

Knowledge of the multidisciplinary team on patient safety in an Intensive Care Unit

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Abstract

The aim of this study was to analyze the factors that interfere with patient safety in Intensive Care Units (ICU) through the knowledge of the multidisciplinary team. This was a descriptive study with a quantitative and qualitative approach, carried out with 40 health professionals, who make up the multidisciplinary team of the ICU of a regional reference hospital of the state. Data collection was carried out between the months of May and December 2020. It took place through a semi-structured interview, guided by a thematic script and a sociodemographic questionnaire. Data were processed using IRAMUTEQ software, through Descending Hierarchical Classification, and were analyzed using the collective subject discourse technique. It was demonstrated that the lack of knowledge about the concept of patient safety, the lack of care protocols, interpersonal problems, the occurrence of adverse events, underreporting, and inadequate estimations are some of the factors that interfere with patient safety in the ICU. There is a need to resolve existing flaws, especially regarding personnel size, issues related to the interaction of the multidisciplinary team, and the implementation of institutional protocols, which guide care. By strengthening the safety culture, professionals feel empowered to report not only AEs, but also reportable circumstances.

Keywords: Multiprofessional team. Patient safety. ICU.

INTRODUCTION

The discussion on patient safety and the search for quality in the provision of healthcare has received special attention, occupying a prominent position worldwide¹. Despite not being a new subject, at no other time has there been as many publications on this topic as in the 21st century².

In complex health centers with highly technical resources, such as Intensive Care Units

(ICU), this theme deserves attention, due to the need to adapt human resources and the demands of care offered to critical patients. Therefore, the ICUs are recognized as sectors susceptible to the occurrence of adverse events (AE), which is an incident that results in harm to the patient³.

In this context, the work of the multidisciplinary team, in addition to meeting the he-

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alth needs of users, must be developed in an clear, comprehensive, and coordinated manner. In other words, they work in an interdisciplinary and holistic manner, associated with good working conditions, seeking to organize services that favor the quality of care and minimize the occurrence of risk, that is, the probability of an AE occurring⁴.

Considering that the quality of healthcare is directly related to patient safety, it is believed that not only the training of the professionals involved, but also the severity of the patient, the workload, length of stay, and the active participation of the patient safety center, directly or indirectly, influence the occurrence of an AE⁵.

The frequency of incidents represents a serious problem in the health care provided in the

intensive care environment and has an impact on the increase in length of stay and mortality rates⁵. Understanding potential risk factors can provide the multidisciplinary team, the patient safety center, and managers with important information to improve the quality of care, understanding the risks, their causes, as well as planning improvement strategies².

Greater attention to these aspects contributes to harm-free care for patients. The focus of this study was based on the following guiding question: What are the factors that interfere with the safety of patients in the ICU? Therefore, this study aimed to analyze the factors that interfere with patient safety in Intensive Care Units (ICU) through the knowledge of the multidisciplinary team.

METHODOLOGY

This was a descriptive study with a quantitative and qualitative approach, carried out with forty health professionals who were on the multi-professional teams of the ICU of a large regional public hospital, located in the interior of the state of Bahia, Brazil. In that hospital there is a team that makes up a Patient Safety Center, but none of these professionals were part of the ICU team.

At the time the study was carried out, the hospital had 39 beds for intensive care, distributed among 4 ICUs, three with 10 beds each and one with 9 beds installed. Of these, 20 beds were allocated for the treatment of patients with COVID-19, 10 for surgical patients, 9 for patients with other comorbidities, and one rotating, for performing conventional dialysis therapy for patients admitted to the hospital. The ICU teams were composed of physicians, nurses, physical therapists, nutritionists, nursing technicians, psychologists, administrative professionals, and general services.

The research participants were nurses, nursing technicians, physicians, physical therapists, nutritionists, psychologists, and pharmacists. According to inclusion criteria, only professionals who were part of the ICU teams, with at least two months of work in the unit, and who provided care to patients in this hospital, participated in the study; professionals who did not feel comfortable and thus resisted participation and those who were away from the work for personal reasons did not participate.

