The climate of patient safety: perception of nursing professionals*

Clima de segurança do paciente: percepção dos profissionais de enfermagem

Clima de seguridad del paciente: percepción de los profesionales de enfermería

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ABSTRACT

Objective: To evaluate the perception of the safety climate of nursing professionals working in the medical and surgical clinics of a teaching hospital. Methods: A cross-sectional, descriptive study using a quantitative approach. We used the Safety Attitudes Questionnaire (SAQ) – Short Form 2006, translated into the Portuguese language. Results: The perception of the safety climate of the professionals varied according to gender, clinic, professional category and time of work. Job satisfaction was demonstrated by all professionals, with scores above 75, while the domain of Perception of Management presented much lower values. Conclusion: Professional satisfaction, dialogue and support for the team on the part of the administration are essential to ensuring patient safety. To know the perception of nursing professionals about the climate of safety contributes to the improvement of health care and to the reduction of risks to the patient.

Keywords: Perception; Organizational culture; Safety management

RESUMO

Objetivo: Avaliar a percepção do clima de segurança dos profissionais de enfermagem atuantes nas clínicas médicas e cirúrgicas de um Hospital de Ensino. Métodos: Estudo transversal, descritivo e com abordagem quantitativa. Foi utilizado o Safety Attitudes Questionnaire (SAQ) – Short Form 2006, traduzido para a língua portuguesa. Resultados: A percepção do clima de segurança dos profissionais variou conforme o gênero, a clínica, a categoria profissional e o tempo de atuação. A satisfação no trabalho foi demonstrada por todos os profissionais, com escores acima de 75, enquanto o domínio Percepção da Gerência apresentou valores mais baixos. Conclusão: A satisfação do profissional, o diálogo e o suporte à equipe por parte da administração são essenciais para a garantia da segurança do paciente. Conhecer a percepção dos profissionais de enfermagem sobre o clima de segurança contribui para a melhoria do cuidado em saúde e para a redução dos riscos ao paciente.

Descritores: Percepção; Cultura organizacional; Gerenciamento de segurança

RESUMEN

Objetivo: Evaluar la percepción del clima de seguridad de los profesionales de enfermería que actúan en las clínicas médicas y quirúrgicas de un Hospital de Enseñanza. Métodos: Estudio transversal, descriptivo y con abordaje cuantitativo. Se utilizó el Safety Attitudes Questionnaire (SAQ) – Short Form 2006, traducido para el idioma portugués. Resultados: La percepción del clima de seguridad de los profesionales varió conforme el género, la clínica, la categoría profesional y el tiempo de actuación. La satisfacción en el trabajo fue demostrada por todos los profesionales con escores arriba de 75, en cuanto que el dominio Percepción de la Gerencia presentó valores más bajos. Conclusión: La satisfacción del profesional, el diálogo y el soporte al equipo por parte de la administración son esenciales para la garantía de la seguridad del paciente. Conocer la percepción de los profesionales de enfermería sobre el clima de seguridad contribuye para la mejoría del cuidado en salud y para la reducción de los riesgos del paciente.

Descritores: Percepción; Cultura organizacional; Administración de la seguridad

* Study extracted from the doctoral thesis entitled “Transcultural adaptation of Safety Attitudes Questionnaire for Brazil” presented to the School of Nursing of Ribeirão Preto – University of São Paulo – USP – São Paulo (SP), Brazil.

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**INTRODUCTION**

In the past decades, the concern for patient safety has become a priority issue in health care. Although health care brings tremendous benefits to all those involved, the occurrence of errors is possible and may cause serious consequences to patients.

Thus, patient safety can be succinctly defined as the act of avoiding, preventing or ameliorating adverse outcomes or injuries caused in the process of hospital care(1,2).

In 1999, the Institute of Medicine of the United States (IOM) published the report “To Err is Human”, which discussed the subject of adverse events and called the attention of the media and health professionals to the issue. This report affirmed that about 44,000 to 98,000 people die every year in the US due to iatrogenic medical events and that 7,000 of these cases were related to medication error(3).

