● **Original article**

PATIENT SAFETY CULTURE IN HOSPITAL ORGANIZATION*

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ABSTRACT: Survey study conducted in May 2015 that described patient safety culture in hospital organization. Of the total 511 nursing professionals, 267 individuals composed the random sample, 128 met the inclusion criteria and answered the questionnaire "*Pesquisa sobre Segurança do Paciente em Hospitais*" (Survey on Patient Safety in Hospitals), totaling a response rate of 47.94%. Of the safety culture dimensions, the ones which stood out with negative answers were: "Team work in the unit" with 67% (338), "Expectations on your supervisor/boss and actions promoting patient safety" with 66.3% (330), "Organizational learning – continuous improvement" with 53.8% (198) and "Internal transfers and shift changes" with 50.9% (255), representing the main areas with potential for improvement. There were no dimensions with positive overall answers defined with area of strength. It is of utmost importance to share responsibility in implementing strategies aiming to correct weaknesses found to promote qualified, effective and safe health care.
DESCRIPTORS: Culture; Organizational culture; Hospital; Patient safety; Nursing.

CULTURA DE SEGURANÇA DO PACIENTE EM ORGANIZAÇÃO HOSPITALAR

RESUMO: Estudo do tipo *survey* realizado em maio de 2015 que descreveu a cultura de segurança do paciente em organização hospitalar. Do total de 511 profissionais de enfermagem, 267 pessoas compuseram a amostra aleatória, 128 atenderam aos critérios de inclusão e responderam ao Questionário "Pesquisa sobre Segurança do Paciente em Hospitais", perfazendo taxa de resposta de 47,94%. Das dimensões da cultura de segurança, destacaram-se com respostas negativas, "Trabalho em equipe na unidade" com 67% (338), "Expectativas sobre o seu supervisor/chefe e ações promotoras da segurança do paciente" com 66,3% (330), "Aprendizado organizacional – melhoria contínua", 53,8% (198) e "Transferências internas e passagens de plantão" com 50,9% (255), representando as principais áreas com potencial de melhoria. Não houve dimensões com respostas globais positivas definidas com área de força. Urge responsabilidade compartilhada em implementar estratégias que visem corrigir as fragilidades encontradas em prol de uma assistência qualificada, eficaz, efetiva e segura.
DESCRITORES: Cultura; Cultura organizacional; Hospital; Segurança do paciente; Enfermagem.

CULTURA DE SEGURIDAD DEL PACIENTE EN ORGANIZACIÓN HOSPITALARIA

RESUMEN: Estudio tipo *survey* realizado en mayo de 2015, describiendo la cultura de seguridad del paciente en organización hospitalaria. Del total de 511 profesionales de enfermería, 267 individuos compusieron la muestra aleatoria; 128 cumplieron los criterios de inclusión y respondieron el Cuestionario "Investigación sobre Seguridad del Paciente en Hospitales", ofreciendo tasa de respuesta del 47,94%. De las dimensiones de la cultura de seguridad, obtuvieron respuestas negativas: "Trabajo en equipo en la unidad", 67% (330), "Expectativas sobre su supervisor/jefe y acciones promotoras de seguridad del paciente", 66,3% (330), "Aprendizaje organizacional – capacitación continua", 53,8% (198) y "Transferencias internas y cambios de guardia", 50,9% (255); representando las principales áreas con potencial de mejora. No hubo dimensiones con respuestas globales positivas definidas con área de fuerza. Urge responsabilidad compartida para implementar estrategias de corrección de debilidades encontradas, en pro de una atención calificada, eficaz, efectiva y segura.
DESCRIPTORES: Cultura; Cultura Organizacional; Hospitales; Seguridad del Paciente; Enfermería.

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● INTRODUCTION

Health care currently spans not only technical and scientific aspects, but also a range of dimensions that explain the organizational culture of each health service, specifically of each hospital organization. The hospital is considered one of the most complex organizations, whose operation is undertaken through the interaction among the involved sectors and the need to harmonize operational processes for the development of the desired final product. In other words, to develop actions that promote, with responsibility, quality and safety in the care of patients who seek the service in the pursuit of well-being and health. The simultaneous conjunction of technical, operational and environmental factors associated with human potential aims at finding the best practices for patients' rapid recovery and their quickly return to their family and to society[1].