Data collection was carried out between May and December 2020, at a previously established time and in a reserved place in the ICU. It took place through a semi-structured interview consisting of a thematic script with triggering questions on the subject, seeking to identify their understanding of the term patient safety, the interference of the multidisciplinary work, factors that favor and hinder guaranteeing patient safety in ICU, and the practice of reporting adverse events; in

addition to a questionnaire containing sociodemographic questions. The interviews were recorded on an electronic device, later transcribed in full and grouped into a textual corpus.

The study was based on saturation research, a conceptual tool often used in qualitative research studies in different areas, used to establish or close the final size of a study sample, interrupting any additional components that have already been mentioned⁶.

The sociodemographic data obtained were processed according to absolute and relative frequency by the IBM Statistical Backlog for the Social Sciences (SPSS) software, version 25.0, 2017 (IBM Corp, Armonk, United States of America) and presented in a table.

The processing of data from the interviews took place using the IRAMUTEQ software (Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires), through Descending Hierarchical Classification (DHC). The software was developed in the Python language and uses functionalities provided by the R statisti-

cal software, allowing different forms of statistical analysis of texts, produced from interviews, documents, among others.

The processing allowed the classification of 2 thematic axes and 5 hierarchical classes. To create the word class, the software uses the chi-square test (χ^2), which infers the association between the words and their respective class⁷.

Continuing with the data analysis, we used the Collective Subject Discourse (CSD) method. The technique basically consists of analyzing the verbal material collected in surveys that have testimonials as their raw material, with central/anchoring ideas and similar key expressions composed of one or several synthesized discourses that are the Collective Subject Discourses⁸.

In compliance with ethical aspects, the provisions of Resolution 466/12 of the Ministry of Health in Brazil were followed. The research is part of a larger project, entitled Patient Safety Nucleus, approved by the Research Ethics Committee – REC, of the State University of Southwest Bahia, under opinion No. 2.392.241.

RESULTS

The data presented in Table 1 correspond to the sociodemographic variables, with absolute and relative frequency distribution.

Among the research participants, it was possible to observe that the highest percentage was female 30 (75.0%), in comparison with the males. It is worth mentioning that the working experience of these professionals in the ICU varied, with 21 (52.0%) between 1 and 5 years of work in the ICU. The employment relationship was divided into full-time and third-party contracts, with a frequency of 5 (12.5%) and 35 (87.5%), respectively; 23 (57.5%) had more than one job and 17 (42.5%) had only one job.

From the content of the interviews, a textual

corpus was generated and submitted to DHC processing in the IRAMUTEQ software, consisting of 39 texts, separated by 353 text segments. 12,329 events (words) emerged, with 1,755 distinct words and 926 with a single event. Two thematic axes emerged. Axis 1 comprises classes 6, 2, 4, and 3; and axis 2 branched into classes 1 and 5. The dendrogram is shown below with the presentation of the axes and their respective classes (Figure 1).

The classes are strategically presented for a better compression of the theme, resulting from DHC, after processing in IRAMUTEQ. Figure 2 follows, which demonstrates the distribution of axes and thematic classes.

Table 1 – Percentage distribution of sociodemographic variables referring to research participants, Bahia, Brazil, 2021.

Variables	n	%
Sex		
Female	30	75.0%
Male	10	25.0%
Age Group (Years)		
21-30	18	45.0%
31-40	20	50.0%
45-55	2	5.0%
Profession		
Nurse	13	32.5%
Doctor	3	7.5%
Physical therapist	7	17.5%
Psychologist	2	5.0%
Nutritionist	2	5.0%
Nursing technician	11	27.5%
Pharmacist	2	5.0%
Graduate School		
Specialization	26	65.0%
Master's degree	1	2.5%
Doctorate degree	0	0.0%
Does not have or does not apply	13	32.5%
Time working in the ICU		
Less than 1 year	12	30.0%
Between 1 and 5 years	21	52.5%
More than 5 years	7	17.5%
Job type		
Full-time	5	12.5%
Third-party contract	35	87.5%
More than one Job		
Yes	23	57.5%
No	17	42.5%

