms compatible with acute coronary syndrome... (N1).

[...] I think it helps anyway, it further qualifies the screening because it identifies more risk factors or not... (N3).

The tool was important; it offered better guidance for the conduct in doing the welcoming (N6).

Nowadays, in Brazil, there is an increasing demand of patients who visit the emergency services, sometimes causing a work overload for the multiprofessional team. Nevertheless, the increasing demand also calls for nursing care adapted to the new health technologies that need to be adapted daily to the structure of each service.⁸

Clinical care protocols are considered health technology tools, to the extent that they establish criteria or recommended conducts for the problem in question.⁹ They are scientifically founded care technologies to help the health professional during clinical practices. Nevertheless, the benefit expected

from this resource for patient health care has been impaired by the limited studies in Brazil focused on this technology, mainly in nursing.¹⁰ To correctly assess and manage chest pain, the application of a protocol and continuing education is fundamental to better support the nurse's actions.¹¹

All nurses assessed the advantages of using this protocol positively. The professionals affirmed that using this protocol provided a more correct and qualified risk qualification with easier identification of the type of pain. The care protocol used during the risk qualification defines the steps of the care flow better, besides making the service more organized, humane and safe.⁸

Chest pain is an important clinical finding to investigate the patient's possible disorder and define the diagnosis. The literature on the assessment of the so-called fifth vital sign, pain, has expanded for nurses in the last decade. Nevertheless, pain assessment remains a challenge for nurses during risk classification, as the act of measuring this symptom is related to observation, qualified listening and, above all, believing in the referred pain complaint.¹² It is fundamental to relate the risk factors with the pain description which, generally in case of AMI, is referred to as strong, burning, clamping, oppressing or suffocating and longer than 30 minutes, with possible irradiation to the arms, jaw, neck or stomach. For this identification to be grounded, the use of clinical protocols becomes fundamental.¹³

In more uncommon cases, which are considered atypical, as described in the HIAE protocol, the patient may be presenting breathing difficulties, nausea, vomiting, vertigo, fainting, cold sweat and pallor. Nevertheless, the symptoms can be mild in atypical cases.¹³

The range of clinical conditions that produce chest pain demands a rapid classification to extend the prognosis of these patients, who often may be developing ACS. Nevertheless, studies appoint that chest pain is present in 70% of AMI cases.¹⁴

According to studies by the American Heart Association, the protocols are essential for the safe assessment of chest pain cases, as they help with the immediate hospitalization of severe cases and the identification of the so-called cases of low-cost chest pain, without a severe diagnosis. Although most patients with chest pain are not diagnosed with a life-threatening condition, the nurse needs to distinguish them from patients in need of emergency treatment.¹⁵

Three nurses made observations when assessing the negative aspects of using the protocol. Two

of them mentioned aspects related to the structure, format and forwarding flows, which will be discussed further ahead in another category. Only one nurse reported that she would not indicate the electrocardiogram (ECG), as the nursing professional is not allowed to request this test at the place of study, as opposed to the HIAE, where the protocol was developed.

Due to the high degree of cardiovascular mortality, during the risk classification, the nurse needs to prioritize care for the chest pain.¹⁶ Therefore, on average, eight minutes of care are needed between the patient's arrival at the emergency service and the ECG, with a view to reducing the time between arrival, diagnosis and treatment. Most cases of death by AMI happen during the first hours after the onset of the symptoms, between 40 and 65% during the first hour and approximately 80% during the first 24 hours.¹⁷ In conclusion, when supported by a validated and institutionalized protocol, the routine request of an ECG becomes feasible for nurses, similar to what happens at the HIAE.

There is a clear need to implement a chest pain assessment and classification protocol as, when the nurse indicates the ECG after the risk classification, she speeds up the process and avoids any delay in the diagnosis.¹¹ Ratifying this need, the Brazilian Society of Cardiology¹ considers that it is fundamental for the diagnosis of AMI through ECG to be done within 10 minutes after the patient's arrival, paramount to start the appropriate therapeutics. Hence, to the extent that the protocol is institutionalized, the roles of the health team members are better defined and supported. Through the relevance of chest pain, its social and economic importance, studies on the construction of nursing protocols remain scarce, which justifies the deficient analysis of the data on the nurses' activities in response to patients with these symptoms at the emergency services.¹¹

There are few Nursing studies that address care protocols, mainly in acute situations in emergency care, and particularly for ACS.¹⁰

The second category Adapting to the new tool presents the nurses' perception concerning the distribution of the assessment of the structure, format and forwarding flows in the protocol: Cardiology Nursing Screening Flowchart at HIAE.

Regarding the structure and format according to the nurses, the document is extensive when compared to what is currently adopted at the institution, as highlighted in the following statements:

That is a bit lengthier... it's big I think... to use, like, quickly it's kind of big (N5).

I found it a bit long... our model is much more objective. It takes time for us to ask all of those questions (N3).

On the opposite, N5 also affirms: *it helps a lot when making decisions, it actually brings the motive, it brings the basic things you need to ask the patient, to see if the pain is typical, atypical... it's self-explanatory (N5).*

Although longer than the current protocol, the research tool addresses a more detailed view of the patient with chest pain's possible clinical condition. This factor, perceived as negative in principle, can be a differential in the chest pain risk classification, making the nurse feel secure to broadly assess the pain and mainly agile in care to the extent that it solves the health professional's doubts, who can identify a severe clinical condition faster. The fast and correct assessment of the chest pain since the patient's arrival at the hospital interferes not only in the reduction of risks and problems for the patient, but also economically, as it avoids inappropriate therapeutics and forwarding and unnecessary hospitalizations.¹

The care protocols refer to the service organization and, mainly the organization of the health team's work process. According to N6, initially, it is considered difficult to use a new technology that may be useful over time. This conception indicates the common period considered to adapt a care protocol. The incorporation of a care protocol depends on the health professionals' knowledge of how to use it correctly and the professionals' commitment, which generally demands time to adapt the new technology. In addition, for the successful adoption of the protocol, it should correspond to the service and the professionals' expectations and demands.¹⁸

It should be highlighted that the protocol previously validated at the HIAE service addresses the different possible problems, symptoms and characteristics that tend to be involved in a severe clinical condition. Thus, as a complete document, in that it fully covers possible ranges of gravity, it is lengthier than the tool used currently at the sector.