Safety culture is understood as one of the values of organizational culture, whose objective is to favor coherent actions and more appropriate behaviors, with fundamental attitudes and rules for a safe environment. Nonetheless, this safety culture may be different among the organizations' subgroups, such as professional areas and categories that have their own culture and modus operandi ruled by specific disciplinary codes. Besides individual attitudes and values of the organization members, tactical and operational commitment and involvement of the executive staff with safety influence directly in everyday routine, since it must be daily renewed due to its perishable characteristic[2].

Patient safety is defined as the reduction to the minimum acceptable unnecessary damage risk associated with health care[3]. According to The Canadian Patient Safety Dictionary, patient safety means the reduction and mitigation of unsafe acts within the health-care system, as well as through the use of best practices shown to lead to optimal patient outcomes[4].

From this perspective, patient safety becomes the focus of researchers worldwide, assuming a fundamental dimension for quality in health. In 2004, the World Health Organization (WHO) established the World Alliance for Patient Safety, recognizing the overall magnitude of the phenomenon[5].

Safety culture is defined through the individual and shared behavior of organization members, according to their commitment and responsibility in offering qualified and safe service, regardless of their hierarchical position[6]. In this respect:

> [...] patient safety culture has received increasing attention in healthcare organizations. Becoming more and more complex, healthcare services increase the potential for incidents, errors or flaws, particularly in hospitals. A strengthened safety culture in the hospital context emerges as one of the essential requirements for improving health care quality[7:152].

This fact points to the need for changes in hospital organizations according to each organizational culture, by means of management strategies and innovative processes for patient safety culture, considering facilitators and barriers such as:

> [...] people, ideas, relationship standards and time. It can be said that there is an organizational culture that favors change and innovation in certain environments but not in others. The development of a safe environment for patients and professionals requires a strategic plan, leadership and team work[8:356].

Therefore, hospital organization is considered safe when there is collective effort and cooperation from all healthcare professionals, in all levels. To legitimize and strengthen international and national efforts for patient safety, the Brazilian Ministry of Health instituted the Patient Safety National Program (PNSP, as per its acronym in Portuguese) by means of the edict no 529 of April 1st, 2013. The objective of this new program is:

> [...] to encourage a critical look over patient safety, establishing specific goals to prevent avoidable damages and minimize risks of incidents. It proposes the development of a patient safety national program that is linked to quality programs of the federal government. This program should involve, at least, the Brazilian Ministry of Health, the Brazilian National Health Surveillance Agency, the Brazilian National Supplementary Health Agency and the Brazilian Ministry of Education, being the last a potential ally for training healthcare professionals, especially in teaching hospitals[9:793].

The PNSP particularly aims at preventing, monitoring and reducing the incidence of adverse events in service care, promoting improvements associated with patient safety and the country's healthcare quality[10:12].

Therefore, being familiar with the safety culture of healthcare providers affects directly activities promoting patient safety[11:130].

In this respect, patient safety culture in a hospital organization was defined as object of study. The question of the study was: "What is the patient safety culture of a public hospital organization located in Feira de Santana, Bahia"? The objective of this study was to describe patient safety culture of a public hospital located in the city of Feira de Santana in the state of Bahia.

This study will contribute to the consolidation of the Patient Safety National Program, increasing knowledge on the issue, and improving training and qualification processes of healthcare professionals, healthcare quality and hospital management.

● **METHOD**

This was a descriptive cross-sectional survey study. The hospital organization chosen was a large general public hospital, which is reference in medium and high complexity care in the state of Bahia and registered in the Brazilian Unified Health System (SUS, as per its acronym in Portuguese), located in the city of Feira de Santana, in the state of Bahia, Brazil.

The population was made up of 562 nursing workers from the hospital organization (154 nurses, 226 nursing technicians, 177 nursing aides and 5 nursing attendants). The non-probabilistic convenience sample was composed of nurses, nursing technicians and aides, and 267 of them, who were present during the collection period, were randomly invited. Of these, 128 composed the sample, corresponding to 47.94% of the invited participants/respondents. The participants were identified with the "Q" letter (questionnaire) followed by an Arabic numeral, as questionnaires were returned.

The inclusion criterion of the participants was to be working for the hospital organization for at least one year, and this period of time was considered enough for exposure and assimilation of patient safety culture in this hospital organization[12-13].

Professionals who were on paid vacation, medical leave, maternity or paternity leave, and the ones who were discharged for long-term courses (specialization, master and doctorate) were excluded. One nurse had just retired and other 50 professionals were on leave during the month of May 2015 (collection period) due to medical, bonus and maternity leave, and paid vacation. It was understood that the professional's distancing from the current dynamics of the hospital organization could interfere in the collected data and in the answers to the questions at the survey time[14].