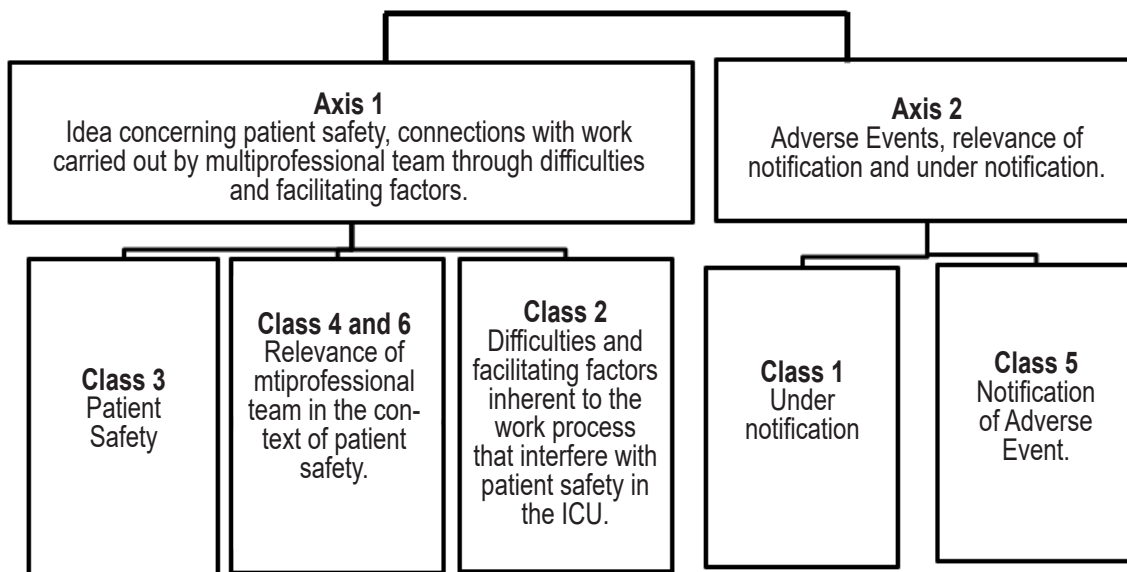


Figure 1 – Dendrogram representing the thematic axes on Patient Safety in the ICU, Bahia, Brazil. 2021.

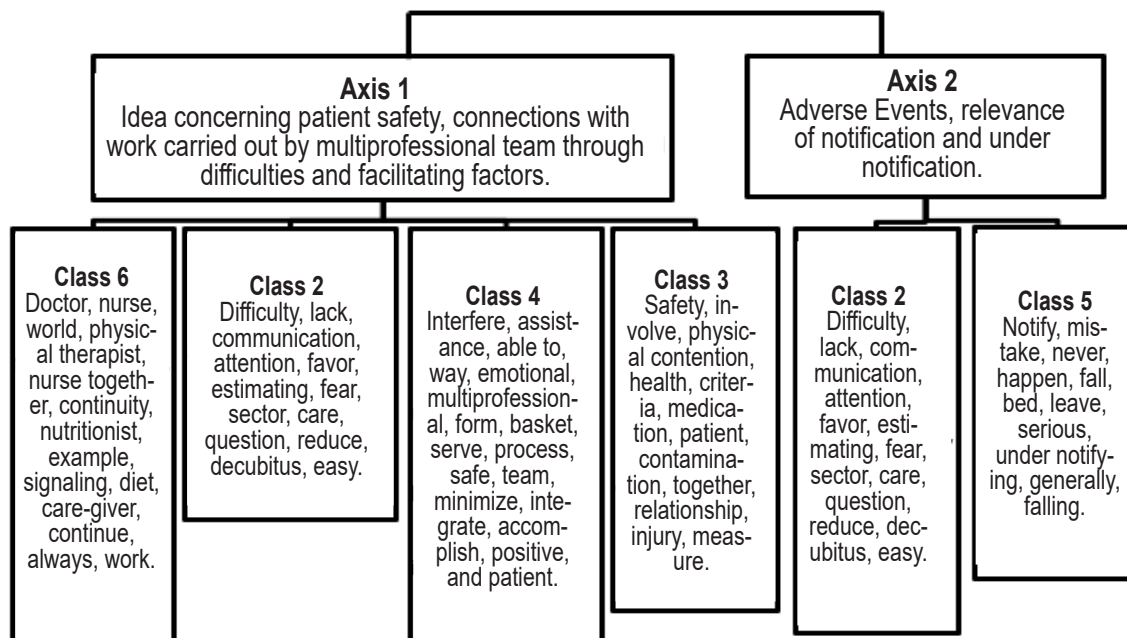


Figure 2 – Distribution of axes and thematic classes, from DHC, IRAMUTEQ, Bahia, Brazil. 2021.

