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# Patient safety in the hospital context: unveiling involved factors related to healthcare from the point of view of nurses

## A segurança do paciente no contexto hospitalar: desvelando fatores intervenientes à assistência na percepção de enfermeiros

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## ABSTRACT

**Introduction:** The factors that influence and determine the provision of healthcare are receiving increasing attention, considering their social and health impacts. **Objective:** To identify nurses' perception of the meaning of safety and quality in healthcare and to describe their knowledge of the weaknesses and potentialities to deliver safe and high-quality care to hospitalized adult patients. **Method:** This is an exploratory, descriptive and qualitative study. Data were collected by a questionnaire applied to nurses of a public general hospital in Rio de Janeiro and analyzed using thematic analysis of content by Minayo. Results: From the content analysis, the conditioning factors were divided into 3 categories: "Nurses' Perception of Safety and Quality of Care," "Weaknesses and potentialities for Patient Safety," and "Suggestions for Improving Quality and Safety of Care." **Conclusions:** Care nurses have adequate understanding about the quality and safety of assistance and have knowledge of intervention actions of different levels of governance to address weaknesses and strengthening of potentialities and, therefore, they should be involved in the decision-making process in the organizations.

**KEYWORDS:** Hospital Nursing Service; Quality of Health Care; Nursing Care

## RESUMO

**Introdução:** Os fatores que condicionam e determinam a prestação de cuidados em saúde vêm recebendo destaque nos dias atuais, considerando os seus impactos sociais e sanitários. **Objetivo:** Identificar a percepção de enfermeiros acerca do significado de segurança e qualidade na assistência à saúde e descrever o conhecimento de enfermeiros sobre as fragilidades e potencialidades para a prestação da assistência segura e de qualidade a pacientes adultos hospitalizados. **Método:** Trata-se de uma pesquisa exploratória, descritiva e de abordagem qualitativa. Os dados foram coletados através de questionário aplicado a enfermeiros de um hospital geral público do Rio de Janeiro. Para análise dos dados se utilizou da Análise Temática de Conteúdo de Minayo. **Resultados:** A partir da análise de conteúdo, os fatores condicionantes foram desvelados em três categorias: "Percepção dos enfermeiros sobre a Segurança e Qualidade da Assistência"; "Fragilidades e potencialidades para a Segurança do Paciente" e "Sugestões para a melhoria da qualidade e segurança do cuidado". **Conclusões:** Os enfermeiros assistenciais detêm compreensão adequada sobre a qualidade e segurança no cuidado e possuem conhecimentos sobre ações interventivas de diferentes níveis de governabilidade para abordagem das fragilidades e do fortalecimento das potencialidades, sendo, portanto, conveniente, que participem do processo decisório nos serviços.

**PALAVRAS-CHAVE:** Serviço Hospitalar de Enfermagem; Qualidade da Assistência à Saúde; Cuidados de Enfermagem

## INTRODUCTION

Healthcare quality and safety are topics that have been widely discussed in recent years, considering the relevance of this issue regarding health and society, given that errors and adverse events related to healthcare have major social and economic impact[1]. Therefore, services of several levels of complexity have searched for strategies to minimize impact through improvement according to Donabedian's structure-process-outcomes framework.

The World Health Organization – WHO defines patient safety as the reduction of risk of unnecessary harm to an acceptable minimum associated to healthcare[2]. This subject has gained visibility after the publication of *"To Err is Human: Building a Safer Health System", an Institute of Medicine [IOM] report issued in 1999*[1,3].

In Brazil, discussions have gained momentum after the implementation of the National Patient Safety Program, through Ordinance 529, issued by the Ministry of Health, on April 1st, 2013[1,2,4]. Since then, health units, especially in hospitals, have implemented measures focusing on qualifying the care framework, aiming at greater safety in the face of risks[5].

The cornerstone of the National Patient Safety Program is the use of protocols and the promotion of a safety culture, as well as the adoption of sanitary surveillance actions and monitoring of incidents[1,2]. Surveillance is a key component to improve processes and promote a safe hospital environment, considering its pervasiveness in healthcare risk management.