In Brazil, the concern about the impact of medication errors on patient safety is evidenced by the number of studies developed in the last decade. From this aspect, a multicenter study on medication errors conducted in five Brazilian hospitals identified 1,500 medication errors, i.e. 30% of doses were administered in error(4). This result shows the weak communication among professionals and the lack of knowledge was cited as one of the contributing factors for the errors(5,6).

In response to the growing concern about patient safety, the United Kingdom National Health Service, the Joint Commission for the Accreditation of Healthcare Organizations, the Agency for Healthcare Research and Quality, and the United States National Quality Forum proposed that health care institutions adopt models of Safety Culture.

In the literature, the term ‘safety culture’ was first used by the International Nuclear Safety Advisory Group (INSAG) when they published the report on the Chernobyl nuclear accident in 1986. According to this group, safety culture is a product emerging from values, attitudes, perceptions and group and individual competences that determine patterns of behavior and commitment to the safety management of the institution. Since then the concept of safety culture has been used by high-risk industries(7).

The term ‘safety climate’ has also been widely discussed in the literature in the area of patient safety and it has used as a synonym for culture. Safety climate may be defined as the temporal indicator of the institution’s state of safety culture and it may be measured by individual perceptions of the organization’s attitudes regarding safety culture(8).

Therefore, the implementation of safety culture in health care institutions may have a direct association with the decrease in adverse events and mortality, resulting in improvements in the quality of health care(9).

In 2004, the World Health Organization (WHO), through the World Alliance for Patient Safety program, released guidelines and strategies to encourage and promote practices that ensure patient safety. As a priority, this agency defined the development of evidence-based research focused on the best patient safety practices, as well as research initiatives with a greater impact on security issues. Since then several studies have been conducted with the purpose of evaluating the safety climate in health care institutions(10).

Among the methods used for measuring safety climate, the most commonly used ones are the numerical scales and questionnaires. These instruments assess the professionals’ perceptions concerning teamwork climate, job satisfaction, working conditions and stress recognition(11).

Among the most widely used instruments for assessing the safety climate in health care institutions, only two (Safety Culture Survey – Safety Attitudes Questionnaire and CSS – SAQ) have a positive association of the scores obtained with the improved results of care provided to patients, i.e the higher the score on the scale, the lower the patient’s length of stay in the care unit and the lower hospital infection rates(12,13).

From this perspective, the aim of present study was as follows: what perception of the safety climate is held by the nursing professionals working in the medical and surgical clinics of the teaching hospital of Ribeirão Preto – SP? Arising from this question, the aim of the study was: to assess the perception of safety climate of the nursing team professionals working in the medical and surgical clinics of a hospital in the Southeast region of the country by means of the Safety Attitudes Questionnaire, which was translated and validated in Portuguese.

**METHODS**

This was a quantitative, cross-sectional and descriptive study and the data collection was conducted in medical and surgical clinics of a teaching hospital located in the city of Ribeirão Preto – SP in July 2010. This hospital is a reference in teaching, research, and clinical pathology service in several areas, such as: medicine, nursing, physical therapy, nutrition, speech therapy, occupational therapy and biomedical informatics. The hospital provides 851 beds and several medical and surgical specialties.

It is noteworthy that during the data collection period, there were approximately 284 nursing professionals in the medical and surgical clinics of which...
66 were nurses, 23 licensed practical nurses and 195 nursing assistants. The hospital also has nursing attendants; however, according to the Human Resources department, it was not possible to identify the exact number of nursing attendants who work specifically at these units. The sample was composed of professionals of the nursing staff working at medical and surgical clinics who met the following inclusion criteria of the study:
1. Be working in the unit for at least one month;
2. Work at least 20 hours a week in the unit;
3. Accept to participate in the study.

