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Nurses' care and management actions in emergency trauma cases

Ana Lúcia de Castro Sajioro Azevedo¹Ariane Fazzolo Scarparo²Lucieli Dias Pedreschi Chaves³

Nurses' care and management actions in emergency trauma cases

Abstract

Objective. To analyze the nurse's care and management actions in an emergency trauma hospital unit. **Methodology.** A qualitative, exploratory-descriptive multiple case study was undertaken in an emergency trauma unit in a public teaching hospital in a town in the state of São Paulo, Brazil. The data was collected through participant observation and semi-structured interviews with the nurses. **Results.** It was observed that the dimensions of care and management are interwoven in the nurse's practice, which, based in the service users' health needs, uses specific knowledge referent to the prediction and provision of human and material resources and to actions articulating the team, to organize and guarantee the care, so as to offer integral care. **Conclusion.** The practice of the nurse in an emergency trauma service is close to the perspective of care management, articulating the work's care and management dimensions.

Key words: emergency nursing; trauma centers; emergency medical services; nursing, team.

Acciones asistenciales y gerenciales del enfermero en urgencias traumáticas

Resumen

Objetivo. Analizar las acciones asistenciales y de gestión del enfermero en una unidad hospitalaria de urgencias traumáticas. **Metodología.** Estudio cualitativo, exploratorio-descriptivo, del tipo de estudio de casos múltiples. Se realizó en una unidad de urgencias traumáticas de un hospital estatal de enseñanza, del interior del estado de São Paulo, Brasil. Los datos se recolectaron mediante la observación participante y entrevistas semiestructuradas a los enfermeros. **Resultados.** Se observó que la asistencia y la gestión son dimensiones imbricadas en la práctica del enfermero, quien, basado en las necesidades de salud de los usuarios, utiliza conocimientos específicos referentes a la

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previsión y provisión de recursos humanos y materiales y acciones de articulación del equipo, para organizar y garantizar la atención con el fin de brindar un cuidado integral. **Conclusión.** La práctica del enfermero en un servicio de urgencias traumáticas se aproxima a la perspectiva de la gerencia del cuidado, articulando las dimensiones asistencial y de gestión del trabajo.

Palabras clave: enfermería de urgencia; centros traumatológicos; servicios médicos de urgencia; grupo de enfermería.

Ações assistenciais e gerenciais do enfermeiro em urgências traumáticas

■ Resumo ■

Objetivo. Analisar as ações assistenciais e de gestão do enfermeiro numa unidade hospitalar de urgências traumáticas. **Metodologia.** Estudo qualitativo, exploratório-descritivo, do tipo de estudo de casos múltiplos. Realizou-se numa unidade de urgências traumáticas de um hospital estatal de ensino, do interior do estado de São Paulo, Brasil. Os dados se coletaram por meio de observação participante e entrevistas semiestruturadas aos enfermeiros. **Resultados.** Observou-se que a assistência e a gestão são dimensões imbricadas na prática do enfermeiro, o qual, baseado nas necessidades de saúde dos usuários, utiliza conhecimentos específicos referentes à previsão e provisão de recursos humanos e materiais e ações de articulação da equipe, para organizar e garantir o atendimento, com o fim de brindar um cuidado integral. **Conclusão.** A prática do enfermeiro num serviço de urgências traumáticas se aproxima à perspectiva da gerência do cuidado, articulando as dimensões assistencial e de gestão do trabalho.

Palavras chave: enfermagem em emergência; centros de traumatologia; serviços médicos de emergência; equipe de enfermagem.

Introduction

Care in cases of emergency trauma requires the health services and professionals to use a variety of practices, to meet the high complexity and seriousness presented by violence or accident victims, who need specific health actions/interventions.¹ In emergency trauma units, the nurses' routine work involves care for the most seriously-ill patients and the most complex procedures, in addition to management of service resources, which require scientific knowledge, management of technology, and relational, communicative and political competencies.² The interlacing and closeness between caring and managing are part of a new nursing paradigm currently being constructed, such that the nurses are called to share a task highly directed at the patient, which requires clinical skills and knowledge of these professionals, as well as the

development of a style of management linked to the care.³⁻⁶

The process of caring and the process of managing are the main dimensions of the nurse's work in emergency trauma units. The care is characterized by observation, the gathering of data, planning, implementation, care delivery, evaluation, and interaction between patients/family members and nursing staff, and various health professionals. The management process, on the other hand, is focused on organizing the care and providing the qualification of the nursing staff through permanent/continuing education; for this it appropriates administrative models and methods and the nursing workforce, as well as the management of equipment and material.²⁻⁴ The changes in hospitals' infra-structure and functioning (particularly in critical care services),

the growing incorporation of technology, and the profile of patients who are characterized by high complexity and seriousness and by the variety of the violence they have suffered, all impact on the dynamics of emergency trauma hospital services. In the face of this, one may ask which actions constitute the professional practice of the nurse in hospital services attending traumatic injuries? What are the peculiarities of the care and managerial work of the nurse in these services?

