ABSTRACT

Objective: to analyze emergency care of the nursing professional in the face of the user affected by Acute Myocardial Infarction (AMI). Method: it is an exploratory and descriptive study with qualitative approach. The sample was composed of nurses who work in the emergency / emergency sector of the Emergency Room of the Hospital Regional Tarcisio de Vasconcelos Maia (HRTVM) from the city of Mossoró/RN/Brazil. Data were analyzed according to the technique of Collective Subject Discourse. The research project was approved by the Ethics Research Committee of FACENE/FAMENE, under protocol nº 147/2011. Results: often, the unavailability of beds, ventilatory support and monitoring stuffs and the inception of the permanent education hinder the execution of skilled nursing cares. Conclusion: The study pointed out the need for improvement, appropriateness of the welcoming physical structure of the users with Acute Myocardial Infarction (AMI). Though, some professionals show adequate knowledge, it becomes important to focus on the qualification of the human resources, in order to minimize the consequences generated by the infarction.

Descriptors: Acute Myocardial Infarction; Nursing Care, Emergency Care.

RESUMO


Descritores: Infarto Agudo do Miocárdio; Assistência de Enfermagem; Atendimento de Emergência.

ATUACIÓN DEL ENFERMERO EN LA ATENCIÓN DE LA EMERGENCIA A LOS USUARIOS QUE SUFREN DE INFARTO AGUDO DE MIOCARDIO

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ABSTRACT

Objetivo: analizar la atención de emergencia del enfermero frente al usuario afectado por Infarto Agudo del Miocardio (IAM). Método: estudio exploratorio y descriptivo con abordaje cualitativo. La muestra fue compuesta por los enfermeros que trabajaban en el sector de urgencia/emergencia del Hospital Regional Tarcisio de Vasconcelos Maia (HRTVM) de la ciudad de Mossoró/RN/Brasil. Los datos fueron analizados de acuerdo con la técnica del Discurs del Sujeit Coletivo. El proyecto de investigación fue aprobado por el Comité de Ética e Investigación de FACENE/FAMENE, protocolo nº 147/2011. Resultados: muchas veces, la indisponibilidad de camas, materiales de soporte ventilatorio y monitorización y el inicio de la educación permanente dificultan la ejecución de cuidados de enfermagem qualificados. Conclusión: la pesquisa vislumbrou para a necesidad de mejora, adecuación de la estructura física acolchada de los usuarios portadores de Infarto Agudo del Miocardio (IAM). Embora, algunos profesionales presenten conocimientos adecuados, torna-se relevante a ênfase na cualificação dos recursos humanos, a fim de minimizar las consecuencias geradas pelo infarto.

Descriptores: Infarto Agudo del Miocardio; Asistencia de Enfermagem; Atendimento de Emergência.

RESUMEN

Objetivo: analizar la atención de emergencia del enfermero delante de los usuarios afectados por infarto agudo de miocardio. Método: estudio exploratorio y descriptivo con enfoque cualitativo. La muestra fue compuesta de las enfermeras que trabajan en el sector de urgencia/emergencia del Hospital Regional Tarcisio de Vasconcelos Maia en la ciudad de Mossoró/RN/Brasil. Los datos fueron analizados de acuerdo según la técnica del Discurs del Sujeit Coletivo. El proyecto de investigación fue aprobado por el Comité de Ética e Investigación de FACENE/FAMENE, protocolo nº 147/2011. Resultados: con frecuencia, la falta de disponibilidad de camas, materiales de apoyo ventilatorio y vigilancia y el inicio de la educación permanente obstaculizan la realización de los cuidados de enfermeras qualificados. Conclusión: la investigación identificó la necesidad de mejorar la adecuación de la estructura física acogedora de los usuarios de infarto agudo de miocardio (IAM). A pesar de que algunos profesionales presenten conocimientos adecuados, la ênfase se convierte en relevante en el desarrollo de los recursos humanos con el fin de minimizar las consecuencias generadas por el infarto.

