| ORIGINAL ARTICLE |

PATIENT SAFETY CULTURE IN SURGICENTERS: PERCEPTION OF NURSING TEAM

Cultura de segurança do paciente em centro cirúrgico: percepção da equipe de enfermagem

La cultura de seguridad del paciente en centro quirúrgico: la percepción del equipo de enfermería

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ABSTRACT: Objective: To analyze the perception of nursing professionals from a surgicenter at a private hospital of patient's safety culture dimensions. **Method:** This is a descriptive and exploratory study with a quantitative approach, conducted in a private and accredited hospital institution, including 37 nursing professionals from surgicenters. It used the Hospital Survey on Patient Safety Culture instrument for data collection. **Results:** The dimension "Organizational learning and continuous improvement" was identified as a strong area (77.4%) in the institution. We found four weak areas regarding the dimensions: "Teamwork within units" (47.4%); "Communication opening" (45.8%); "Nonpunitive response to errors" (29.2%); and "Team Adequacy" (42%). **Conclusion:** Implementing changes that require efforts from the entire hospital institution at the strategic, administrative, and operational levels are required, mainly to encourage professionals' attention when conducting actions that strengthen a nonpunitive culture, and to study their dimensioning regarding patient's care during the perioperative period.
Keywords: Perioperative nursing. Patient safety. Organizational culture.

RESUMO: Objetivo: Analisar a percepção de profissionais de enfermagem de um centro cirúrgico em um hospital privado acerca das dimensões da cultura de segurança do paciente. **Método:** Estudo descritivo e exploratório, com abordagem quantitativa, realizado em uma instituição hospitalar privada e acreditada, com 37 profissionais de enfermagem do centro cirúrgico, utilizando o instrumento *Hospital Survey on Patient Safety Culture* para coleta de dados. **Resultados:** Identificou-se a dimensão "Aprendizado organizacional e melhoria contínua" (77,4%) como área forte na instituição. Encontraram-se quatro áreas frágeis, referentes às dimensões: "Trabalho em equipe dentro das unidades" (47,4%), "Abertura da comunicação" (45,8%), "Resposta não punitiva aos erros" (29,2%) e "Adequação de pessoal" (42%). **Conclusão:** Há a necessidade de se implementar mudanças que requeiram esforços de toda a organização hospitalar nos níveis estratégico, administrativo e operacional, principalmente para incentivar a atenção dos profissionais na condução das ações que fortaleçam a cultura não punitiva, e estudar o dimensionamento de profissionais para o atendimento do paciente no perioperatório.
Palavras-chave: Enfermagem perioperatória. Segurança do paciente. Cultura organizacional.

RESUMEN: Objetivo: Analizar la percepción de los profesionales de enfermería de un centro quirúrgico en un hospital privado sobre las dimensiones de la cultura de seguridad del paciente. **Método:** Estudio descriptivo y exploratorio con enfoque cuantitativo, realizado en una institución hospitalaria privada y acreditada, incluyendo 37 profesionales de enfermería del centro quirúrgico, utilizándose el instrumento Hospital Survey on Patient Safety Culture para la recolección de datos. **Resultados:** La dimensión "Aprendizaje organizacional y mejora continua" se identificó como un área fuerte (77,4%) en la institución. Se encontraron cuatro áreas frágiles con respecto a las dimensiones: "Trabajo en equipo dentro de las unidades" (47,4%); "Comunicación abierta" (45,8%); "Respuesta no punitiva a errores" (29,2%) y "Adecuación del equipo" (42%). **Conclusión:** Es necesario implementar cambios que requieran esfuerzos de toda la organización hospitalaria a los niveles estratégico, administrativo y operativo, especialmente para alentar la atención de los profesionales en la realización de acciones que fortalezcan la cultura no punitiva y para estudiar el dimensionamiento de los profesionales a la atención al paciente en el perioperatorio.
Palabras clave: Enfermería perioperatoria. Seguridad del paciente. Cultura organizacional.

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INTRODUCTION

Patient safety is defined by the World Health Organization (WHO) as "the reduction of risk of unnecessary harm associated with health care to an acceptable minimum". An acceptable minimum refers to what is feasible within current knowledge, available resources, and context in which care was delivered[1].

Errors and adverse events occur in all care settings, including surgicenters (SC), which are considered complex and high-risk sectors[2]. Occupational processes in this sector involve a range of professionals, complex practices, specific environmental conditions, availability of material and technological resources, and readiness for safe care. However, incidents occur and may cause harm to patients, as well as suffering and stress to professionals who work in this context[3].