Axis 1: Concept of Patient Safety, interweaving of the work developed by the multidisciplinary team through difficulties and possibilities

Class 3: Patient Safety

Class 3 consisted of the following words and their respective chi-square values (x^2): safety ($x^2 = 55.41$), health ($x^2 = 29.19$), physical ($x^2 = 27.33$), medication ($x^2 = 17.64$), patient ($x^2 = 16.98$), contamination ($x^2 = 14.32$), ratio ($x^2 = 14.27$). The concordances of the textual corpus related to class 3 were submitted to the analysis of the Collective Subject Discourse, emerging two discourses that express the collective thought.

CSD I – *“Patient safety, even according to the term, is to reduce the harm to the patient, it is everything that involves the well-being of the patient during their hospitalization, it is to provide safe assistance, to provide this patient with a lower rate of risk of accidents”.*

CSD I represents the thinking of the community when questioning the understanding of the term patient safety, thus describing the perception of the multidisciplinary team.

Classes 4 and 6: Relevance of the Multidisciplinary Team in the context of Patient Safety

Classes 4 and 6 are related to the work of the multidisciplinary team, due to the similarity they were grouped. They consist of the following words: interfere ($x^2 = 59.13$), assistance ($x^2 = 50.86$), multidisciplinary ($x^2 = 22.0$), process ($x^2 = 20.33$), continuity ($x^2 = 19.95$), secure ($x^2 = 19.86$), integral ($x^2 = 15.67$), work ($x^2 = 10.87$). The synthesis of the concordances of these classes allowed for the construction of CSD II and III.

CSD II – *“We work together for the benefit of the patient, our interaction is the apex for this patient to be treated correctly, and thus, the multidisciplinary team interferes in every way, we have to work as a team for the work to flow”.*

CSD III – *“The multidisciplinary team negatively interferes when health professionals work only with a view to their field of action, and thus does not construct a therapeutic form encompassing all areas of the patient. It cannot be the job of the physical therapist, the nurse, or the doctor, it has to be everyone’s job together”.*

CSD II demonstrates that professionals realize the importance of teamwork and how significant it is for patient safety. It also mentions the relevance of this work in the healthcare process, based on the premise that the union of the members reflects on positive and primordial results for patient safety, and is a reflection of the work developed by the team in an interprofessional way.

On the other hand, CSD III reveals a negative perception when work is carried out in a fragmented way, as it negatively interferes with health care, and consequently with patient safety. It states that professionals should not work in a dissociated way.

Class 2: Difficult and facilitating factors inherent in the work process that interfere with patient safety in the ICU

The difficulties and facilitating factors related to the care process interfere with the achievement of quality in care, since the facilitating factors can provide a decrease in the AE occurrence rate. Thus, class 2 is composed of the main words: hinder ($x^2 = 74.62$), lack ($x^2 = 44.63$), communication ($x^2 = 41.61$), attention ($x^2 = 34.88$), favor ($x^2 = 32.07$), estimation ($x^2 = 18.41$), care ($x^2 = 16.85$), sector ($x^2 = 13.93$), reduce ($x^2 = 8.82$), decubitus ($x^2 = 8.72$). It is possible to observe the various factors that hinder and interfere with the safety of patients in the ICU, as well as the facilitating factors experienced, which favor safety.

CSD IV follows, as a collective thought of the multidisciplinary team, which explains factors that harm and those that favor patient safety in

the ICU. It mentions factors that have historically had a negative impact on the provision of care, but which are still neglected.

CSD IV - *“What ends up making patient safety difficult is the overload, the estimation, lack of material, the unprepared team, the lack of attention to care. Communication failures in some situations. The lack of a protocol, an instrument. What favors it is when the team interacts in a cohesive way and is able to discuss the patients. The beds are electronic, the issue of identifying the beds, and the visit of day laborers”.*

Axis 2: Adverse events, relevance of reporting and evidenced underreporting

Axis 2 mentions the practice of AE notification, as well as revealing the existing underreporting in the service. It is composed of classes 1 and 5, which follow.