Following these criteria, 53 participants were assistant nurses, seven manager nurses, 139 licensed practical nurses and nursing assistants and four nursing attendants, totaling 203 participants. The instrument used for data collection was the Safety Attitudes Questionnaire (SAQ), which was validated and culturally adapted to the reality of Brazilian hospitals. The scale was developed and validated in the United States by researchers of the University of Texas, Center of Excellence for patient safety. The SAQ is the most sensitive instrument to assess individual safety attitudes and it has been applied in more than 500 hospitals in the United States, United Kingdom and New Zealand. With regard to its content, the instrument is composed of two parts: the first part contains 41 questions with regard to the perception of patient safety. The second part collects data about the professional: position held, sex, main job, job duration.

The instrument measures the perception of the health care professionals in six areas: 1. **Teamwork climate**: the quality of the relationship and cooperation amongst staff members (items 1 to 6); 2. **Safety climate**: the professionals’ perception regarding organizational commitment to patient safety (items 7 to 13); 3. **Work satisfaction**: positive perception of workplace (items 15 to 19); 4. **Stress perception**: recognizing the stress factors that might influence work performance (items 20 to 23); 5. **Perception of hospital management**: approval of the hospital management or administration actions regarding the unit in which the professional works and the hospital itself (items 24 to 29); and 6. **Working conditions**: perception of the quality of the workplace environment (items 30 to 33). However, items 14, 34 to 36 are not part of the original instrument.

The answer to each question follows the five-point Likert scale: option A – strongly disagree, B – partially disagree, C – neutral, D – partially agree, E – totally agree and X – does not apply. The final score of the instrument ranges from 0 to 100, in which zero corresponds to the worst perception of safety attitudes by the health care professionals and 100 to the best perception. Values are considered positive when the total score is equal to 75.

With regard to the score, the scores were ranked in the following order: A – strongly disagree as 0, B – partially disagree as 25, C – neutral as 50, D – partially agree as 75, E – totally agree as 100 and X – does not apply as 0.

The scores were counted in the following way: the questions are ordered by domains, therefore responses to the questions of each domain are added and divided by the number of questions of each domain. For example, the domain Perception of Hospital management consists of four questions; if the professional answered neutral (50 points), partially agreed (75 points), neutral (50 points) and partially disagreed (25 points) the total value of score in this domain would be 50, and the result was obtained by the following calculation: (50 + 75 + 50 + 25) divided by 4 = 50.

For the data collection of this study, the researchers first contacted the boards of nursing and medicine and the heads of sectors (medical and surgical clinics) in order to explain the goals and purpose of the research, making them aware of work to be developed. After this, the professionals were approached in their workplace at times when they were available to participate in the study. Some instruments were handed to participants to be answered and returned later, on a pre-established return date. Each employee was given two Terms of Free and Informed Consent (TFIC), one to be kept by the researcher and the other to be kept by the participant. Thus, those who accepted to participate in the research received an envelope containing a colored copy of the scale, a pencil and an eraser, and were asked to fill it out. After collection, the data were entered into an electronic database (Microsoft Excel Program). Data processing and analysis were performed using the Statistical Package for Social Science (SPSS) version 11.0.

The study was submitted to the Ethics Committee of the Hospital Institution where the study was conducted and received the Certificate of Presentation for Ethical Appreciation (“Certificado de Apresentação para Apreciação Ética – CAAE”) No 0495.0.004.153-09 and it was approved by the Hospital in accordance with process No 12,383/2009. All participants signed the informed consent and their anonymity was guaranteed.

### RESULTS

The profile of the 203 professionals who participated in the study is described in the data in Table 1.
Of the 203 participants in the study, 159 (78%) were women, 139 (69%) were licensed practical nurses and nursing assistants and the majority of the professionals 66 (32%) had been working at the unit for five or more years.

The data in Table 2 show the average score obtained in each domain distributed by unit, sex, position and job duration of each nursing professional.