Healthcare organizations have implemented initiatives that address safe surgery protocols to ensure that established standards are observed during procedures, adverse events presented in the SC and post-anesthetic recovery are effectively recorded, adequate attention is given to patients in the perioperative period, and communication between professionals is effective[4,5]. Nonetheless, these actions must be based on managerial maturity, leadership involvement, team integration, and strategies to eliminate punishment culture[6].

Studies show that the SC environment presents numerous conflicts and point to the frequency of inappropriate and arrogant behaviors among teams or inappropriate occupational conditions, which can negatively affect or potentially compromise patient care[5,6].

Hence, knowing patient safety culture in this context is an essential aspect to make improvements[2,3]. Safety culture represents values, attitudes, skills, and behaviors that determine commitment to health and safety management, replacing guilt and punishment with the opportunity to learn from failures and improve health care[7].

The greater the understanding of the care team concerning values and rules governing the institution and the more processes and systems are adequate, the safer the care[8]. To reinforce such understanding, one of the premises for implementing the Brazilian National Patient Safety Program (NPSP) addresses the importance of promoting safety culture focused on organizational improvement, involving professionals and patients, promoting safe systems and changes in individual accountability processes[9].

The nursing team is fully involved in perioperative care, participates in the surgical team care and is responsible for promoting a quality and safe environment. Therefore, it is important to know the perception of safety culture among nursing professionals working in SC.

OBJECTIVE

To analyze the perception of nursing professionals from a SC at a private hospital of patient safety culture dimensions.

METHOD

This is a descriptive and exploratory study with a quantitative approach that was conducted at a private non-profit hospital accredited by Brazilian (National Accreditation Organization) and international (Health Standards Organization and Joint Commission International) accreditation programs. The SC was structured for high complexity procedures, including bariatric, orthopedic, oncological and cardiac surgeries, as well as minimally invasive and high precision procedures, such as videolaparoscopy, neuronavigation, and other video-assisted techniques.

All SC nursing professionals were invited to participate in the research. Those who performed care activities with direct patient contact were included, whereas nurses on vacation, who took time off or leave were excluded, as well as head nurses. The study population consisted of 51 collaborators, including eight nurses, 39 nursing technicians, and four nursing assistants.

Hospital Survey on Patient Safety Culture (HSOPSC) from the Agency for Healthcare Research & Quality (AHRQ) was the instrument used for data collection. The AHRQ is a North-American entity focused on the development of studies in the area, especially to implement safety culture in health institutions. It is a worldwide instrument that has been used both in hospitals and in other types of health institutions, designed by researchers Sorra and Nieva[10] and validated for the Brazilian reality by Reis et al.[11]. It has nine sections, 42 items in total, regarding patient safety culture, that measure 12 dimensions, divided into three levels:

- Hospital Level:
  1. Hospital management support for patient safety;
  2. Teamwork among units;
  3. Change of duty/shift and internal transfers;

- Unit Level:
    4. Expectations of the supervisor/head and safety-promoting actions;
    5. Organizational learning and continuous improvement;
    6. Teamwork within units;
    7. Communication opening;
    8. Information return and error communication;
    9. Nonpunitive reply to errors;
    10. Team adequacy;

- Results Level:
    11. General perception of patient safety;
    12. Frequency of reported events.

The instrument for data collection consisted of two parts: the first included items related to sociodemographic information (professional category, educational level, work shift, occupational time in institution and sector, and graduation period); and the second included items that comprehend the 12 dimensions of safety culture.

The instrument was made available online, using Interact® software, from July 12 to 24 of 2015, when the Free Informed Consent (ICF) Form was delivered and the purpose of the study was explained.

Data analysis was performed using descriptive statistics for categorical variables, presented by absolute and relative frequencies. The domain means and characterization variables were compared using the analysis of variance (ANOVA) to assess three or more factors. The analyzes were interpreted considering a 5% significance level ($p=0.05$) with the aid of R 3.2.3 software.

To calculate dimension scores, values from 1 to 5 points were used for each response level in the presented order: strongly disagree, disagree, neither agree nor disagree, agree and totally agree; and also never, rarely, sometimes, almost always and always. Considering the questionnaire follows the Likert scale technique, the items negatively written were inverted for analysis and scored in the order from 5 to 1. To develop the percentage of positive responses for the 12 dimensions, the formula recommended by AHRQ was used, which calculates the number of positive responses of the dimension items divided by the total number of valid responses (positive, neutral, and negative). Positive responses represent an assertive reaction regarding patient safety culture. They are classified into strong areas (scores above 75%), neutral (between 50 and 75%), and weak (scores under 50%) of safety culture. Data were described and analyzed by dimension[10].

The internal consistency of HSOPSC dimensions was assessed by Cronbach's alpha coefficient.