Descriptores: Infarto Agudo del Miocardio; Cuidados de Enfermería; Atención de Emergencia.
INTRODUCTION

The cardiovascular diseases represent the major cause of deaths and hospitalizations in today’s society in a way that they are perceived as a serious public health problem. Among such diseases, there is the Acute Myocardial Infarction (AMI) as responsible for a high rate of prevalence and mortality in the intra-hospital and pre-hospital contexts, by estimating that 250.000 Brazilians annually die victims of this pathology. It is valid to note that fifty percent of this class of users evolve to death before coming into direct contact with an emergency service.1-2

The AMI consists in the cellular necrosis of the cardiac musculature arising from the imbalance between the supply of oxygen and blood nutrients and physiological needs of the myocardium itself. The vascular supply of the cardiac musculature is performed by a set of coronary arterial vessels originated at the base of the aorta.3,4

The abnormal accumulation of lipid substances in the wall of the coronary arteries provokes an inflammatory response of the body that culminates in the formation of a fibrous tissue by vascular smooth musculature wrapped in a dead greasy core, called atheroma plaque. This plaque creates a lock or narrows the vessel so that there is reduced blood flow to the myocardium. Moreover, it may happens the formation of a thrombus over the atheroma plaque, creating a total obstruction of the coronary lumen.5

The studies reveal that the triggering of AMI is driven by the existence of changeable risk factors, as for example: hyperlipidemia, smoking, sedentarism, obesity, arterial hypertension and diabetes. So, the production of health actions capable to stimulate the adoption of favorable behaviors in prevention of the AMI and promoting health through an integral and complex perspective of the subject becomes pertinent.2

Nonetheless, before a pathological process established in the user, it is extremely important that the nursing professional develops a quick and effective emergency approach based on theoretical/scientific knowledge. After all, the delay in the emergency approach results in the worsening of the prognosis.2

In the vast majority of cases, the nurse is responsible for the first care provided to patients with AMI, thus, this professional must meet the health needs arising from this subject. Given that time is an important determinant of prognosis in these situations, this first approach should effectively distinguish the AMI from other clinical emergencies.6

In this sense, during the materialization of the history of nursing, the nurse should identify the priority health problems of the user through the knowledge of the symptoms and clinical signs that are characteristic of the AMI. The most common symptoms in AMI are intense chest pain in tightness or crushing, radiating of the pain to the left arm, neck and/or jaw, and, occasionally, nausea, vomiting and stomach pain. Through the physical examination, it could be perceived the presence of heartbeat with B3, B4 and the recent onset of a breath. When the AMI generates a heart failure, an increased venous distention occurs. The blood pressure may be elevated because of sympathetic or decreased stimulation due to decreased contractility, impending cardiogenic shock or medicinal drugs.5,7

Furthermore, it is extremely important that the nursing professional has the expertise to gather information regarding the electrocardiographic examination. The analysis of the electrocardiogram performed by the nurse holds a gaze focused on the perception of abnormalities in the cardiac electrical activity and, successively, in the building of nursing care. In AMI, the electrocardiogram may show changes of the ST segment and of the T wave, and, in addition, provides important data such as: tachycardia, bradycardia, or cardiac arrhythmia.2,5

During the emergency approach to the user who has symptoms and the clinical signs suggestive of AMI, an organized and systematized history should be performed in order to ensure a comprehensive and individualized care to the subject. From this, it is plausible to build a plan of care during the acute phase of the disease, so that meets all basic human needs such as oxygenation/ventilation, circulation, perfusion, comfort and pain control, security, psychosocial and spiritual aspects, among other subjective things to each individual.6

According to the protocol recommended by the Advanced Cardiac Life Support (ACLS), the first care to the user who is carrier of AMI aims to restore or improve the cardiovascular and respiratory activity of the subject.8

Given the above mentioned situation, we ask the following: How is materializing the work of nurses in emergency care to the user affected by AMI?
OBJECTIVES

- To analyze the emergency care from the nurse before the user affected by Acute Myocardial Infarction.
- To identify the difficulties faced by the nursing professional during the execution of nursing care to the user with AMI in urgency/emergency sector.

METHOD

It is an exploratory and descriptive study with a qualitative approach, since to the achievement of the proposed objective, becomes necessary to immerse in the universe of values, attitudes, beliefs, as well as their interpretation and analysis. This approach provides the appropriate allowances for understanding the reality presented by subjects and the research site, as well as identifies the relationship involved among the phenomena in each phase of the study.9

Prior to the insertion in research site, it was necessary to build a theoretical arsenal on the nursing care to the patient with AMI, in order to acquire a more intimate relationship with the theme in question. This process happened upon the search for scientific articles in the databases of BIREME, LILACS, Google Scholar, and, moreover, in specialized books on the theme under study.

Data collection was performed in the urgency / emergency sector of the Emergency Room of the Hospital Regional Tarcísio de Vasconcelos Maia (HRTVM), located in the city of Mossoró/RN/Brazil. The HRTVM is considered a referential health institution for the entire West Region of the State of Rio Grande do Norte / RN regarding the care of cases of Urgency and Emergency by the Brazilian Unified Health System - Sistema Único de Saúde (SUS), furthermore, is designated as an internship field of undergraduate and technician courses in the health field.