Table 2 shows that the professionals in the medical clinic presented better scores as regards the perception...
Table 3 – Distribution of answers of the nursing professionals per item. Ribeirão Preto-SP, HCFMRP, 2010

<table>
<thead>
<tr>
<th>Questions</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The suggestions of the nurse were well accepted in this area.</td>
<td>Completely and partially disagree N(%)</td>
</tr>
<tr>
<td>2 R*. In this area, it is difficult to speak openly if I perceive a problem with patient care.</td>
<td>18 (9)</td>
</tr>
<tr>
<td>3. Disagreements in this area are appropriately resolved (e.g. not who is right, but what is the best for the patient).</td>
<td>66 (32)</td>
</tr>
<tr>
<td>4. I have the support I need from the other team members to take care of the patients.</td>
<td>30 (15)</td>
</tr>
<tr>
<td>5. It is easy for professionals who work in this area to ask questions when there is something that they do not understand.</td>
<td>23 (11)</td>
</tr>
<tr>
<td>6. The physicians and nurses work together as a well-coordinated team.</td>
<td>17 (8)</td>
</tr>
<tr>
<td>7. I would feel safe if I were treated here as a patient.</td>
<td>59 (29)</td>
</tr>
<tr>
<td>8. Errors are appropriately dealt with in this area.</td>
<td>35 (17)</td>
</tr>
<tr>
<td>9. I know the proper channels to direct questions regarding patient safety in this area.</td>
<td>24 (12)</td>
</tr>
<tr>
<td>10. I receive appropriate feedback about my performance</td>
<td>71 (35)</td>
</tr>
<tr>
<td>11 R*. It is difficult to discuss errors in this area.</td>
<td>82 (40)</td>
</tr>
<tr>
<td>12. I am encouraged by my colleagues to report any patient safety concerns I may have.</td>
<td>23 (11)</td>
</tr>
<tr>
<td>13. The culture in this area makes it easy to learn from errors of others.</td>
<td>60 (30)</td>
</tr>
<tr>
<td>14. My suggestions about safety would be put into action if I expressed them to the administration.</td>
<td>67 (33)</td>
</tr>
<tr>
<td>15. I like my job.</td>
<td>6 (3)</td>
</tr>
<tr>
<td>16. Working here is like being part of a large family.</td>
<td>31 (15)</td>
</tr>
<tr>
<td>17. This is a good place to work.</td>
<td>16 (8)</td>
</tr>
<tr>
<td>18. I am proud of working in this area.</td>
<td>13 (6)</td>
</tr>
<tr>
<td>19. Morale in this area is high.</td>
<td>31 (15)</td>
</tr>
<tr>
<td>20. When my workload becomes excessive, my performance is impaired.</td>
<td>19 (14)</td>
</tr>
<tr>
<td>21. I am less effective at work when I am fatigued.</td>
<td>40 (20)</td>
</tr>
<tr>
<td>22. I am more likely to make errors in tense and hostile situations.</td>
<td>36 (18)</td>
</tr>
<tr>
<td>23. Fatigue impairs my performance during emergency situations (e.g. Cardiorespiratory resuscitation, convulsions)</td>
<td>82 (40)</td>
</tr>
<tr>
<td>24. The (hospital) management supports my daily efforts</td>
<td>97 (48)</td>
</tr>
<tr>
<td>25. The (hospital) management knowsingly compromises the safety of patients.</td>
<td>64 (32)</td>
</tr>
<tr>
<td>25. The (unit) management knowsingly compromises the safety of patients.</td>
<td>75 (37)</td>
</tr>
<tr>
<td>26. The (hospital) management is doing a good job.</td>
<td>74 (37)</td>
</tr>
<tr>
<td>26. The (unit) management is doing a good job.</td>
<td>53 (26)</td>
</tr>
<tr>
<td>27. Problematic professionals in the team are dealt with in constructive manner by our (hospital)</td>
<td>36 (18)</td>
</tr>
<tr>
<td>27. Problematic professionals in the team are dealt with in constructive manner by our (unit)</td>
<td>89 (44)</td>
</tr>
<tr>
<td>28. I am provided with adequate, timely information about events in the hospital that might affect my work.</td>
<td>83 (41)</td>
</tr>
<tr>
<td>29. I am provided with adequate, timely information about events in the unit that might affect my work.</td>
<td>45 (22)</td>
</tr>
<tr>
<td>30. This hospital does a good job of training new personnel.</td>
<td>38 (19)</td>
</tr>
<tr>
<td>30. All necessary information for diagnostic and therapeutic decisions is routinely available to me.</td>
<td>109 (54)</td>
</tr>
<tr>
<td>31. The number and qualification of the professionals in this area are sufficient to deal with the number of patients.</td>
<td>38 (19)</td>
</tr>
<tr>
<td>32. Trainees in my profession are adequately supervised.</td>
<td>37 (18)</td>
</tr>
<tr>
<td>33. I have experienced good cooperation from nurses in this area.</td>
<td>52 (26)</td>
</tr>
<tr>
<td>34. I have experienced good cooperation from physicians in this area.</td>
<td>37 (18)</td>
</tr>
<tr>
<td>35. I have experienced good cooperation from pharmacists in this area.</td>
<td>34 (17)</td>
</tr>
<tr>
<td>36 R*. Communication failures that lead to delays in patient care are common.</td>
<td>119 (59)</td>
</tr>
</tbody>
</table>

