Patient safety culture in kidney transplant patients in western Santa Catarina

Cultura de segurança do paciente no transplante renal no oeste catarinense

Cultura de seguridad del paciente en el trasplante renal en el oeste de Santa Catarina

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Descritores
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Abstract
Objective: To evaluate the patient safety culture in the perioperative renal transplant period within the multidisciplinary team working in this setting.
Methods: A cross-sectional study with 33 health professionals, who responded to the "Safety Attitudes Questionnaire", translated into Portuguese. The data collection occurred in September of 2016, in a public hospital, in western Santa Catarina state. The t-test and analysis of variance (ANOVA f) was used for data analysis, and the p-value ≤ 0.05 was considered significant.
Results: The mean score of the domains evaluated ranged from 62.4, for working conditions, to 84.2 for job satisfaction. The positive perception of the safety culture was evidenced in this study in the areas of job satisfaction and stress recognition, with means of 83.8 ± 15 and 78.6 ± 15, respectively. The association between the domains and the characterization variables of the multidisciplinary team was significant for teamwork climate and position (p=0.05). The other variables did not present statistical significance.
Conclusion: Four of the six domains evaluated showed negative scores, pointing to the need for strategies aimed toward an effective safety patient culture in the perioperative transplant period.

Resumo
Objetivo: Avaliar a cultura de segurança do paciente no perioperatório de transplante renal pela equipe multidisciplinar atuante nesse cenário.
Métodos: Estudo transversal com 33 profissionais de saúde, que responderam ao questionário "*Safety Attitudes Questionnaire*", traduzido para a língua portuguesa. A coleta de dados foi em setembro de 2016 em um hospital público no oeste catarinense. Para análise dos dados utilizou-se Teste t e análise de variância ANOVA f, um valor p ≤ 0,05 foi considerado significativo.
Resultados: O escore médio dos domínios avaliados variou 62,4 para Condições de Trabalho, a 84,2 para Satisfação no trabalho. A percepção positiva da cultura de segurança foi evidenciada neste estudo nos domínios Satisfação do trabalho e Percepção do estresse com médias de 83,8±15 e 78,6±15, respectivamente. A associação entre os domínios e as variáveis de caracterização da equipe multidisciplinar foi significativa entre o domínio Clima de trabalho em equipe e cargo (p=0,05). As demais variáveis não apresentaram significância estatística.
Conclusão: Quatro dos seis domínios avaliados obtiveram escores negativos, apontando a necessidade de estratégias voltadas à cultura de segurança efetiva aos pacientes no perioperatório de transplante.

Resumen
Objetivo: evaluar la cultura de seguridad del paciente en el perioperatorio de trasplante renal por el equipo multidisciplinario que actúa en este escenario.
Métodos: estudio transversal con 33 profesionales de la salud, que respondieron al cuestionario "*Safety Attitudes Questionnaire*", traducido al portugués. La recolección de datos fue en septiembre de 2016 en un hospital público en el oeste del estado de Santa Catarina. Para analizar los datos, se utilizó el test-T y análisis de varianza ANOVA f, un valor p ≤ 0,05 fue considerado significativo.
Resultados: la puntuación promedio de los dominios evaluados varió 62,4 en Condiciones de trabajo, a 84,2 en Satisfacción en el trabajo. La percepción positiva de la cultura de seguridad fue observada en este estudio en los dominios Satisfacción en el trabajo y Reconocimiento de estrés, con promedio de 83,8±15 y 78,6±15, respectivamente. La asociación entre los dominios y las variables de caracterización del equipo multidisciplinario fue significativa entre el dominio Clima de trabajo en equipo y cargo (p=0,05). Las demás variables no presentaron significación estadística.
Conclusión: cuatro de los seis dominios evaluados obtuvieron puntuación negativa, lo que indica la necesidad de estrategias orientadas a la cultura de seguridad efectiva para los pacientes en perioperatorio de trasplante.