This study followed the principles of Resolution No. 466/2012 from the Brazilian National Health Council and was approved by the Research Ethics Committee (REC) of Universidade Federal de São Paulo and the participating institution, according to protocol No. 655.946.

RESULTS

A total of 37 professionals participated in the study, corresponding to 72.5% of the population, including seven (18.9%) nurses, and 30 (81.1%) licensed practical nurses. 65.9% of them have a high school degree; 48.6% work in the afternoons; 48.6% have been working at the institutions from 1 to 5 years; 54.1% have been working in the sector between 1 and 5 years, and 35.1% have taken an educational degree from 6 to 10 years (Table 1).

Cronbach's alpha coefficient of HSOPSC ranged from 0.45 to 0.91, and this coefficient was 0.64 for the instrument, which grants the questionnaire satisfactory reliability.

Table 2 presents the frequency of positive, neutral, and negative responses as to the level and dimensions of patient safety culture. Regarding positive answers, the "Organizational learning and continuous improvement" dimension is the strong area (77.4%) in the institution.

The Hospital management support for patient safety" (70.5%), "Teamwork among units" (50.8%), and "Change of duty/shift and internal transfers" (50.7%) Hospital Level dimensions are neutral regarding patient safety. Moreover, the Unit Level dimensions "Expectations of the supervisor/head and safety-promoting actions" (56.1%), and "Information return and error communication" (50.1%); and the Results Level dimensions "General perception of patient safety" (60.0%) and "Frequency of reported events" (73.2%) are also neutral.

Four dimensions of the Unit Level were found as weak areas: "Teamwork within units" (47.4%), "Communication opening" (45.8%), "Nonpunitive response to errors" (29.2%), and "Team Adequacy" (42.0%).

Table 1. Sociodemographic variables of surgicenter professionals.

Variables		n	%
Position/ function	Attending nurse	7	18.9
	Licensed practical nurse	30	81.1
Education	High School	24	64.9
	Undergraduation Degree	8	21.6
	Specialization	5	13.5
Shift	Morning	15	40.5
	Afternoon	18	48.6
	Night	4	10.8
Institution period	Less than 1 year	2	5.4
	From 1 to 5 years	18	48.6
	From 6 to 10 years	12	32.4
	From 11 to 15 years	2	5.4
	From 16 to 20 years	3	8.1
Sector Period	Less than 1 year	2	5.4
	From 1 to 5 years	20	54.1
	From 6 to 10 years	10	27
	From 11 to 15 years	2	5.4
	From 16 to 20 years	3	8.1
Training time	From 1 to 5 years	9	24.3
	From 6 to 10 years	13	35.1
	From 11 to 15 years	7	18.9
	From 16 to 20 years	5	13.5
	21 years or more	3	8.1

DISCUSSION

The study findings allowed us to know characteristics of nursing professionals working at SC and relevant aspects of patient safety culture that must be improved.

Regarding the characterization of professionals, there was a significant number of licensed practical nurses working in the sector, some with higher education training. This aspect corroborated the research findings on the profile of Brazilian Nursing, which showed that mid-level workers had an educational level above the required to perform their duties, with 11.7% of them holding an undergraduation degree[12].

Most professionals had 5 years at most of experience in the institution, which is similar to national and international studies including a nursing team from a SC[8,13].

The shorter time of experience may become a facilitating aspect to shape professionals in the organizational culture once they are admitted and presented to the institution guiding principles[14]. The studied institution applies the methodology of different accreditation programs, which involves intensive change processes. A study found that professionals working in accredited services felt more prepared to meet users' needs as they were able to work with more qualified material, technical and human resources, process and procedure standardization, and more organization. In addition, the organizational environment was favored by the accreditation process[15].

Table 2. Positive, neutral, and negative responses regarding patient safety culture level and dimensions.

Level	Dimension	Negative %	Neutral %	Positive %
Hospital	Hospital management support for patient safety	10.5	19.0	70.5
	Teamwork among units	24.4	24.8	50.8
	Change of duty/shift and transfers	25.3	24.0	50.7
Unit	Expectations of the supervisor/head and safety-promoting actions	23.0	20.9	56.1
	Organizational learning and continuous improvement	9.9	12.7	77.4
	Teamwork within units	25.6	27	47.4
	Communication opening	20.1	34.1	45.8
	Information return and error communication	19.9	30.0	50.1
	Nonpunitive response to errors	50.5	20.3	29.2
	Team adequacy	37.7	20.3	42.0
Results	General perception of patient safety	25.7	14.3	60.0
	Frequency of reported events	12.6	14.2	73.2

Cronbach's alpha index measures the correlation between questionnaire responses and is based on the average correlation between questions. Therefore, variations between the perceptions of individuals are expected, because they are social subjects and have different experiences. The findings corroborate national (variability from 0.52 to 0.91)[11] and international studies (variability from 0.61 to 0.86)[16].