Safety is considered a cornerstone of the quality of care. It is the result of a set of actions and policies aiming at the reduction of healthcare risks and avoidable harm to users[6]. Quality assistance is the assistance that – by equitable and standardized means – fulfills its objectives, without any harm, meeting users' needs and expectations, thereby resulting in satisfaction[2,7].

Providing safe and qualified assistance is the responsibility of all professionals who work directly or indirectly with patients. These professionals, for their part, strive to provide a free of harm assistance[9], although the organizational environment, the workload, the lack of training in service and in other institutional and professional settings directly affect the final product.

Nursing is the professional category with the highest number of workers in healthcare services. These are the professionals who work in closest contact with patients and perform most of the actions and interventions, mainly with hospitalized patients. As a result, the daily routine of nurses may predispose a higher incidence of risks, since it is performed in a live setting full of complexity and dynamism, which demands from the professionals a steady process of critical judgment and decision making in order to decrease potential harm[10,11].

Nurses, as nursing care managers, play a fundamental role in risk management, identifying and dealing with adverse events, considering that the nursing services have faced an increasing amount of internal and external challenges to meet the requirements of users with steady quality and excellence[11,12].

From this perspective, taking into account the important and vital role of nurses in providing welfare and quality care to patients, investigations about this topic become necessary to identify what factors enhance and/or reduce the safety and quality of the services provided by these professionals, since knowing the risks, interpellations and characteristics can subsidize the improvement of quality in care[5,10,11].

Thus, the objectives of this study were to identify the nurses' perception of the meaning of safety and quality in healthcare and to describe the nurses' knowledge of the potentialities and shortcomings in providing safe and quality care to adult patients in hospitals.

In this study, the "potentialities" are understood as strategies that act as strengths and enable the protection against incidents involving patients' safety. The "shortcomings" have the opposite effect, since they allow these events and are characterized as obstacles/threats in the process of providing care.

## METHOD

This is a descriptive, exploratory study, with a qualitative approach. It was conducted with nurses of a medium-sized public general hospital of the Unified Health System (SUS - *Sistema Único de Saúde*), located in Rio de Janeiro/RJ, Brazil. The study was done in the Medical Clinic area, which deals with long-term hospitalization. The most prevalent patient profile is composed of elderly and chronically ill patients, with decompensation of chronic conditions and late complications.

Different professionals work in this health unit, ten of whom are nurses. The following criteria were used to select the sample: Inclusion – being a nurse, interested in taking part of the research and acting in the Medical Clinic area while the data was collected; Exclusion – less than a five-year working experience in the hospital area and to be a student of this field for less than a year.

The data collection took place in December 2015, when the mixed questionnaire was applied. The questionnaire contained open- and close-ended questions about professional data and subjects related to the topic of this research. Dates and times were scheduled together with the professionals, in order to make the process of answering the questionnaire more convenient.

Data analysis was done through thematic analysis of content, according to Minayo[13], in which the main contents of the related data collection were categorized and quantified. Three steps were considered: pre-analysis, material exploration and result processing.

The study complied with the recommendations and principles proposed by Resolution 466 on December 12th, 2012, of the National

Health Council. The data collection started after being appraised and approved by the Research Ethics Committee of the Municipal Department of Health of Rio de Janeiro, opinion report n. 1.278.064/2015. The participation and rights were explained to all the participants, followed by their signing an Informed Consent Form. After they answered the questionnaire, they were given a fictitious identity coded by the letter N, of nurse, followed by the Indo-Arabic number (from N1 to N6) in random order to ensure anonymity.

## RESULTS AND DISCUSSION

The study had the participation of six nursing assistants, who predominantly had a time interval of more than ten years between graduation and their current occupation, and all six nurses worked in the hospitalization sector studied for at least five years. Half of the sample had a *lato sensu* postgraduate degree in areas linked to the hospital context.