R: Reverse items
of safety climate than the clinical surgery professionals in all domains, except in the domain of Stress Perception. No significant difference in the perception of safety climate was found between men and women.

However, manager nurses presented a score higher or equal to 75 on an average in the majority of the domains, while the practical nurses and nursing assistants presented lower scores. It is worth pointing out that the domain Perception of Management of the hospital and unit had the lowest score for all professionals, including the manager nurses.

Work Satisfaction was the only domain with values above 75 for all job positions, and nursing attendant was the professional category with the highest score (91) in this domain.

With regard to the perception of the safety climate, the worst result was related to the domain Perception of unit and hospital Management, shown by lower scores, while professionals with more than 21 years of experience showed better perception of safety climate.

The data in Table 3 show the distribution of the nursing professionals’ answers per item of the scale.

According to Table 3, 62% of the nursing professionals answered that it is difficult to speak openly when they perceive a problem related to patient care. From this aspect, 49% of professionals stated that the culture in their workplace is not conducive to learning from the errors of others and 57% of the professionals disagreed that their suggestions about patient safety would be put into action if they expressed them to the hospital management. Furthermore, 45% of the professionals answered that they did not receive appropriate feedback about their performance.

Most professionals (94%) affirmed that they liked their job and 83% affirmed that they would feel safe being treated as a patient at their clinics. With regard to workload, 82% of the professionals agreed that when the workload became excessive, performance was impaired. However, almost half of the professionals (44%) disagreed with the following affirmation: “Fatigue impairs my performance during emergency situations”.

As regards Perception of Hospital management, most professionals agreed that the management of the unit is doing a good job, while 47% professionals disagreed or gave a neutral answer. With regard to the question “Does hospital management support my daily efforts?”, 48% disagreed and 21% preferred to give a neutral answer. In the domain Perception of Hospital management, the majority of interviewees expressed the view that the Hospital/Unit management does not deal constructively with problematic professionals. Finally, most professionals did not agree that the number of professionals is sufficient to meet the demand of patients.

DISCUSSION

Previous studies in the area of patient safety have investigated safety climate in several hospitals, among the areas of the same hospital and among professionals. The aim of the present study was to investigate the perception of safety climate among nursing professionals (assistant nurses, manager nurses, licensed practical nurses, nursing assistants, and nursing attendants) working in the medical and surgical clinics of a Teaching Hospital.

According to the results of this study, it was found that the perception as regards the safety climate varied according to each area, local/unit (medical and surgical clinic), professional category and job duration.

The majority of professionals that participated in the study partially or completely agreed with the questions asked. It is noteworthy that 94% of professionals affirmed that they like their job and 83% affirmed that they would feel safe being treated as a patient in their clinical. These questions are part of the Work Satisfaction domain, which presented the highest score among the professionals in the study (Table 2). The application of SAQ in intensive care units identified a similar result with regard to the Work Satisfaction domain among the nursing professionals.