The present investigation is justified by: the dimension of emergency trauma in the ambit of hospitals and the health system; the importance of the organization of the nurse's work in these units; the growing demand for high-complexity services with high incorporation of technology; the need for multiprofessional focus in attending critically-ill patients; and the incipient scientific production in the area of intensive care nursing in Brazil.⁶ For this reason this study was carried out, aiming to analyze the nurse's care and managerial actions in an emergency trauma unit in a tertiary hospital which has a partnership agreement with the Unified Health System in a municipality in the state of São Paulo.

Methodology

This is an exploratory-descriptive study which uses qualitative data and was undertaken according to the premises of a multiple case study.⁷ It was carried out in a public hospital which is qualified for teaching in the area of health and which has the institutional mission of attending high complexity emergencies which demand a higher technological density and specialized treatments, in the municipality of Ribeirão Preto in the state of São Paulo, the region's administrative headquarters and center of care. In the context of the regional health system, the hospital studied is a center of excellence for attending trauma emergencies, organized as called for by the National Policy on Emergency Care. This situation favors actions related to regulating access, structural organization and human and material

resources, significant characteristics to study the issue in question.

The hospital has 165 beds for inpatient treatment, 25 for intensive care, and 10 in a semi-intensive care unit, distributed in four floors. The first attendance for emergency trauma cases takes place in the trauma room, which has five monitored beds for poly-traumatized patients of all ages and high complexity, plus an annexed orthopedic outpatient unit with two beds for observation. Attendance is carried out by a multidisciplinary team, made up of doctors from different specialties, nurses, nursing auxiliaries and health care assistants, social workers, administrative staff and x-ray technicians. In the trauma room, on each shift there is one nurse and two nursing assistants. To accomplish the research, the authors used two data collection techniques: participant observation and semi-structured interviews. It was decided to observe the nurse's care and managerial actions for patients with traumatic injuries, beginning with admission to the unit and accompanying the attendance during the first four hours – as this period is considered crucial for stabilizing the case and referring it to another sector of the hospital.

The collection of empirical data was done in between the 1st and 30th of June 2009, and included observation of the attendance given to patients who were victims of trauma and the interviewing of the nurse who participated in the attendance: thus each case corresponded to an observed attendance and its respective interview. These totaled 19 cases during the period. Inclusion criteria were established to define the cases selected: all the attendances occurred in the period 1 – 30 June 2009 in the service studied, which were communicated by the nurse on duty and/or identified by the researcher, and whose patients/family members agreed to participate in the study. It is worth noting the intense work involved in raising the nurses' awareness so that they would communicate the cases by telephone, the availability to contribute to the research, and the researcher's readiness to collect data 24 hours a day, when she was informed of a trauma case.

For recording the participant observation information, the authors used an observational

guide-script, bearing in mind the objective of the research, without failing to record also information from more free observation, with a focus on the general dynamics of the nursing care and management activities. The script covered aspects relating to the patient's access to the unit, characterization of the patient's clinical picture, the assistential and managerial approaches used by the nurses on admission, the patient's stay and transference within the unit and actions of management of materials, equipment and human resources. The instrument was submitted to a pre-test, having been approved by three nurses who were expert in the area and in research methodology. Following that it was submitted to a pre-test to assess the conditions of its adaptation for practical application. The observation took place in the various shifts of the nurses working in this unit over a period of four weeks, being undertaken with the aim of understanding the dynamics of the attendance of the trauma patient by the nurse and nursing and health team, in the dimensions of the care and of the management of the unit. In the second phase of data collection, the authors used the technique of semi-structured interview with 11 nurses who had participated in the attendance of the 19 cases observed. Some nurses had been present in more than one case, which allowed the authors to understand what was behind appearances and the surface of the communication, reaching more profound spheres of meaning of the object of study defined for the research.