Three thematic categories arose from the exploration of the material: 1. Nurses' perception of Safety and Quality in Healthcare; 2. Shortcomings and potentialities for patient safety; 3. Suggestions for improving care quality and safety.

### Nurses' perception of Safety and Quality in Healthcare

The first category puts forward the perception about the concept of safety and quality in healthcare. Particular attention is drawn to the fact that knowing this concept is a key aspect in providing care. Most of the subjects related the meaning of it to risk management inherent in care.

This category is perceived through the following parts of speech:

> "Providing safe assistance is based on the reduction of risks that might result in hazards to patients (N5)".

> "Safety and quality in health care assistance services refers to the smallest amount of risks to patients and [to the] professionals, with the required promptness and resoluteness (N6)".

> "It is about providing health care assistance that focuses on the customers' needs in a safe way, without exposing patients to chemical, physical and biological risks (N3)".

In these testimonials, we can observe that the nurses who took part in this study perceive and take into account the risks associated with healthcare assistance from a prevention perspective. The care provided in the hospital setting is complex, considering the coexistence and interaction of mechanical, physical, chemical and clinical risks involved[2,7,9,10]. Taking these risks into consideration is relevant, once it is possible to adopt preventive measures.

The nurses understand the existence of risks and the need to avoid them, however, incident notification, which is an important sanitary surveillance action to qualify the processes, was not mentioned as a conditioning aspect for patient safety. Therefore, it is evident that the notification is not considered by the participants of the study, regarding risk management.

Furthermore, the notification is seen by the professionals from a punitive point of view rather than an educational one[4]. With that, it becomes something that should be avoided or not considered, as shown in the testimonials from the participants of this study. As a strategy to make this safety culture effective, the "punishing ghost" must be removed through the educational use of notifications to develop professionals and services.

Health institutions must implement risk management programs and committees aimed at constantly improving the safety indicators[2], which are the Patient Safety Centers. These bodies must be composed of multidisciplinary teams[2], including nurses[5,14,15], and propose preventive and intervening mechanisms, mainly through healthcare assistance experiences and scientific evidence.

It is recognized that nurses also associate quality and safe healthcare to patients with internationally recommended strategies, such as the use of wristbands, hospital bed signs to properly identify patients and fractional and individual medication dispensing systems.

> "[…] Proper patient identification through wristbands + identification on the bed are measures that make our work easier (N2)".

> "By putting the identification on the bed and identification wristbands and separate medication boxes with the name of each patient, mistakes become less likely to happen, so patients and nurses become safer (N5)".

The National Health Surveillance Agency (ANVISA - *Agência Nacional de Vigilância Sanitária*) highlights patient identification as an example of potentiality that can be achieved through the use of wristbands with different identifiers that must be double-checked[1,2]. The Joint Commission International, an important international organization that deals with the quality assessment and accreditation of health care services, advocates that health care facilities should implement strict and accurate systems for patient identification, mainly in drug administration, sample collection and diagnostic and surgical interventions[1,2,15].

Making these potential strategies (strengths) effective to patient safety is essential to reinforce the safety culture in healthcare organizations, where the patient safety committees and institutional programs, in conjunction with direct care professionals, hold the responsibility for developing potential strategies and intervention in the face of shortcomings.

### Shortcomings and potentialities for patient safety

In this category, the shortcomings and potentialities that emerged from the testimonials are described, with regard to providing healthcare. There is some congruence in the results found in the study of this topic.

The following characteristics were mentioned as shortcomings: nurse understaffing; ineffective communication and interprofessional relationships; as well as the lack and low quality of care materials/supplies.

Understaffing was a constant topic in the testimonials, since nurses consider that this aspect strongly influences the provision of safe and quality care in hospital environments.

> "Understaffing interferes negatively in the provision of healthcare [...] there are more adverse events when the nursing staff is smaller than it should be (N6)".

> "The number of nursing professionals must be sufficient and be meet the characteristics of the hospital unit [...] (N1)".

It is clear that understaffing is a factor that has potential to impact negatively in the daily routine of the professionals and affect the quality and safety of care, since the work overload has the potential of increasing the hospital morbimortality rates due to the higher incidence of adverse events[4,5,8,11,12,16].