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Introduction

Patient safety culture is a debated issue worldwide; it is a fundamental principle and a prerequisite for quality of care in the health field, and to be properly proportioned, it is necessary to acquire a culture of safety in which professionals and services share practices, values, attitudes, and behaviors that make it possible to replace the guilt and punishment with the opportunity to learn from their own failures, and improve health care, ensuring patient safety.[1]

Patient safety culture is associated with the capacity of health institutions to adapt to the human and operational risks inherent in the work process.[2,3] In this sense, patient safety meets quality care, which is the degree of compliance with established standards, as opposed to the norms and protocols that organize the practice actions as well as the current technical and scientific knowledge.[4]

The patient safety culture has instigated institutions to provide safe care, in order to obtain adequate results for the patient without causing any risk of harm. This theme has been the focus of national and international studies, predominantly in the contexts of adult intensive care unit, emergency services, clinical and surgical clinic, primary care, and bone marrow transplantation units.[5-9] However, there is a gap in knowledge when this theme is associated with the organ donation and transplantation process.

For success of the transplant, the quality of care provided to the patient is essential, either through the guidance of the care team or the fundamental care inherent to this type of procedure, or to improve surgical techniques and seek better care practices, preventing infections, signs and symptoms of organ rejection,[10] and undesirable events in the perioperative period.

Several actions have been developed in Brazil, as well as in other countries, for patient quality and safety related to the transplantation process. Among these, the following are very important: team training, outcome management, implementation of quality tools, tracking of adverse events, and, especially, actions in patient care to improve quality of life and survival of the graft, as well as the effectiveness of transplantation.[11-14]

Therefore, studying the patient safety culture in kidney transplantation is extremely important, as the health team is challenged to ensure quality care [15] and patient safety during the time during which the patient remains in the transplant environment.

In view of the above, the following research question was formulated: how does the multidisciplinary team that provides care to patients in the kidney transplant perioperative period perceive the patient safety culture in the care environment?

The objective of this study was to evaluate the patient safety culture during the perioperative kidney transplant period by the multidisciplinary team working in this setting.

Methods

A cross-sectional study, conducted in a public hospital in western Santa Catarina, with data collection during September of 2016. The sample consisted of all the professionals of the multidisciplinary team that provided direct patient care during the perioperative kidney transplant period.

The inclusion criteria were: nurses, nursing technicians, and resident physicians who provide care to kidney transplant patients; working in intensive care, the surgical center, emergency service, intra-hospital organ and tissue donation and transplant committee (CIHDOTT), and private clinics, in the morning, afternoon and evening shifts, and those who agreed to participate in the study.

Professionals on vacation, sick leave, or who were not working during the data collection time period, were excluded from the study. The total number of nursing professionals in the institution is 439, and 33 participants were part of the sample. This was an intentional, non-probabilistic sample, because we sought to interview only professionals who provided care during the transplant process.

The data were collected using the Safety Attitudes Questionnaire (SAQ), developed in 2006, translated into the Portuguese language, and transculturally adapted for Brazil, in 2011.[16]

The instrument includes questions that contain multiple areas of the patient's safety culture, providing detail that helps to identify specific parts with positive aspects, and topics that need improvement. It consists of 41 easy-to-understand objective questions, divided into two parts: professionals' data (sex, profession, and length of experience in the specialty). The other part is comprised of issues including the six domains of the instrument: teamwork climate, safety climate, job satisfaction, stress recognition, perception of unit and hospital management, and working conditions.[16]

The answers to each of the questions follow a five-point Likert scale: strongly disagree (A), slightly disagree (B), neutral (C), somewhat agree (D), strongly agree (E) and does not apply. The final score of the instrument varies from 0 to 100, where zero represents the worst perception of the safety climate and 100 represents the best perception. Values are considered positive when the score is greater than or equal to 75. Consequently the score is ordered as follows: strongly disagree (A) equals 0 points; slightly disagree (B) is equal to 25 points; neutral (C) equals 50 points; somewhat agree (D) equals 75 points, and strongly agree (E) equals 100 points. [16] To interpret the questions of the instrument, it was necessary to group their items in each dimension.

For the data collection, the researchers contacted the nurse responsible for the units to schedule an appropriate date and time for the study, objectives, and methodology presentation. At that moment, those who agreed to participate in the study received the instrument and signed the Terms of Free and Informed Consent. After 20 minutes, the researchers returned to the unit to collect the instruments. For those who did not return, a new date and time was set to pick it up.

Data were entered into the Excel® program, later imported and analyzed using the Statistical Package for Social Sciences (SPSS), version 20.0, for descriptive statistics.