The interview script covered data to do with identification of the interviewee and his or her professional experience, and questions about the professional's actions, priorities and perceptions in relation to the attendance of the case observed. This script was also submitted to face/content validation by nurses expert in the area and, after validation, the instrument was submitted to a pre-test with nurses who were not subjects in the definitive study. This allowed the authors to ascertain how the script would be used in practice, along with possible flexibilization of questions responded to by the interviewees, and/or the need to draw up questions to facilitate comprehension, so as to facilitate better interaction between

the interviewer and interviewee. The interviews were carried out by one of the researchers, were recorded digitally, arranged in line with the nurses' availability, held so as to ensure the participants' privacy, and lasted an average of 30 minutes. They were identified by letters (C indicating the number of the case, and N the nurse) and sequential numbers. The researcher herself undertook the transcription in full of the interviews.

The authors opted for the qualitative analysis of the data, consisting of the organizing and classification of the data, and final analysis.⁸ Summaries were prepared of the analysis of each case reported, to identify aspects relevant to the central theme. After that, a summary was made of the joint analysis. It should be emphasized that although attendance in an emergency trauma situation may be characterized by the fragility of the period in which the patient and/or family members find themselves, a careful, thorough and humanized approach was made when inviting them to participate in the research, ensuring compliance with the precepts of Resolution 196/96 of the National Research Ethics Committee, which regulates research involving human beings in Brazil. The research was authorized by the Research Ethics Committee, under Decision nº 2676/2008. The terms of free and informed consent were signed by the nurses and patients and/or family members.

Results

The care actions are focused on the care given to the service users, and involve the observation/evaluation of the patient, so as to allow the establishment of treatment priorities in accordance with the cases' peculiarities and complexity, as well as ensuring the progression and evaluation of the interventions and actions. The managerial actions used by the nurses involve the organization of the unit/assistance, the coordination/articulation of the professional teams, and the mobilization of resources, so as to ensure the availability and the quality of the material resources and the

necessary infra-structure, as well as the number of personnel sufficient to provide the appropriate care.

In practice, the care actions and the managerial actions are indissociable and require the nurses to move away from the precepts of bureaucratic management and towards the perspective of the management of care, in which care actions center around the patient. During the participant observation, the authors identified that the care actions and managerial actions used by the nurses with the trauma patients begin with the actioning of the hospital team by the Dispatch Center (also called the Medical Regulation Center). The pre-hospital service, integrated with that of the dispatch center allows the physician-in-charge there to provide information concerning the mechanism of the trauma and the patient's clinical conditions to the doctor responsible for the trauma room, who shortly thereafter, in the majority of cases, passes this information on to the nursing team there. As of that moment, the nurses start to organize the unit, mobilizing materials, equipment and human resources based on the information received, as shown by the interviewees' accounts: *I was warned beforehand by the trauma physician, he informed us about the complexity, that the patient was seriously ill. So, the nurses got everything ready, including a chest drain, and when the time came, the nursing team and the medical team worked in synch together* (C11N7). *I was warned by the physician about the state of the patient who was coming, so that I got all the material organized calmly before the patient's arrival.* (C7N7).

It was possible to observe from the accounts that, based on the service users' health needs, the nurses used all of the technical, scientific knowledge referent to the need for care, as well as the prediction and provision of human resources and materials, to organize the attendance of the patient, with a view to quality and integrality of care. *In relation to the materials, I prioritized what I would need to attend the patient, the hemodynamic aspect, and afterwards ensure that the tests were done and that the other things would happen.* (C12N8). *In the management, it*

was all very fast, because we didn't have anything prepared, so it was more a matter of managing the material and equipment – everything we needed to attend this patient who was arriving. (C6 N5).

The organization of trauma room materials and equipment is an action of competency of the nurse, and lack of these limits the assistance. The authors ascertained during the observations that in some cases there was no organization of material and equipment beforehand. According to the nurses' accounts, the reasons were the absence of information prior to the patient's arrival, or the incorrect transmitting of the information. *Organization of specific material and equipment for the patient with poly-trauma wasn't done, because we didn't have time between being informed about the patient, and the patient arriving* (C17N10). *...the team didn't get prepared, there was an absence of information about the complexity of the patient, so there was a lack of indispensable material, which resulted in lots of running around for the whole team.* (C4N4)