Class 1: Adverse event notification

The words notification ($x^2 = 96.81$), adverse ($x^2 = 82.87$), event ($x^2 = 68.87$), fill ($x^2 = 15.88$), culture ($x^2 = 11.87$), core ($x^2 = 11.17$), are some of those that make up class 1, which are related to the notification context. From these occurrences, two CSDs emerged. The first describes the practice of notification and its significance, while the second presents a speech that infers the lack of knowledge and non-adherence to

this practice.

CSD V - *“Notification of the adverse event is important, because then we will solve some problems. Everything that happens should be notified on the adverse event sheet, such as the administration of a blood component to the wrong patient, whether it is a patient falling, a tube being lost, all of that, the issues of adverse events in the unit”.*

CSD VI - *“I never done a notification; in fact, I don't know much. I hardly hear about it or observe people performing this practice here in the ICU”.*

Class 5 mentions the underreporting of AE by the multidisciplinary team, it is composed of the main words: notify ($x^2 = 59.18$), error ($x^2 = 30.04$), never ($x^2 = 27.52$), serious ($x^2 = 19.47$), underreporting ($x^2 = 19.47$).

CSD VII - *“The notification only happens in the case of something serious, or a very extensive problem. I think there is underreporting, because if you were to catch everything that happens and everything that is reported, there will be a big difference. It is not a culture to notify”*

CSD VII reaffirms what was reported in CSD VI and demonstrates underreporting as a daily fact, with only serious cases being reported, which makes it impossible to track errors, understood as resulting from a process.

DISCUSSION

It was shown that several factors potentiate the occurrence of adverse events in the ICU, weakening patient safety, and such factors are correlated with the work processes experienced. Therefore, the understanding of patient safety by the multidisciplinary team is of great relevance for carrying out the recommended good

practices^{09,10,11}. During data collection, it was noted that the overall group presented adequate knowledge concerning the theme, as corroborated by the Ministry of Health, which states that this topic is the search for the reduction of risks linked to care, to an acceptable minimum. This understanding is essential for achieving quality

in healthcare services¹².

It is known that the potential damages inherent in the provision of care are undeniable, care practice based on safety in service does not guarantee harm-free care, but it is one of the pillars for achieving quality in healthcare, in seeking to reduce risks that are directly associated with the daily practices of healthcare professionals¹³.

When referring to the work of the team working in the ICU, the CSD II reaffirms its importance by the professionals who composed it, demonstrating that there is some benefit when the team acts in an interprofessional way. The interaction between the team is a fundamental aspect for the resolution of healthcare, as such practices that promote safe and effective care are essential in more complex units, such as the ICU¹⁴.

However, the collectivity that make up CSD III describes the team's perception of the work done in a disjointed manner, thus, it is far from the perspective of interprofessional work; the occurrence of such a process is a failure. The effect of this perception on achieving quality care for critically ill patients is indisputable⁴.

From the speeches of the participants, the need to differentiate the terms multidisciplinary and interprofessional was observed. The multidisciplinary term points to the work carried out by several professionals with a unique approach based on different perceptions, and in an individual way. Meanwhile, interprofessionality permeates the health care process in an articulated and complementary way, in which the sciences merge strategically in the provision of care⁴.

With regards to the work processes described in CSD IV, such as work overload, inadequate estimations, lack of material, and others, it is observed that such failures have repercussions on the occurrence of AE¹⁵. Factors like these interfere negatively in healthcare and are a consequence of the incorrect estimation of per-

sonnel and the lack of preparation of the team³.

Communication failures and the lack of protocol in the unit were also mentioned. Moreover, noise in communication, whether written or verbal, negatively interferes with care, as well as the lack of Standard Operating Protocols (SOP's), which are synonymous with safety barriers in services, understood as guidelines in care practices, and which aim to assist the conduct taken when offering certain types of care¹⁶.