Descriptive statistics were used, and categorical variables were expressed by frequencies and percentages; continuous variables with normal distribution were presented using means and standard deviations. The Kolmogorov-Smirnov test was used for normality test. The comparison of the means of groups of two categories was used the t-test, for variables with three or more groups, and, using analysis of variance (ANOVA), a value of $p \leq 0.05$ was considered significant.

The project met the ethical precepts that involve research with human beings, approved under opinion nº 1.686.546, CAAE 55740816.1.0000.0118, of August 17, 2016.

Results

Among the 33 participants in the study, the majority of professionals corresponded to the auxiliary and nursing technician category (66.7%), followed by nurses (27.3%). There was a predominance of females, totaling 84.8%. Regarding the workplace, 58% worked in the surgical center and 27% in the inpatient clinics, of which 36.4% worked during the morning shift. The majority of these professionals (27.3%) were working between five and ten years, and 45.4% with adults and children according to table 1.

Regarding the SAQ domains, the highest scores on the teamwork climate were related to the item, "I have the support I need from other personnel to care for patients", with a mean of 81.0, and the item, "Disagreements in this clinical area are appropriately resolved" (i.e., not who is right, but what is best for the patient)", with a mean of 77.3. The lowest score was related to "In this clinical area, it is difficult to speak up if I perceive a problem with patient care", with a mean of 56.7. However, the results of all the means of the scores obtained a negative result with the total mean of the teamwork climate dimension of 72.0, as for the values to be considered positive, the score had to be >5.0.

Table 1. Sociodemographic characteristics of the multidisciplinary team involved in kidney transplantation

Variable	n(%)
Position	
Resident physician	2(6.1)
Nurse	9(27.3)
Nursing technician and auxiliary.	22(66.7)
Sex	
Male	5(15.2)
Female	28(84.8)
Place of work	
Surgical center	19(58)
Clinical	9(27)
ICU	4(12)
Emergency room (ER)	1(3)
Work shift	
Morning	12(36.4)
Afternoon	8(24.2)
Evening	7(21.2)
Day	4(12.1)
Time in specialty	
6-11 months	3(9.1)
1-2 years	6(18.2)
3-4 years	8(24.2)
5-10 years	9(27.3)
11-20 years	3 (9.1)
21 years or more	3 (9.1)
Principal position	
Adult	7(21.2)
Adult and pediatric	15(45.4)

In the "safety climate" domain, the item, "I would feel safe being treated here as a patient", obtained a mean of 71.9, and the score that presented the most negative mean was, "I receive appropriate feedback about my performance", with a mean of 48.6. The overall mean of the safety climate domain was negative, obtaining a score of 64.4.

The "job satisfaction" domain score had the highest evaluation in, "I like my job", with a mean of 91.4, and the lowest mean score was, "Morale in this clinical area is high", with a mean of 70.2. Among all scores, the overall mean of the job satisfaction dimension was positive, receiving a mean of 84.2.

In the "stress recognition" domain, the highest score belonged to the statement, "When my workload becomes excessive, my performance is impaired", with a mean score of 85.1; the lowest score was, "Fatigue impairs my performance during emergency situations", with the mean of 66.7. The total mean of this domain was positive, with a result of 77.0.

For the domain "perception of hospital management", the most highly scored item was, "I get adequate, timely information about events in the hospital that might affect my work", with a mean of 70.5; the lowest score was, "The levels of staffing (number and qualification) in this clinical area are sufficient to handle the number of patients", with the mean of 49.0. The overall mean perception of general hospital management was 59.4. When the perception of CIHDOTT management was verified, the item with the best score was, "Management is doing a good job", with a mean of 82.0. The total CIHDOTT management perception mean was 64.5.

According to the domain, "working conditions", the scores of the items did not present positive results. All scores were below 75.0. The score with the most negative result was, "All the necessary information for diagnostic and therapeutic decisions is routinely available to me", with a mean of 60.1. The total mean of working conditions was 62.4, which is a negative result.

For the "general mean of the domains for the assessment of the culture of patient safety in kidney transplantation", based on the results obtained by the SAQ questionnaire, the job satisfaction and stress recognition domains obtained means above 75 (83.8±15 and 78.6±15, respectively). The other domains presented negative evaluations for safety culture, with the worst evaluations for perceptions of management and working conditions, as presented in table 2.