The application of questionnaires occurred in the first half of May 2015, after approval from the hospital management. Daily visits to all hospital units during the day shift were made for access to participants. The questionnaires and a free and informed consent form were personally delivered by the researcher.

When returned, the questionnaires were numbered and data were transcribed to Microsoft Excel 2010, in a table adapted from the one elaborated by Premier, as an auxiliary tool for hospital organizations, specifically in data storage, processing and analysis of the questionnaire "Hospital Survey on Patient Safety Culture".

Complete questionnaires that had their questions answered in 50% of the options or more were considered. The response rate, i.e., the quantitative of unanswered and not found questionnaires, was calculated from the subtraction between the total of available questionnaires and the total of answered questionnaires. Questionnaires inadequately completed or incomplete at the end of two weeks, which was the data collection closure period, were considered losses.

After the end of transcription, data were exported to IBM Statistical Package for the Social Sciences 20.0, by which data processing were undertaken.

In descriptive analysis, quantitative variables were represented by their means and standard deviations when their distributions were normal, and by medians and quartiles when they did not present a normal curve. The definition of normality was carried out with the use of graphical analysis

and Shapiro-Wilk test. Categorical variables were represented by frequencies and percentages. Ordinal variables were described by tables and figures when considered relevant, maintaining original categories individualized.

Analyses per dimension were carried out after obtaining results for questions with reverse order, in which a lower answer indicated a higher degree of safety (indicated with the "R" letter).

The study results are presented as follows:

• Characterization of the participants' professional characteristics variables: presented by means of tables with frequency and median by professional category of the study participants.

• Answers to the questions by safety culture and result dimensions: frequencies of answers positive/strongly positive, neutral or negative/strongly negative for each question regarding overall results were presented graphically.

• Scores compound: frequency of answers grouped by safety culture and result dimensions presented graphically.

• frequencies of answers positive/strongly positive, neutral or negative/strongly negative by category for each question regarding overall results of the items were presented

Regarding "Section A – Your work area/unit", the questions were correlated to classifications used by the hospital organization as follows:

• "a. Several hospital units/Any specific unit" and "n. Other, please specify:": Ambulatory, Human Milk Bank, Sterile Processing Department, Nursing Board, Hospital Infection Control Committee and Epidemiological Surveillance – due to the low number of respondents for these;

• "b. Clinic (non-surgical): Unit of Medical Clinic and Neurological Clinic;

• "c. Surgery": Surgical Center, Surgical Clinic and Orthopedic Clinic;

• "d. Obstetrics": Obstetric Center, Maternal-Infant Clinic and Kangaroo Mother Care.

• "f. Emergency Room": Triage, Red Room, Stabilization, Minor Surgery, Women's Emergency Care, Men's Emergency Care, Orthopedics.

• "g. Intensive Care Unit (any type)": ICU 1, ICU 2, Neonatal ICU and Nursery.

• Questions "e. Pediatrics", "h. Psychiatry", "i. Rehabilitation", "j. Pharmacy", "k. Laboratory", "l. Radiology" and "m. Anesthesia" did not have respondents.

The study and its informed consent form were approved by the Research Ethics Committee of the School of Nursing of the Federal University of Bahia in 04/15/2015, under protocol no 1.022.831.

● **RESULTS**

A response rate of 47.94% was obtained regarding the 128 questionnaires answered. According to Table 1, the study participants were 97.6% (121) women, aged from 32 to 44 years with median of 37 years old, who had been working for 6 to 18 years with a mean time of 10 years; 58.7% (74) had been working for the hospital for one to five years; 58.3% (74) had been working in the area/unit for one to five years; 70.9% (90) worked from 20 to 39 hours/week at this hospital.

Of the total, 56.5% (70) were nursing technicians and 37.1% (46) were nurses, and the majority had interacted or had direct contact with patients, totaling 94.4% (118). Regarding education level, 38.4% (48) had a *lato sensu* graduate degree and 6.4% had a *stricto sensu* graduate degree.

Table 2 presents the working area of the study participants. The intensive care unit stands out with 24% (30) of professionals, followed by emergency units with 22.4% (28).

Figure 1 shows that 87.8% (108) of the professionals did not report any events in the last 12 months.