The population consisted of all nurses who are part of the staff of the Emergency Room of the HRTVM. The sample consisted of eight nurses who met the following inclusion criteria: having professional experience in the urgency sector of the Emergency Room and at least one year of professional experience in this mentioned sector, and free agreement to participate in the study through the appropriate signing of the Free and Informed Consent Form (FICF).

The research was based on the discourse and practice of social actors responsible, given that the work field is presented as a possibility that we can get not only an approximation to what we want to know and study, but also to create a knowledge based on the present reality in the field.10

Data were collected by means of a semi-structured interview script with open-ended questions that addressed the researched theme and in accordance with the objective proposed for the research. This resource is used as a guiding element of the discussions between the researcher and the subjects, so that every nuance in question are addressed and uncovered.9,11

We established, in advance, contacts with the research subjects with the view of presenting them the objects of research. The materialization of data collection took place in the work environment of nurses, because this is the natural place where the studied facts and phenomena happen. The interview took place at the time intervals that the nurses were free of their occupational activities, in order not to interfere with their work process and dynamics of the health service. The interviews were conducted during the months of September and October 2011.

Throughout the application of semi-structured interview, we used as a technological method the voice record through an electronic device with MP3 function, and the speeches were subsequently transcribed. All transcript stuff was filed on the personal computer of the researcher, for a minimum period of five years. These procedures will allow for greater reliability in preserving the collected content, since the limits of human memory does not make possible the retention of the entirety of information.12

Data were analyzed according to the technique of the Collective Subject Discourse, in which the qualitative data from the verbal statements are organized, tabulated and analyzed, allowing the recovery of understanding about a particular topic. In this method, the thinking of a group or collectivity is represented by an individual speech.13

The development of analysis has required, firstly, the selection of key expressions in each speech, so that these reveal the essence of discursive content. Then, each category of key expressions gives rise to a respective central idea. From the obtained materials in the central ideas, we built a speech-synthesis related to the discussed theme.13

During the entire course of the data analysis, we performed an exchange between the perceptions expressed in the statements
of subjects and the theoretical and scientific references that approach the theme under discussion.

This study was conducted in compliance with the ethical principles of research involving human beings, as ordered by Resolution 196/96 CNS / MS and Resolution 311/2007 of the Brazilian Federal Board of Nursing. The research project was approved by the Ethics Research Committee of Facene/Famene, protocol no 147/2011.14-5

RESULTS AND DISCUSSION

The qualitative data acquired in the collection procedure were organized and sorted into the following core ideas: 1) Disproportion between the number of beds and the demand of users; 2) Performance of examinations; 3) Ventilatory support; 4) Guarantee of a venous access and medication administration; 5) Permanent monitoring of the user; 6) Professional qualification.

The speech-synthesis, which represents the collectivity of subjects through a single speech, is shown in quotations and in italics throughout the analysis. After that, we designed a dialogue between the discourses of the health professionals and scientific literature of the theme in question.

♦ 1° Central Idea: Disproportion between the number of beds and the demand of users

One of the nursing cares that I should carry out to the patient with AMI is to get a bed, but in the urgency, there is a great difficulty with regard to the high demand of patients. So, I struggle to get a bed, because the physical structure of the health services does not contain overcrowding of patients in need.

Bed rest and decreased anxiety level through the nurse-user interaction are important cares targeted to the user who is bearer of AMI, because they guarantee a less effort of the cardiac activity, decreased need for oxygen and, consequently, a lower likelihood of myocardial lesions. Nonetheless, there is not always the availability of beds in the health services responsible for the cares of urgencies/emergencies of the SUS so that this care is properly materialized.15

Another difficulty is because the presence of a vacancy in the Intensive Care Unit (ICU) is something pretty rare; we have almost no ICU bed availability. Usually, this only happens when the death of a patient occurs.

The unavailability of beds leads to a long stay of the user in sector of observation so that, in some cases, it spends the entire therapeutic process in the same sector, causing a disturbance in the dynamics of care and organization of the work process in health.16

It is noticed, hence, the presence of contradictions between the essential principles of the political of the SUS and how they are implemented in reality of the health services, for example, the principle of universality legitimizes that all citizens have the right of access to all health actions, in accordance with their needs. Thus, it should be understood that, regardless the demand of users, the hospitals providers of actions in the urgency/emergency sector must have structural conditions to accommodate all the subjects who need this basic item of the health care, a hospital bed.17

♦ 2° Central Idea: Performance of examinations

It is always done an electrocardiogram in the patients with AMI. Often, before the medical professional arrives, I do myself, quickly, provide an ECG. In other situations, I am waiting for the medical command, because usually they ask for confirmation of the diagnosis of AMI.