The authors identified that the situations observed occurred at a high speed and need health actions/interventions in such a way that the nurses organize the unit and, simultaneously, at the time of the patient's arrival, use the mnemonic approach called for by the Advanced Trauma Life Support (ATLS) to assess the patient's conditions, identify priorities, and establish the treatment and actions necessary to re-establish life. The authors emphasize that although different professionals from the team participate in these approaches, it is relevant to highlight that it was nurses who participated in and carried out the actions in all the cases observed.⁹ Advanced Trauma Life Support (ATLS) is an internationally-accepted protocol for attending trauma emergencies, and basically proposes a standardization of procedures for all of the components of the health team, from the perspective of integral care. The approach requires fast access to the injuries and the immediate institution of therapeutic measures for life support; this process being termed "Initial Assessment". As soon as the patient presents a

tendency to normalization of vital functions the "Secondary Survey" is started, which consists of obtaining the history of the mechanism of the trauma and of the patient him- or her-self and carrying out a complete physical examination complete with re-evaluation of vital signs, as well as carrying out diagnostic tests to identify specific injuries.⁹ The authors identified from the accounts that the assistance to the patient is undertaken according to the ATLS proposals – that is, using the mnemonic ABCDE approach for identification and immediate treatment of the problems which put the patient's life in danger.

During the primary survey, the airways (A) were evaluated first, to ensure that they were patent, and all the patients were monitored. In the approach of Breathing and Ventilation (B), the nurses assessed the state of the patient's ventilation and, with the health team, exposed the patient's chest. In the approach of circulation-control of shock/external hemorrhaging, the nurses evaluated the signs and symptoms of hypovolemic shock, and identified bleeding points. The authors ascertained that in the majority of cases, it was the nurses who punctured the patients' veins and undertook the collection of blood for diagnostic laboratory tests. At the end of the primary evaluation, a rapid neurological evaluation (D) is done; in this intervention, the nurses collaborated with the health team. Next the complete exposure of the patient is done, as is the adaptation of the environment with control of hypothermia (E); in the intra-hospital phase, this approach is carried out right at the start of the attendance, simultaneously to the evaluation of A and B, as while the patient is monitored, the assessment of respiration and ventilation takes place which requires the exposure. During the trauma room's secondary evaluation of the patient, the nurses are responsible for carrying out the recording of the interventions and attendance in the patient's records: *It was an extremely serious case and the priority was to carry out the cardio-pulmonary resuscitation maneuvers with a view to optimizing the possibility of the patient surviving, the assistance was in line with the ATLS attendance system* (C10N10). *The priority was circulation*

"C", so we checked the patient's conditions and identified that he wasn't in shock, but there was a big risk of progressing to hypovolemic shock, so bloods were taken for tests (C2N1).

There is evidence for the importance of the interventions undertaken by the nurse during the mnemonic approach recommended by the ATLS. It is a prioritarily assistential approach in an initial attendance situation in which the actions of the nurse and health team aim to identify and rapidly treat the problems placing the patient's life in danger. In the accounts it was observed that the nurses, in addition to prioritizing the assistential actions during the patient's admission, also act as agents articulating the actions of all members of the team for the benefit of the patient. It is important to stress that the nurses recognize their responsibility in articulating and integrating the team, aiming for care which is appropriate to the patient's needs: *When the patient arrived, I had to ask somebody to help me, in this case I was helped by a nurse from another sector who assisted in organizing the materials and the procedures there and then. I had to delegate other functions because that was the most-seriously-ill patient* (C16 N9). *In managing, I prioritized keeping the room in order, all the material, calling some residents so as to be able to be prioritizing, to be able to organize, to assess the patient better, to see which side we would be turning the patient, due to the fractures, because otherwise they turn them on the side where the fractures are, so that we would be able to refer the patient to CT and X-ray faster, to be able to stabilize the patient* (C18 N10).

The actions of organizing and coordinating the team, mobilizing human, material and equipment resources, and articulating agents and the assistance undertaken by trauma room nurses are based on the patients' needs, so as to favor an integral care for the trauma victim. Therefore, based on this empirical evidence, it can be stated that the managerial actions are interwoven with the assistential actions, such that the management is focused on patient needs, as illustrated by the following accounts: *In the management, what was prioritized was the organization of the work,*

the material, and how the nursing assistance to the patient was given (C7N5). Management... In general, you mean? I think that management is you perceiving, based on the information you receive, the whole context which will involve attending the patient, from human resources, material resources, organization of the room, the 'patient journey' that this patient needed, such as being referred to tomography, so you needed to think about establishing priority for the tomography room and maybe the need for blood tests, transfer, things like that (C8 N6).