Figure 2 shows the frequency of a regular score for patient safety with 47.9% (56), which is the highest frequency of answers in this issue.

Figure 3 shows the structure of answers grouped by safety culture dimensions. Those that stand out by the percentage of negative answers higher than 50% are: "Team work in the unit" with 67% (338), "Expectations on your supervisor/boss and actions promoting patient safety" with 66.3% (330), "Organizational learning – continuous improvement" with 53.8% (198) and "Internal transfers and shift changes" with 50.9% (255), representing the main areas with improvement potential. In this same figure, there were no dimensions with positive overall answers with 75% or more defined with area of strength.

Table 1 – Sociodemographic and employment bonding characteristics with the hospital organization nursing staff. Salvador, Bahia, Brazil, 2016

Characteristic	Total (N=128)
Female gender	121 (97.6)
Median age (quartiles)	37 (32 – 44)
Position	
Nurse	46 (37.1)
Nursing technician	70 (56.5)
Nursing aide	8 (6.5)
Education level	
Complete high school	36 (28.8)
Incomplete undergraduate school	12 (9.6)
Complete undergraduate school	21 (16.8)
Graduate degree (specialization)	48 (38.4)
Graduate degree (master or doctor degree)	8 (6.4)
Length of bond to the institution	
1 to 5 years	74 (58.7)
6 to 10 years	25 (19.8)
11 to 15 years	6 (4.8)
16 to 20 years	8 (6.3)
21 years or more	13 (10.3)
Length of activity in the area	
Less than one year	14 (11)
1 to 5 years	74 (58.3)
6 to 10 years	20 (15.7)
11 to 15 years	8 (6.3)
16 to 20 years	5 (3.9)
21 years or more	6 (4.7)
Work hours/week in the hospital	
Less than 20	3 (2.4)
20 to 39	90 (70.9)
40 to 59	28 (22)
60 to 79	3 (2.4)
80 to 99	1 (0.8)
100 or more	2 (1.6)
Interaction or direct contact with patients	118 (94.4)
Median length of profession (quartiles)	10 (6 – 18)

Table 2 – Nursing staff working area in the hospital organization. Salvador, Bahia, Brazil, 2016

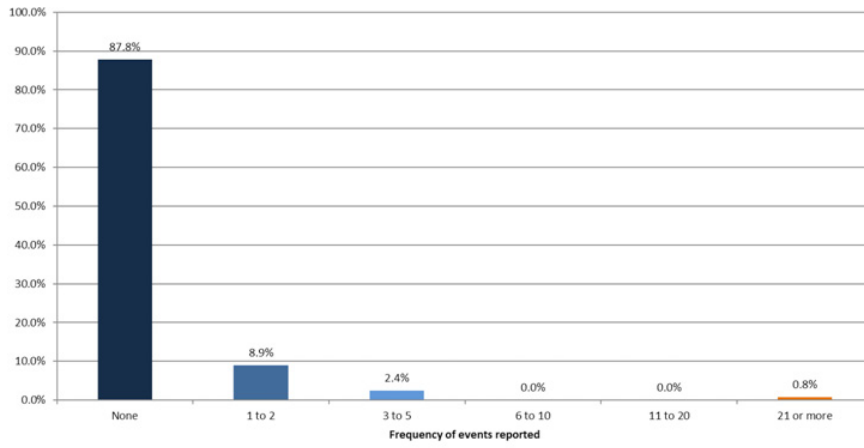| Characteristic	Frequency	Percentage
Clinic	10	8
Surgery	22	17.6
Obstetrics	17	13.6
Emergency	28	22.4
ICU	30	24
Others	18	14.4

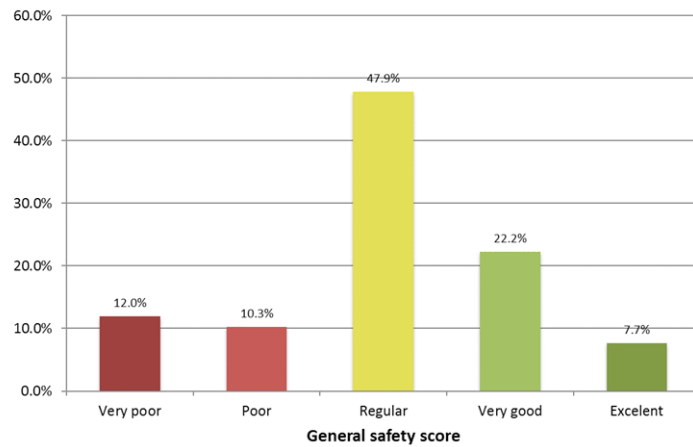Figure 1 - Frequency of events reported. Salvador, Bahia, Brazil, 2016