The electrocardiogram (ECG) is a widely used test in urgency/emergency services, since it allows an analysis of all cardiac electrical activity and helps to identify rhythm disturbances, conduction and cardiac ischemic events. It should be performed within 10 minutes after the onset of symptoms or admission in the health service. The nurse is also responsible for perception of the need for early execution of the ECG, in addition, should identify the existence of cardiac abnormalities in the same, targeting the implementation of the nursing care.5,10-22

The myocardial ischemia provokes changes in the ST segment. The T wave gets, firstly, increased and symmetrical and, subsequently, its inversion occurs due to the late repolarization. In situations where ischemic lesions related to the epicardial region happens the ECG shows a ST above the isoelectric line. When the lesion is present in the endocardial region, there is the depression of the same segment. On other occasions, one can detect the Q-wave inversion.5,18

As well as the ECG, other laboratory examinations also part of the dynamics of the care to the user with AMI, as explained in the following speech:

I prepare the materials required for the exams and I forward them to the assessment of the doctor so that, at the medical care itself, the examinations are requested by

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This professional. Then, the nurse team is the responsible for streamlining the execution of the laboratory examinations.

As far as the coronary occlusion causes myocardial cell injury, occurs releasing of cardiac cellular contents into the blood vessels. These markers of myocardial lesions are the basis for the execution of a series of laboratory examinations in order to indicate the diagnosis of AMI, so that the nurse plays an important role in decision-making to ensure the performance of such examinations.

The Creatine Kinase of the Cardiac Muscle or Myoglobin (CK-MB) is a cardiac enzyme that undergoes elevation in serum levels in case of occurrence of cardiac cellular death, and is considered the most specific indicator of the diagnosis of AMI. Its increase starts itself about one hour and reaches its peak within the first 24 hours.

The Troponin is also a protein present in the cardiac muscle that performs the function of regulating myocardial contractility. We have the existence of three isomers of the Troponin (C, I and T), and the type I has a higher specificity and is the most used for investigation of cardiac disorders. The time of onset and peak of the serum levels of Troponin is very similar to that of the CK-MB, but, it remains elevated for up to 2 weeks.

Myoglobin is a heme protein with the role of carrying out the oxygen in the cardiac and the skeletal muscles. In AMI, its elevation begins within 1-2 hours and reaches a peak within 6 hours after the onset of symptoms. The elevation of serum levels of Myoglobin is not considered a very specific indicator of myocardial lesions, but, in the occurrence of two examinations with negative result for this protein, the idea of an AMI is excluded.

Central Idea: Ventilatory support

It is very important to provide ventilatory support to the patient with AMI, but, I also face difficulties to obtain a bed with the availability of oxygenotherapy. Nonetheless, whenever possible, put the patient on oxygen, if it is necessary to intubate it, I provide the material to be used in the procedure, observe the availability of respirator, assist in the procedure and it is placed on mechanical ventilation.

The oxygenotherapy is the administration of oxygen gas at a concentration higher than the environmental atmosphere. During the coronary occlusion, the myocardial perfusion of oxygen is decreased, resulting in an increased cardiac effort. In this sense, it is essential that nursing professional is actively involved in the administration of oxygen at a rate of 2-4 l / min in the first 12 hours or by longer period, as medical prescription, because it improves the cardiac oxygenation and reduces the workload of this organ.

Central Idea: Guarantee of a venous access and medication administration

One of the first nursing measures is to streamline a peripheral and secure venous access.

It is a task of the nursing professional, along with its team, provides the assurance of a calibrous and peripheral venous access so that through this action the medicinal drugs that are needed to rehabilitate the user with AMI are administered. It is noteworthy to highlight that the application of medicinal drugs are conducted according to the medical prescription.

The medications I administer in patients with AMI are provided according to the medical prescription.

In cases of AMI, commonly, thrombolytic agents are used, in view of its anticoagulant effect, providing an improvement in the perfusion. Such a medicament promotes the thrombolysis within the coronary artery, allows the myocardial reperfusion and decreases the lesions arising from ischemia. The ideal is to complete patient assessment and administration of thrombolytic medication within thirty minutes after the arrival of the user at the emergency service. The user is closely monitored during and after the infusion of a thrombolytic agent, due to decreased ability to form stabilizer clots in other body tissues and, consequently, their greatest risk of expressing bleeding episodes.