Regarding the facilitating factors for guaranteeing safety, emphasis is placed on the relevance of good health practices, dialogue between professionals involved in the care process, and the availability of technologies in ICU beds. Still, the presence of the daily medical professional is reaffirmed, who monitors the evolution of the patient in the ICU on a daily basis. These professionals act to promote the continuity of care in a longitudinal way¹⁷.

In the context of AEs, it is observed that issues related to professional errors during healthcare can also affect the worker's health; thus, such problems must be considered due to the frequency, intensity, and proximity in which they occur and the existing interrelationship between workers and patients. It is necessary to reflect on the barriers present in the work process, which bring risks to the health and safety of the worker and make patient safety susceptible¹⁸.

Faced with such a problem, the relevance of notifications is emphasized, as a way of identifying events that have occurred and potential ones, as a form of organizational learning. However, it is observed that the multidisciplinary team does not carry out the notification. The importance of notifications is reaffirmed, due to its low cost, and due to the policy of continuous improvement, centered on the patient. It is also necessary for managers to give feedback to the team, in the search for improvements and minimization of AEs¹⁹. In this service,

the notification process was carried out through forms, filled out by the team, and delivered to the professionals who make up the patient safety center.

In this regard, in CSD VI, the overall group mentions that notifications were given in serious cases. On the contrary to this thought, it is known that not only serious AEs should be notified, but less complex ones, as well as the risks, their respective causes, processes involved, imagining possible strategies to be implemented in the search for the resolution of the problem that permeates the service².

Furthermore, there are notifiable circumstances, considered as events, specific or inherent situations in the care process, which predispose patients to AE, several were mentioned in herein, such as: inadequate staffing, lack of necessary materials or equipment, among others. These are circumstances that interfere with patient safety and that need to be notified²⁰.

Underreporting of AE is perceived as a real circumstance through the perception presented by CSD VII. The problem of underreporting sometimes stems from not knowing the circumstances that need to be notified, and also from the lack of recognition of the records, which is essential to prevent AE recurrence, promote learning, and generate useful information for effective strategies¹⁹.

In the past, the punitive culture present in healthcare services was a prevalent fact associated with underreporting. The error is directly associated with the professional in an isolated way, linked to a punitive character, thus, fear

prevents the actors involved from reporting the AE or a notifiable circumstance^{19,20}.

The occurrence of AE should be worked on with the aim of creating a non-punitive, anonymous, and efficient safety practice, with a view to understanding the work processes, reformulating them, in the search for the elimination of organizational failures^{21,22}. The prevalence of the safety culture is necessary, in which the focus is on the correction of the work processes, through the adoption of a proper care model based on a non-punitive principle, with the intention of preventing the recurrence of undesirable events. Most of the time, errors are consequences of a sequence of events and not of a single isolated act, especially in critical units, such as the ICU, which may be due to the composition of teams, the severity of the patient, and pre-established routines^{2,23}.

The information presented by this study points to the need to strengthen actions on patient safety, focusing on the healthcare needs experienced; especially in relation to the factors that interfere with the safety of patients hospitalized in the ICU. Therefore, the foundation of the safety culture is essential, with the frequent practice of notifications, a primordial tool for health management.

Understanding the magnitude of this topic, this study contributes to scientific production as well as providing subsidies for the Patient Safety Center, hospital management and coordination teams, in order to direct the care provided to patients, based on good health practices recommended.

CONCLUSION

From this study, we believed that it is essential to institute continuous actions related to patient safety as a cultural process in health institutions, with an emphasis on ICUs, in order

to promote greater awareness of the multidisciplinary team concerning the culture of safety and understanding of factors experienced daily in healthcare practice, which interfere in patient

safety.

There is a need to resolve existing flaws, especially regarding inadequate staffing, issues related to the interaction of the multidisciplinary team, and the implementation of institutional protocols, which guide the care provided. This may strengthen the safety culture, where professionals feel empowered to report not only AEs, but also reportable circumstances.

It is necessary to institutionalize the practice of continuing education, promoting discussions among the team, developing a learning moment among them, since the multidisciplinary team needs to be constantly informed in order to properly carry out the work process, with critical reasoning and thinking, thus, resulting in appropriate patient safety practices and ensuring safe and quality care.

CRediT author's statement

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