Table 2. General mean of the domains according to the SAQ evaluation

Domains	Mean	SD (±)	Median
Teamwork climate	71.4	16.8	70.3
Safety climate	65.9	17.3	67.8
Job satisfaction	83.8	15	87.5
Stress recognition	78.6	15	81.2
Perception of hospital management (general)	65.9	11.2	66.6
Perception of CIHDOTT	63.2	13.6	66.6
Working conditions	63.2	22.5	75.0

SD- standard deviation

When assessing the association between the SAQ domains and the variables characterizing the multidisciplinary team. the association between the domain, teamwork climate, and position (p=0.05)

was significant. The other variables did not present statistical significance, as seen in table 3.

Table 3. Association between domains and variables characterizing the professionals

Domains	*p-value*			
	Sex*	Time in the specialty**	Place of work**	Position**
Teamwork climate	0.32	0.65	0.10	0.05
Safety climate	0.58	0.81	0.07	0.08
Job satisfaction	0.97	0.65	0.32	0.18
Stress recognition	0.41	0.33	0.35	0.20
Perception of hospital management (general)		0.51	0.88	0.91
Perception of CIHDOTT		0.12	0.99	0.19
Working conditions	0.60	0.58	0.41	0.07

Note: **p-value t test*, ***p-value* ANOVA test

Discussion

The results of this study indicate that relevant aspects of the patient safety culture in kidney transplantion in the western portion of Santa Catarina, require work. The evaluation of the mean scores shows that, of the six domains evaluated, only two obtained values higher than 75.0, considered in this study as a minimum positive for the safety culture.

According to the results, the majority of professionals are nursing technicians and auxiliaries, followed by nurses. The literature demonstrates studies that used the same instrument, also obtaining greater participation of the nursing team: 93.49%,[17] 45%.[18] In studies conducted only with the nursing team, the participation of technicians and nursing assistants was 68.2%. [19]

More than half of the professionals who work in the kidney transplant area have more than five years of professional experience. It is emphasized that it is extremely important that the nurse is aware of the transplant practices, as they are essential for safe care provided to the patient. The professional must know how to extend his knowledge in order to promote the health of the transplanted patient, using continuous improvement. The professional demonstrates an important educational process in the perioperative renal transplant period.[20]

The domain, "working climate", which assesses the quality of the relationship and collaboration among professionals, is one of the variables that influenced the performance of the organization of the proposed objectives. In the health institutions, an environment favorable to the integration of multiprofessional teams is essential, as well as the promotion of quality of life at work, motivation, satisfaction, and development possibilities.[21]

The perception of professionals about the "Safety climate" is below expectation, corroborating results obtained in a similar study conducted in a tertiary hospital in the city of Vitória, Espírito Santo, [22] in four private hospitals in the city of Uberaba, Minas Gerais, [17] and in a teaching hospital in São Paulo. [23] The safety climate involves the relationship between safety culture implementation, because it is directly associated with the relationship, health team integration, and decrease of adverse events.[17]

In addition, the safety climate also presents reflections to the professionals, demonstrating the adequate importance of safety in the organization, which is a principle that contributes to the reduction of accidental injuries. Weaknesses and strengths of the health professional's performance can be perceived in an institution, enabling the identification of the most pretentious fields, with the intention of instituting and delineating interventions.[17]

Considering the information obtained, it is necessary that the institution invest in culture change and encourage professionals to recognize and socialize their errors with the team, in order to strengthen learning about the subject as a collective. However, it is necessary to develop a culture of notification of these events to obtain greater safety in the care of patients undergoing renal transplantation.

The domain, "Job satisfaction", was the score that presented the most positive value for safety culture. Similar data have been identified in other national studies.[22-24]

The most frequent results of job satisfaction are productivity, role activities, absenteeism, turnover, organizational citizenship, health and well-being, life satisfaction, in satisfaction of clients. Professional satisfaction favors positive attitudes towards oneself, and with others, and contributes to greater professional participation in their work environment. Thus, it improves professional performance and, consequently, strengthens the safety culture.[25]

Research conducted in Japan investigating three safety-related assumptions, with 537 nurses in ten hospitals, corroborated the data from the present study with regard to job satisfaction. The findings indicated that hospital patient safety procedures have an impact on nurses' professional satisfaction, and that the self-perception of nurses' autonomy in their work space is positively associated with job satisfaction.[26]