The good perception of professionals in relation to this domain was a positive factor, since professional satisfaction with the work is directly related to the quality of care provided to patients. Institutions that have professionals who are dissatisfied with work have higher rates of turnover, and this turnover is associated with the occurrence of adverse events such as medication errors, nosocomial infections and falls.

A study conducted in the United States showed that 41% of nurses were dissatisfied with their work; in Canada the percentage was only 17%. In England, 38.9% of nurses intend to abandon the profession and in Norway the percentage was 26%. Salary and autonomy are some of the factors that may influence the nursing professionals’ job satisfaction. Nurses who have the opportunity to grow professionally are more satisfied with the profession and have more intention to remain at the institution. In Brazil, studies have pointed out that dissatisfaction of the nursing professionals is related to the accumulation of activities and little prospect of gaining new knowledge, impairing the quality of their performance in patient care. In this context, researchers have pointed out that knowledge is one of the main tools health professionals have to ensure that patients receive safe and high quality health care.

The Domain Perception of Management of the hospital and unit had the lowest scores among the nursing professionals.
professionals. In this domain, the question “Does the hospital management support my daily efforts?” and “Are problematic professionals dealt with constructively?” were those that showed the highest frequency of answers that ranged from strongly disagree, partially disagree, and neutral.

The Perception of Hospital management held by the professional is an important factor to ensure patient safety, since this domain reflects the agreement of the professional with regard to the actions of hospital management and of the unit related to patient safety. Some of the main actions the hospital administration and the unit can promote to cause a positive impact on patient safety, are to create an atmosphere in the work environment that favors open dialogue about errors, in a non-punitive environment of continuous professional training\(^{(20)}\). Similar results with regard to the domain Perception of Hospital management among health professionals were also found in other studies\(^{(10,15)}\).

With regard to the perception of safety climate according to nursing category, it was observed that manager nurses had higher scores followed by nursing attendants, assistant nurses, and lastly, licensed practical nurses and nursing assistants.

In connection with this question, a study showed that there was a great variation in the perception of safety climate between nurse managers and assistant nurses\(^{(24)}\). In a validation study of the Safety Attitudes Questionnaire translated into the Chinese language, it was found that the safety climate domain had one of the lowest scores among the domains, being ahead of only the domain working conditions\(^{(25)}\).

When analyzing job duration, it was found that the professionals who had been working for 21 years or more had a better perception of patient safety climate, considering all the domains. However, in disagreement with this result, one study identified that professionals who had been working for less than 6 months showed better perception of safety climate than the professionals who had been working for a longer time\(^{(20)}\).

In view of the results of the present study, it was found that the majority of professionals who participated in this study were satisfied with their jobs. However, it was found that the majority of them still do not know the proper channels to direct questions related to patient safety. It is worth pointing out that in general, professionals are not in agreement with the actions taken by hospital and unit management on issues related to patient safety and this statement was evidenced by the low scores in the domain Perception Management of the hospital and unit.

**CONCLUSION**

The evaluation of the perception of safety climate among nursing team professionals showed a variation in the answers, according to each domain, professional class and job duration.

The nurses in a management position and those who had been working for 21 years or more showed better perception of patient safety climate, and on average, the nursing assistants and nursing technicians showed the lowest scores.

It is worth pointing out that work satisfaction was shown by the majority of the participants in the study. However, the low scores with regard to the perception of these professionals about hospital management indicate a communication gap between the nursing team and the hierarchical superiors with reference to dialogue about patient safety questions. It was found that the perception that failures in patient safety will only result in punitive actions against the professional still predominates, preventing the subject from being discussed in a positive manner by means of joint action between peers with the purpose of improving health care and reducing risks to the patient.

Therefore, based on this study, it is suggested that further research should be conducted in Brazil for the purpose of learning about patient safety climate in the different hospital sectors, and to propose new actions for the discussion on the subject, and thereby seek the best quality in health care.

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