Currently, the Federal Council of Nursing establishes, through Resolution 453, of April 19th, 2017, the parameters for nursing staffing that are in accordance with the following profiles of customers' needs for care: minimum care; intermediary care; highly dependent care; semi-intensive care; and intensive care[17].

It is important to note that understaffing is mentioned in most of the health institutions, either public or private, although it seems to be a particularly chronic problem in public services. In both settings, there are several factors involved, such as financial, political and organizational interest, aside from historical aspects.

Also, with regard to human resources, the "ineffective communication and interprofessional relationships" was another topic that emerged. We identified the need for better interaction and effective dialogue among the different professional categories, considering the fact that, when absent, there is also higher incidence of risks and adverse events.

> "It is necessary to improve the interaction and dialogue among nurses, doctors, physical therapy, nutrition, social work and others (N6)".

The changes in healthcare that have happened over the past decades required adjustments in approaches from services, implementing an integral attention model instead of a medical-hegemonic and biologicist uniprofessional approach.

Taking this scenario of changes into consideration, it is necessary to highlight that several professional categories started to have responsibilities in the care of users, thereby qualitatively increasing the number of individuals and personnel necessary for the provision of care. In this way, it must be observed that an effective service requires the integration of several multidisciplinary and interdisciplinary teams, since the work process flows better when there is cooperation, communication and interprofessional relationships[2,8,9,10,11,12].

Like human resources, nurses also consider the quantitative and qualitative impact of material resources on the safety of healthcare, given that, most of the times, these are necessary to meet the clients' needs.

> "[...] High-quality material is an important element for care (N1)".

> "In order to improve the service in healthcare, it is necessary to provide the unit with suitable materials that do not hinder care (N3)".

The materials and supplies directly impact the work of a nurse, often causing the interruption of the assistance, the prolongation of hospitalization, higher incidence of infections in patients and, in addition to that, stressful and harmful situations for the nursing staff[6,10,18].

The following potentialities were listed: the presence of routines and institutional protocols; professional commitment and satisfaction; and institutional actions of continuing education.

The presence of pre-established routines and institutional protocols was mentioned as a protective factor for patient safety. This topic was also seen as a potentiality when the content of perceptions about safe and effective care was analyzed, once the patient identification was listed as potentiality. We also emphasize that patient identification is an operational protocol in most of the hospital units[2,7,15].

> "The presence of some protocols of healthcare in this hospital unit, such as the Standard Operational Procedure (SOP) of patient identification and drug administration makes care easier (N2)".

> "Following the routines of the sector allows implementing care (N1)".

The lack of routines and protocols for healthcare in hospitals is chronic[4,6,8], even though these are crucial technologies that, when applied, have the potential to support and improve professional activities[1,2,4,10,15]. It is worth highlighting that compliance with routines and institutional protocols is a mandatory and inherent attribute in the practice of all care service professionals[7].

Establishing norms, routines and operating guidelines for patient safety is the responsibility of Patient Safety Centers, along with the coordination of sectors and management of professional centers (middle and immediate managers)[1,7]. Nevertheless, healthcare professionals must also take part in establishing these technologies[2,4] in such a way that, through a dialogic and hierarchically horizontal process, it is possible to reduce the distance from the practice and thus promote effectiveness. Silva-Batalha and Melleiro[4] endorse this approach, highlighting the need to include the healthcare professionals for better success in the planning and decision-making process.

Directly related to the compliance with routines and protocols, there is the staff's commitment and motivation. This category could be noticed in a few nurses' testimonials, however, it becomes more significant when the personal/individual aspect is analyzed and we consider the influences of the entire process of providing care.

> "Having an integrated, motivated and committed nursing staff is essential for the performance of good care (N1)".

> "Paying attention and being committed to clients' complaints, observing and assisting them according to their needs [...] (N2)".