The domain, "stress recognition", obtained a positive result with the second highest score of all the domains. It is possible to recognize how stressors negatively influence work performance. The hospital environment has very specific aspects that favor excessive workload, such as the existence of shifts that enable the occurrence of double jobs and long working hours, situations that have led many professionals to excessive stress and abandonment of the profession.[27]

The work overload causes professional dissatisfaction in relation to hospital management, that is, the perception of the management is evaluated in a negative manner. Nursing has a management foundation to adjust the number of human resources, supported by legislation, through the Federal Nursing Council Resolution (COFEN) Resolution 543, of 2017.[28] Many health institutions lack human resources, which contributes to the emergence of risks to patient safety.[29]

The involvement of managers in the face of a change in the safety scenario in health institutions is fundamental, in order to know the challenges faced by the team on a daily basis.[15] In this context, an effective communication with hierarchical levels can enable the construction of trust among all involved.

Management support for patient safety is a dimension within the hospital organization. [29] The low scores evidenced from the professionals in this study suggest that the promotion of patient safety is not adequately perceived by hospital management.

The dimension that presented the lowest score, "working conditions", analyzes the professionals' perception of the quality of their work environment, corroborating findings found in a study developed in the southeastern region of Brazil. [23] A low score for this domain was also identified in a study conducted in Sweden, using SAQ, where the mean for this score was 66.8. It is worth mentioning that the authors contacted professionals of the surgical team and managers.[30]

The work conditions in the hospital setting have been considered inadequate in this setting, due to lack of qualification, low salaries, insufficient quantity of professionals, and exposure to risk factors, which affect the quality of care provided to the patient and compromise professional satisfaction.[31]

The "general mean of the domains", when comparing the domains scores, showed that "perception of management " of CIHDOTT, and "working conditions", had a less positive outlook than the others.

In the work process, good management, quality infrastructure, availability of information for decision-making, effective and well-maintained equipment, conflict management, and adequate supervision are essential to enable better performance and productivity.[9]

In general, when all SAQ domains were observed in relation to "general mean domains", the domain "job satisfaction" presented the highest score. That is, the data indicate that professionals like their work, independent of some restrictions, with a positive experience of the workplace, through factors that influence motivation.

Finally, when assessing the association between the SAQ domains, a significant association between teamwork climate and position was identified; depending on the position assumed at the institution, a better working team interface was present.

And, to exercise the perspectives of their activities, it is of the utmost importance that there is satisfaction in the role that they perform, as this directly reflects on the care, and in the integration of the work teams.[15] The work climate is important to the employees, for an expected result to maintain harmony in the place.

From a safety culture perspective, the study presents the need and importance of job satisfaction, teamwork, and good relationships with the team and managers. These aspects are fundamental to be managed by professionals who work in the

health institution administration, and in the units, in order to present a warm, humane, and participative working environment, enabling safe and effective care contributing to favorable results for the patient undergoing transplantation.

Thus, we understand the strategic role that the nurse has in managing a transplant unit, as a professional who acts directly in the management of the staff, and provides direct care to the patient. Therefore, it is important to emphasize the importance of the professional nurse being educated and qualified to work with the team in the transplant units. The empowerment of this professional, in the transplant theme, enables a better quality of life for the transplanted patient, longer graft survival times, as well as the effectiveness and safety of the team and patient throughout this process.[32-34]

The limitations of this study were the scarceness of scientific literature with this approach, which makes comparisons impossible, and the small sample size.

Conclusion

The results of the present study showed that the assessment of the safety culture attitude in the institution is positively perceived in the domains, "job satisfaction" and "stress recognition". These dimensions cooperate with patient safety in the perioperative kidney transplant period. The other dimensions require careful intervention, in order to encourage professionals to become involved and develop safety attitudes in the transplantation process. The lowest scores were observed in the domains, "working conditions" and "perception of management". These results support managers and care professionals in the development of strategies that establish measures which favor a patient safety culture and the management of care.

Collaborations

Pavan NFP, Magalhães ALP, Poncio DF, Ascari RA, Zanini PD, Knihs NS and Silva OM declare that they contributed to the design of the study, data analysis and interpretation, article writing, critical review of intellectual content, and approval of the final version to be published.

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