Figure 2 – Patient safety score. Salvador, Bahia, Brazil, 2016
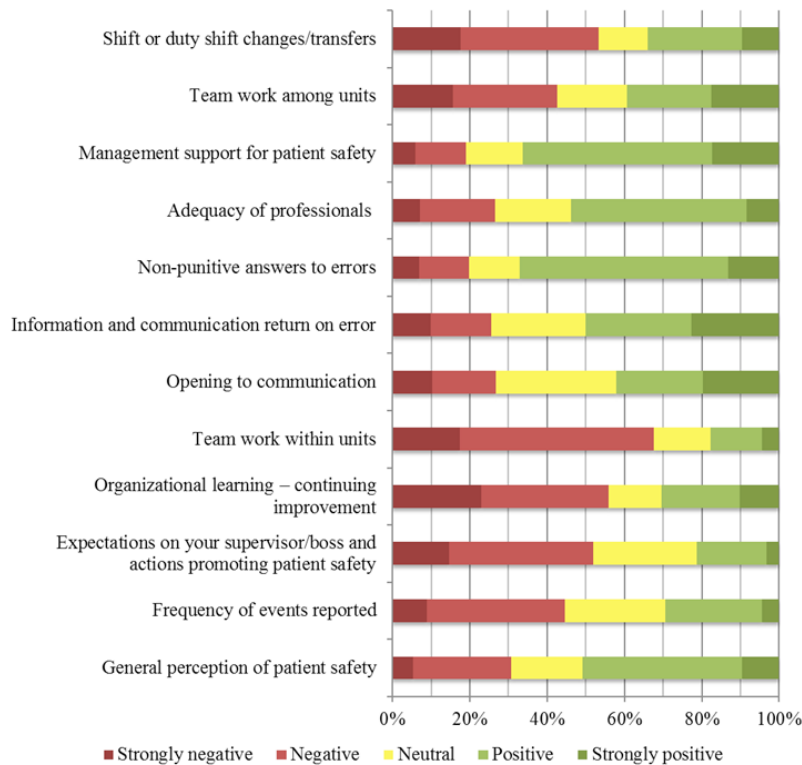

Figure 3 – Structure of answers grouped by resulting safety culture dimensions. Salvador, Bahia, Brazil, 2016

● DISCUSSION

The profile of the participants of this study differs from those of a study conducted in 2012 in a teaching hospital in the state of São Paulo, whose characterization of the study participants had a predominant age group of 26 to 35 years, indicating a younger group of professionals[15]. The professionals of the present study were in a higher age group.

In terms of education level, the group of nurses of the present study presented a significant result regarding the number of professionals with a *lato sensu* graduate degree, including those whose relationship with the hospital organization was as a nursing technician, differing from the aforementioned study on patient safety culture in a teaching hospital, whose majority had completed high school[15].

A higher number of nursing technicians was observed, followed by nursing aides with an insignificant quantity. As regards the aforementioned study[15], the predominant professional category was nursing aides, followed by nursing technicians and finally by nurses[15].

Regarding the professionals' gender, there was a higher percentage of women, which is typical of the profession. This supports the aforementioned study[15], which also presented more female professionals (74.5%); however, with a more significant insertion of the men.

Regarding the distribution of participants in the hospital units, the present study differs from a study on patient safety culture in Spanish hospitals, in which the clinic (non-surgical)[16] was the most participant unit.

Most participants of this study had direct contact with patients, similarly to the findings of the Spanish study with 92.2%[16]. However, some of the participants worked from 20 to 39 hours/week in the hospital, according to the working hours of the nursing contractual arrangements, with 20, 30 and 36 weekly hours, confirming the findings of the Spanish study from the *Ministério de la Sanidad y Consumo*[16], with results above this range (57.2%).

In the present study, most professionals had an employment bond with the hospital for one or five years, which differs from the *Ministério de la Sanidad y Consumo*[16] study, in which 23.2% had a bond of 21 years or more.

Regarding the length of activity in the area/unit, the highest percentage was of one to five years, differing from the *Ministério de la Sanidad y Consumo*[16] study, in which 20% worked for 6 to 10 years in the same unit.