The compromise and professional commitment to the safety and quality of care are ethic issues and professional duties of every care provider. Nonetheless, providing care is a result of the interaction of several interrelated subsystems[12], among which there are the work conditions, that results in work overload, and the organizational environment. These are seen as stressful factors and negatively influence performance, satisfaction and professional commitment.

Patients' satisfaction is one of the objectives of quality healthcare, although, in order to achieve this result, an improvement process of the hospital infrastructure and work processes is necessary. Patients' satisfaction may only be fully achieved when the person providing care is also satisfied.

Organizational environment, understaffing, stress levels and lack of motivation affect the behavior and conduct of the individuals in their performance. Satisfaction and motivation should be encouraged by direct managers and health organizations, since a motivated healthcare professional – who receives all the personal and professional support he or she needs – is a requirement for quality and safety[4,8,11].

Associated with professional satisfaction, there is also training and education in service. According to Velho and Treviso[5], these initiatives "encourage the individual to pursue better quality in performing his or her work". The participants of the research described continuing education as a potential strategy for keeping a healthcare provider environment that is safe and qualified.

> "The unit provides frequent training programs [...] and it fosters our professional updating, simplifies our activities and promotes safety (N6)".

It is interesting to analyze that nurses perceive their need for professional updating and value the training programs that are offered to them. They also understand the impact of such actions in the healthcare provider process. These actions must also be valued and encouraged by the managers of the hospital units, who should promote training sessions that fit with the practical daily routine of the staff and that are suitable to the local reality and professional requirements.

### Suggestions for Improving Care Quality and Safety

Actions and interventions were suggested to overcome the shortcomings and improve patient safety indicators. The suggestions comprise several levels of governance, from care and management actions to actions that are inherent in the local government – the sphere of management that is in charge of the maintenance of the hospital where the study took place.

That way, the shortcoming nurses mentioned more often was nurse understaffing. This was almost unanimous in the suggestions given by the participants and raised the question as to the need for constant monitoring between the quantitative of professionals *versus* the characteristic, the complexity, the quantitative and the demographic profile of the people that are assisted.

> "[...] Quantitative of professionals vs. proper patient (proper equivalence, with proper staffing) (N3)".

The hospital management may indicate the shortage of professionals and demand an increase in the number of employees, however, this might be hardly achieved if public managers do not pay attention and allocate resources for this purpose. This suggestion is, therefore, the one that is most distant from the hospital governance level in this context.

> "Meeting their (patients') needs [...] with proper supplies (N4)".

The material supplies were also often mentioned in the suggestions of the nurses. They suggested that managers ensure the regular supply of materials of proper quality and quantity, with the necessary participation of healthcare professionals in analyzing the quality and functionality of the materials offered to the unit. This aspect is the responsibility of the governance of the hospital management and of the local management as well. Therefore, it requires attention from the immediate and middle managers to be achieved.

## CONCLUSION

In this study, we could unveil organizational aspects that are involved in the safety and quality of healthcare, as well as relational and individual aspects of the staff members. It also shows that, in addition to identifying the involved factors, nurses are familiar with the intervening measures from different levels of governance to address shortcomings and strengthen potentialities.

Even with the multidimensionality of the intervening factors, a limitation of this study was the participation of care nurses only. Therefore, we recommend further scientific studies that include multiprofessional teams, managers from various hospital units and service users in order to merge their findings with the data presented here.

It should be stressed that, despite the broad exploration of the topic by the literature, evidenced by the increasing scientific production, there is still some important distance from the reality of care practice in the several hospital services.

It is recommended that efforts be implemented to guarantee a favorable environment to safety with a healthy organizational environment for the quality of care. The surveillance of the processes and the safety culture are other conditioning factors of the whole process and must be accomplished based on the constant improvement of the professionals involved.

We expect that the considerations presented by this research provide support for new debates, bringing inflexions to health practice and boosting the constant improvement of the training processes, healthcare and nursing management in patient safety, mainly with regard to hospital units.

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### Conflict of Interest

Authors have no potential conflict of interest to declare, related to this study's political or financial peers and institutions.