The pain relief during the emergency approach of users with AMI reveals beneficial effects on well-being and decreased anxiety of the subject. The most frequently used medicament with analgesic effect is the Morphine Sulphate, which, in addition to reducing pain and anxiety, produces a minimizer effect of the cardiac preload and workload. It should be noted here, too, the importance of a good interaction between the user and the nurse in an attempt to calm it down and soften the consequences of the anxiety.

As shown below:

An important role that I play is to provide maximum comfort for the patient, try to let it calm and quiet, so he does not get hectic. Try to stabilize it, because the agitation increases anxiety which, in turn, worsens the clinical picture of the patient.

Thus, it is understood that the medication administration is one of the job objects belonging to the nursing staff, which is the...
main responsible for the development of this activity in the in urgency / emergency health services. Knowing its importance in the organization of the work process and in the health service to the users, the nursing professional must be skilled, has dominion over the nuances involved in this activity, for example, knowing the principle of medicinal drug therapy, adverse reactions, medication interactions, administration routes of medications, actions of the medicinal drugs, dosages, dilution technique, asepsis (including hand washing) and proper use of sterile stuff.19

♦ 5° Central Idea: Permanent monitoring of the user

It is not easy to find a bed where you can make a permanent monitoring of the cardiac patients. But, when the bed is available, my first step is to perform the medication and, after that, put the patient at rest to make permanent cardiac monitoring.

After completion of the first cares, it is necessary to continuously monitor the user who is carrier of AMI, where the nurse must be alert to possible changes in vital signs, presence of hypotension, respiratory depression and cardiac rhythm disorder. The follow-up of control of the hydroelectrolytic balance helps in regulating the cardiac afterload. The diet should be offered as medical prescription, usually, it is a null diet within 12 hours.14

In the users who made use of thrombolytic agents, it is important that the nursing professional produces care related to the bleeding precautions by means of preventing intramuscular injections, reduction of the number of punctures to insert intravenous lines, prevention of tissue trauma and application of pressure for a longer period over the body location of the puncture.5

The cardiovascular changes caused by Morphine Sulphate are duly monitored by the nursing professional, especially the blood pressure and the respiratory rate, which may suffer depression.5

The patient who is admitted to the hospital with AMI has as the main complication the Cardiorespiratory arrest (CRA), thus, it can evolve into a CRA.

So, furthermore, an adequate cardiac monitoring must be held, because the AMI is an important risk factor for the development of cardiogenic shock which, in turn, can lead to cardiac arrest, a poor cerebral perfusion, alteration of the consciousness level, acute kidney failure, among other injuries.14 23

♦ 6° Central Idea: Professional qualification

Besides these shortcomings that were pointed out, a second problem that I have faced is the poor qualification of the acting workers in the urgency/emergency service. Sometimes, I find difficulties in working with the urgency service's doctor itself. I realize that the team needs a proper training.

Based on the aforementioned, the permanent empowerment of the work process of these professionals involved in urgency / emergency services, based on continuing education health is extremely important. Thus, the health services should facilitate the creation of collective environments capable of enabling reflection, analysis and assessment of the guiding benchmarks of its knowing / making in health, providing a continuing learning process regarding the personal and professional needs of each worker, as well as producing a more qualified care for the users.20 1

CONCLUSION

This study allowed us to understand the actions performed by nurses in the urgency / emergency sector before a user who is bearer of Acute Myocardial Infarction (AMI). Through the statements, it should be perceived some barriers for implementing a quality care, for example, the lack of beds available both in the Emergency Room itself and in the Intensive Care Unit. Furthermore, the difficulties for the acquisition of basic materials needed to provide adequate ventilatory support and execution of permanent cardiac monitoring may reflect an ineffective care.

It should be also highlighted the limits regarding the qualification of professionals who are working in the urgency / emergency sector, by dealing with situations in which the subjects need an agile care and based on scientific methods. In this context, the limitations of knowledge of these professionals increase the potentiality for serious injuries and, even, death to users. This was pretty revealed in the difficulty that the research subjects had to answer the interview script, the little knowledge about AMI and about the care to be provided to the patient, as well as in their own exposed speeches.

An important point that was demonstrated by the professionals consists in the moments that they reveal knowing some important steps regarding the nursing care to the user with AMI, as evidenced in the streamlining of
the electrocardiogram examination and in the guarantee of a safe venous access.

Thus, the study sees the need for improvement in the health assistance to the users with AMI, better matching of the welcoming physical structure of this subject and qualification of the human resources inserted in this context, in order to minimize the consequences generated by the AMI.

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