Regarding the reporting of events in the last 12 months, a significant vulnerability was verified, since the absence of information was high (87.8%). Therefore, it is assumed that a punitive organizational culture based on blame may cause omission of reports of these events, making it difficult to develop an institutional culture aimed at patient safety[17:278]. In a Fiocruz study, a similar result was obtained: 78% did not report any event in the last 12 months, establishing a strong asymmetry in the answer to this item[7:80].

The general perception of safety was presented by the frequency of a regular score (47.9%), the highest frequency of answers in this issue. This value is very close to 50%. If added to the 10.3% pointed as poor and the 12% as very poor, patient safety in the studied organization is generally considered vulnerable. Therefore, this is confirmed by studies that stress the need for establishing strategies aiming to improve quality care, associated with control and monitoring mechanisms of actions, together with collective commitment, transparency and responsibility to support risk management and to achieve a better perception of patient safety[8].

The dimension "Team work in the unit" presented overall results of expressive negative answers, and is therefore, an area with potential for improvement. A review study on the current aspect of patient safety culture[18] stresses that team work associated with the individual commitment of each professional confirms Hippocrates principle of not causing harm to the patient, which is considered a protective factor for patient safety.

Integrative and cooperative team work among nursing professionals, as well as mutual respect to limits and individual time of each one in performing tasks, are essential for promoting safe and qualified care by nursing, as well as professionals high level of satisfaction and reduction of mortality rates[13].

Regarding the dimension "Expectations on your supervisor/boss and actions promoting patient safety", the significant percentage of negative answers categorizes this dimension as an area with potential for improvement. A bibliometric study on patient safety culture in health institutions stresses that it is up to leaders to provide necessary support so that their team may work in appropriate conditions that minimize the occurrence of errors and harms for service users[8].

In this perspective, as leaders of the nursing staff, nurses should command, encourage and support members of their team in developing healthcare processes for safety, favoring the achievement of the best results for patients. Inside hospital organizations, nurses represent the main link in the performance of activities, and they are responsible for the assurance of the necessary resources, identifying and promoting collective values, defending and shaping the organizational culture for its good performance[13].

The dimension "Organizational learning – continuous improvement", whose quantity of negative answers was significantly representative even without expressive individual percentages of answers, was considered an area with potential for improvement, according to the proposed criteria.

This dimension shows the organizational involvement in face of the continuous search for solutions to solve difficulties that compromise health care improvement. This involvement evolves when patient safety culture matures. This maturing is explained by proactive measures of identification and establishment of actions that minimize risks and events, dealt with improvement opportunities in a constant educational perspective[19].

The characteristics of hospital organizations are associated with their respective cultures. This impacts on health care quality and strategic decision making from hospital managers that must be based on the comprehension of factors and processes, and must be focused to keep healthcare services safe for their patients. To this end, these managers must implement actions aimed at preventing, detecting and mitigating risks of harm in which patients are exposed[8].

From this point of view, professionals and hospital managers must be committed to assure safe care for patients and healthcare professionals, promoting organizational learning, continuing improvement of healthcare and management practices in hospital organizations[17].

The dimension "Internal transfers and shift changes" also obtained significant negative answers, which is indicative of an area with potential for improvement. A study on communication in the nursing team shift changes and factors associated with patient safety[20] states that "behaviors/attitudes of professionals during shift changes and knowledge/perceptions of professionals regarding the importance of communication during shift changes and patient safety" interfere in patient safety. Patient safety may be compromised in this hospital organization.

● **FINAL CONSIDERATIONS**

According to the descriptive results, areas of strength were not identified. Four areas with potential for improvement were identified.

A hospital organization whose patient safety culture does not present any dimension as an area of strength when described (75% or more of negative answers) and presents four of their 12 dimensions as priority areas with potential for improvement (50% or more of negative answers) is understood as having a weak safety culture of punitive nature regarding human fallibility. This fact inhibits notification of errors, team's opportunity for improvement and safe health care promotion.

It is observed that patient safety may be jeopardized in this hospital organization. This requires more involvement from professionals of this organization in developing strategies for organizational learning and continuing improvement, based on the Patient Safety National Program.

Suggestions to assure patient safety in this organization include minimizing weaknesses, improving

quality and safety of services offered, and sharing responsibilities among all professionals directly or indirectly involved in care.

This research had as limitations: restricted access to the population in the night shift and weekends, difficulty of more compliance of the population due to the questionnaire length, as well as some questions of difficult comprehension.

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