Based on direct observation of the cases and of the perception of the nurses who acted in the cases, one can note the interface of an assistential and managerial dimension of human, material and physical area resources, which clearly demonstrates the management of the care exercised by the nurse in the emergency trauma unit.

Discussion

The pre-hospital care, integrated to the dispatch center (and this articulated to the hospital services) permits the regulated access of patients to hospital, which situation favors the organization of the trauma unit so as to create/allow conditions which are favorable to the attendance - in line with the patients' needs. To this end, the integration and articulation between the services becomes necessary to optimize human and material resources, to favor the nursing team's work conditions so as to initiate managerial and assistential actions for guaranteeing the quality of the care. In the hospital emergency services, the health professionals act directly with the imminent risk of the patients' death, and the carrying-out of actions which ensure the availability and functionality of the materials and equipment used in the attendance stands out in the nurses' practice, as in this context, every second is precious and there is not always time available for repairing equipment or looking for new materials during the attendances.⁴

Studies have established that the nurse, due to taking on the management of the units of

attendance and coordinating all the assistential activity, has a predominant role in matters to do with determining the material necessary for achieving the assistance, both in quantitative and qualitative aspects. The performance of the nurse in the administration of material resources constitutes an achievement in the spheres of decision-making, emphasizing therefore the important role of the nurse in the technical-administrative dimension inherent to actions of caring and managing.⁶ Another relevant aspect is the systematization of the assistance to the patients according to the premises of ATLS, which standardizes the health professionals' actions through the mnemonic ABCDE approach. This approach makes it possible to identify and immediately treat the problems which put the patient at imminent risk of death, due to the lack of an initial diagnosis and limitation of data.⁹

Practically all of the professionals interviewed considered it to be important to systematize the care interventions, according to the ATLS proposal which permits an integral approach according to the priorities established, supports the evaluation of the patient without removing the professional's autonomy. The literature recognizes the mnemonic ABCDE approach as a directive for attention to trauma, and is grounded in evidence-based medicine.^{9,10} It should be added that the approach recommended by ATLS in attending the trauma patient makes possible an approach which is common to health professionals, in which all, irrespective of their professional training, undertake the same activities and organize themselves around the patient and the situation itself. The managerial actions involve the organization of the work and the elaboration of intervention strategies which aim to address the patients' needs in the daily routine of the emergency services.^{3,4,11,12} Hence, the results also point at the importance of the role of the nurse in articulating health professionals and in mobilizing resources for attention to the patient, this constituting a large part of their work in the ambit of management in the trauma room.

The results permitted the managing of nursing care to be understood as the interface between

an assistential dimension and a dimension of organizing human/material resources. In addition to this, it involves action articulating the nursing team and the health team. This is a context of nursing practice marked by facilitative and hindering factors which are inherent to the hospital scenario contextualized in the health system. Thus, the assistential and managerial activities occur in an articulated way, as a practice of the management of care. For some authors, the management of care consists of a wide process, which takes in care actions, administrative actions (whether bureaucratic or not) and educational and research actions, all converging for the benefit of the patient.^{2-6,11}

In summary, management centered on and for the patient results in the convergence of caring/managing. It is not possible to consider the management of care in an idealized and theoretical form; it is something in a continuous process of construction and re-construction, the focus of hospital nursing work. The observation of the care, linked to the nurses' accounts, evidences aspects about the "doings", which explain the assistential and managerial actions of nursing carried out by the nurse in the ambit of the emergency trauma unit. The practice of the nurse in the trauma room is distanced from the conception of bureaucratic management, and is close to the perspective of management of care which articulates the work's assistential and managerial dimensions, indissociable dimensions of the nurse's work, with peculiarities which have integral care to the patient as the focus of the actions.

As a limitation of the study, the authors note that it does not cover the monitoring of the patients throughout the whole of their stay in the trauma room, which as a characteristic of the service is above that recommended in the literature. The limitations are related to the need for a wider delimitation of the object; in this sense they instigate further research. The authors present an updated focus on the issue of the professional practice of the nurse in hospital services attending traumatic injuries, without, however, exhausting the possible approaches focusing on the issue. The authors believe that there is still much to explore,

considering the contemporaneity of the traumatic injuries and of the dimension of management of care in the work of the nurse.

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