The need is justified to implement a specific chest pain protocol due to the fact that the time between the onset of the pain and its correct assessment is fundamental to define the diagnosis and mainly to treat the AMI. When there is doubt on the classification of the severity, with a consequent delay in the appropriate forwarding, the risk of death proportionately decreases.¹⁷ The nurses' lack of mastery and background to approach chest pain patients during the classification of severity tends to cause delay in the therapeutics.¹

The proposed protocol considers the colors red (emergency), yellow (urgent) and green (non-urgent), different from the institution's protocol that, beyond these colors, also considers orange (very urgent). The assessment of N4 presents this consideration on the colors as a difference between both. It is highlighted that the HIAE protocol grants the nurse more autonomy by allowing for example, the indication of the ECG, as discussed earlier. Having an ECG faster without the need for an exclusive indication from a doctor helps to speed up the therapeutic conduct and excludes the need for more gradual colors to assess the severity of the clinical situation.

Another important aspect in the structural discussion of the protocol is its print form. Concerning its format, N2 highlights:

[...] but this protocol should be on one sheet instead of two... you have to come here from there, it should all be on the same sheet, because it helps and you don't need to jump from one sheet to the other (N2).

The original tool developed at the HIAE is printed on a single sheet using a smaller font. The choice was made to distribute it on two sheets to further its visibility.

The third category, Comparing the tools, remits to the nurses' perception on the difference between using the cardiology nursing screening flowchart and the institutional protocol adapted from Manchester. The following statements depict this comparison:

The adapted one is weak, my God, there is nothing else to say about it, this one is complete, it's like I said, it indicates the types of pain and types of forwarding, if you complete this, if you complete that, if it's typical or atypical pain, it's 100% better (N2).

It grants you a notion of what it is about, the risk factors, cardiovascular antecedents, knowing that this influences having a greater chance of AMI, it helps a lot and the other tool does not have that. This one's is quite complete I think (N4).

The Cardiology Screening Flowchart is much more complete and makes it easier to truly identify a probable cardiac event. The institutional protocol is more succinct (N6).

All the nurses assessed the use of the HIAE protocol in relation to the institutional protocol positively. The consensus in the answers reveals that the HIAE protocol is more complete (N2, N4, N6) to assess the chest pain. It should be highlighted that a care protocol is in line with the reality of a service when it covers expected and unexpected

situations, which fully characterizes a tool. When discussing the institutional protocol adapted from the Manchester protocol, the risks when using protocols should be taken into account. Sometimes, the adaptations of international protocols are not always appropriate or well adapted to the service needs, as they are not comprehensive and do not consider all aspects, including unexpected ones. For this adaptation, studies on the target public, professionals, advantages and disadvantages involves are fundamental.¹⁸

For the sake of appropriate risk classification, in view of unexpected situations, the nurses should identify the characteristics of the chest pain as typical or atypical together with the patient. It can be ischemic cardiac, non-ischemic cardiac or non cardiac.²

When not sustained by criteria that are appropriate to the actual service demands, the protocols can establish a fragmented and unplanned work process that does not guarantee positive impacts on people's health.¹⁸

As regards the applicability to the service, all nursing assessments of the implementation of the HIAE chest pain protocol at the Welcoming with Risk Classification Service of the Hospital Emergency Service were positive. Therefore, when they are appropriate to the health professionals' needs and to the demand characteristic of the service, the care protocols tend to respond satisfactorily, making the professionals feel secure.¹⁸ The correlation among the answers of N1, N3 and N6 is observed, when they affirm that the protocol used permitted faster care, better identification of severe cases and better distinction of chest pain cases, that is, they list the benefits for the classification of pain risks.

In emergency care, a specific scientific tool for chest pain, or associated with other symptoms suggesting WRC, makes it easier for the health professional to make decisions during the risk classification.¹⁹

FINAL CONSIDERATIONS

Identifying the nurses' assessment in using a chest pain protocol was an essential aspect to acknowledge the validity of the tool for the service. A care protocol is only effective when it covers the specific needs of the care public and when it corresponds to the expectations of the health professionals who will use it.

The assessment of the nurses who used the protocol reflects the need for a consistent and effec-

tive health technology with a view to safe risk classification. Nevertheless, some simple adaptations are needed to establish a protocol in accordance with the professionals' needs and the reality of the service in question.

The positive assessments predominated over the negative assessments. As for the positive opinions, the use of the protocol was considered important to solve the classification doubts, make it faster, safer and ground the Nurse practice during the risk classification. The negative assessments mainly consider the print format of the protocol and its lengthiness. The format can be easily reformulated according to the professionals and the service's needs. As for the lengthiness, it is clear that a specific tool to exclude the different severe clinical conditions tends to contain more information than the general tools. This situation can be overcome satisfactorily by giving the professionals time to adapt.

The study revealed that the suggested protocol is in line with the reality of the nurses' activities in risk classification, who are currently using a general tool not focused on nursing.

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