The study presented one strong, seven neutral, and four fragile safety dimensions. Thus, many areas should be improved. In addition, some dimensions in the neutral range are close to 50% of positive responses, such as "Teamwork among units", "Change of duty/shit and internal transfers", "Expectations of the supervisor/head and safety-promoting actions", and "Information return and error communication".

Compared to a North-American study that assessed the perception of professionals working in SC, distribution of dimensions has some similarity, that is, there is only one strong area, which is "Teamwork within units" (75.9%). Three dimensions were identified as weak areas: "Teamwork among units" (48.7%), "Change of duty/shift and internal transfers" (37.2%), and "Nonpunitive response to errors" (37.3%), the latter also found in this study[17].

Considering it is an accredited hospital, the dimensions were initially expected to have more positive responses, because quality assessments impose continuous improvement processes and presenting results is required, encouraging professionals to be involved in quality programs. However, after analyzing a study conducted in the nursing service of an accredited hospital in Turkey, culture dimensions did not necessarily reflect the quality process and its strong dimensions were: "Teamwork among units" (76%) and "General perception of patient safety" (75%); and two weak dimensions were also found in this study: "Nonpunitive response to errors" (33%), and "Team adequacy" (22%)[6].

However, managing an institution, either globally or in sectors, must be focused on improving processes based on a positive patient safety culture, regardless of the assessment instrument to be used[8]. The findings point to the need of looking more closely at four dimensions, considering it is such an important and complex sector.

The dimension "Teamwork within units" shows that, in this sector, there should be a friendly working climate with harmonious interpersonal and multi-professional relations, regarding different opinions and without intimidating behaviors, so that professionals can work in peace and promote actions that ensure patient safety[5]. Differently from data found in this study, another study conducted at a SC with all professionals who work in this context indicated that "Teamwork dynamics" had the highest score, pointing to the role of nurses as facilitating agents, with skills and potential to promote such values[8].

The dimension "Communication opening" enlightens the idea of professionals being free to speak up and point out aspects that may put patient safety at risk. Literature reveals difficulties that nursing professionals have to position themselves when they notice something wrong, often conditioned by the attitude of doctors who understand such observations as criticisms to their work[5]. Therefore, actions that promote confidence of professionals to act proactively when something may not be working should be encouraged to protect patients in the care context[4].

The dimension "Nonpunitive response to errors" is also weak, and studies on SC safety culture suggest this is one of the dimensions with the fewest positive responses, indicating concerns for this context within institutions[6,17]. Studies highlight that health professionals refuse to report errors for fear of being penalized and that the punishment culture is still common in hospitals around the world and in Brazil[16]. Sub-notification of adverse events is an issue that needs to be addressed in hospitals and sectors, such as SC, to promote patient safety in nonpunitive environments by encouraging professionals to report incidents. These discrepancies may be explained by differences in organizational behavior among cultural contexts or by the lack of policies and procedures related to reporting errors[6].

Finally, the findings regarding "Team adequacy" converge with those of studies that systematically identify this dimension as weak, either in the institution as a whole or in specific sectors, as examined in this research[6,16,18].

Team scaling is a critical issue both for health managers, due to human resources expenditures, and for those who work in direct patient care, with deficient scale and higher risk of adverse events. Studies confirm such information, indicating that staff scaling is still not enough to meet care demands in many health institutions, including critical areas[19].

This study limitation was being conducted only with the nursing team. Therefore, results may not reflect the patient safety culture of other health professionals working in the service. Furthermore, the interventions for improvements and impacts on assistance that might have been caused from research are unknown.

CONCLUSION

Results of nursing professionals' safety culture perception at a SC revealed weaknesses in four dimensions: "Teamwork within units", "Communication opening", "Nonpunitive response to errors", and "Team adequacy", in which results were lower than 50% in positive responses. In addition, four other dimensions, such as "Teamwork among units", "Change of duty/shift and internal transfers", "Expectations of the supervisor/head and safety-promoting actions", and "Information return and error communication" presented results that are within the neutral range, but closer to 50%. The dimension "Organizational learning and continuous improvement" was characterized as the institution strong area (77.4%).

Thus, implementing changes that require efforts from all the hospital organization at the strategic, administrative, and operational levels are required, mainly to encourage the attention of professionals when conducting actions that strengthen a nonpunitive culture and to study their dimensioning regarding care provided during the perioperative period.

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