

## Nursing safety attitudes: relationship with time of experience and intention to leave the job



*Atitudes de segurança da enfermagem: relação com tempo de experiência e intenção de deixar o emprego*

*Actitudes de seguridad en enfermería: relación con el tiempo de experiencia e intención de dejar el empleo*

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### ABSTRACT

**Objective:** To evaluate the safety attitudes of the nursing staff and their relationship with staff adequacy and material resources, time of experience and intention to leave the job.

**Method:** A descriptive and cross-sectional study in a teaching hospital, sampled by convenience, with the application of the Safety Attitudes Questionnaire, collected from January to April 2016.

**Results:** 262 professionals participated, of whom 98 were nurses and 164 technicians. They reported a positive safety attitude for job satisfaction. The adequacy of staff and material resources positively influenced safety attitudes. There was a negative correlation between time of experience and perception of management, safety climate, working conditions and safe behaviors and, between the intention to leave the job and the teamwork climate, job satisfaction, and safe behaviors.

**Conclusion:** The negative perception of safety attitudes was related to the time of experience and to the intention to leave the job.

**Keywords:** Patient safety. Organizational culture. Nursing team. Nursing.

### RESUMO

**Objetivo:** Avaliar atitudes de segurança da equipe de enfermagem e sua relação com adequação da equipe e recursos materiais, tempo de experiência e intenção de deixar o emprego.

**Método:** Estudo descritivo e transversal em um hospital de ensino, amostra por conveniência, com aplicação do *Safety Attitudes Questionnaire*, coletados de janeiro a abril de 2016.

**Resultados:** Participaram 262 profissionais, sendo 98 enfermeiros e 164 técnicos. Relataram atitude de segurança positiva para satisfação no trabalho. A adequação da equipe e de recursos materiais influenciou positivamente nas atitudes de segurança. Houve correlação negativa entre tempo de experiência e percepção da gerência, clima de segurança, condições do trabalho e comportamentos seguros e, entre intenção de deixar o emprego com o clima de trabalho em equipe, satisfação no trabalho e comportamentos seguros.

**Conclusão:** A percepção negativa das atitudes de segurança foi relacionada com o tempo de experiência e intenção de deixar o emprego.

**Palavras-chave:** Segurança do paciente. Cultura organizacional. Equipe de enfermagem. Enfermagem.

### RESUMEN

**Objetivo:** Evaluar las actitudes de seguridad del personal de enfermería y su relación con la adecuación del personal y los recursos materiales, el tiempo de práctica profesional y la intención de dejar el empleo.

**Método:** Estudio descriptivo y transversal realizado en un hospital universitario, con muestreo por conveniencia y aplicación del Cuestionario de Actitudes de Seguridad, recogido de enero a abril de 2016.

**Resultados:** Participaron 262 profesionales; de ellos 98 fueron enfermeras y 164 técnicos. Se reportó una actitud de seguridad positiva para la satisfacción laboral. La adecuación del personal y los recursos materiales influyó positivamente en las actitudes de seguridad. Hubo una correlación negativa entre el tiempo de práctica profesional y la percepción de la gerencia, el clima de seguridad, las condiciones de trabajo y los comportamientos seguros, y la intención de abandonar el empleo con el clima de trabajo en equipo, la satisfacción laboral y los comportamientos seguros.

**Conclusión:** La percepción negativa de las actitudes de seguridad se relacionó con el tiempo de práctica profesional y con la intención de dejar el trabajo.

**Palabras clave:** Seguridad del paciente. Cultura organizacional. Grupo de enfermería. Enfermería.

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## ■ INTRODUCTION

Patient safety has been recognized worldwide as a public health issue. Despite the efforts on research and investments, the magnitude of the problem remains evident and the main challenge lies on the commitment of health care organizations to learn from adverse events enabling patients to experience safe care<sup>(1-2)</sup>.

Healthcare institutions are constantly challenged to provide high-quality care and optimize patient-safety issues<sup>(3)</sup>; in this sense, it is interesting to adopt the assessment of the safety culture in the health care services<sup>(4)</sup>.

As a component of the organizational culture, safety culture includes beliefs, attitudes, values, norms and behavioral characteristics of the professionals and influences team members' attitudes and behaviors regarding the organization's ongoing performance towards patient safety. The safety climate, which can be measurable, refers to the shared perceptions on safety policies, procedures, and practices that may vary within the institution<sup>(4)</sup>.

To provide patient safety, the health care organizations must assess the safety culture and prioritize areas needing improvement. The nursing professionals are the main direct-care providers to patients and their families, playing a key role in the patient's experience and carrying the firsthand perspective of the safety culture in their work environment<sup>(5)</sup>. However, it should be considered that providing safe care should be a shared responsibility among the multi-professional team, inherent in the different practice scenarios<sup>(6)</sup>. The organizational culture and work environment are strongly associated with positive outcomes for patients, such as increased patient satisfaction, and decreased hospitalization length, hospital mortality and rates of health care-related infection<sup>(7)</sup>.

Several studies highlight the decrease in adverse events with the monitoring of the patient safety environment and the implementation of a patient safety program in health care organizations<sup>(7-8)</sup>.

In this sense, to assess the safety climate, the *Safety Attitudes Questionnaire - Short Form 2006* (SAQ) has been one of the most frequently used instruments in several countries<sup>(9)</sup>. From previous research studies that used this same collection instrument, it is highlighted that the nursing team's time of experience is an important variable that influences the safety attitude perception. The longer the time of experience, the more negative the perception of the professionals regarding safety attitudes<sup>(3,9-10)</sup>, however, there are controversies regarding this variable<sup>(11)</sup>.

Few studies evaluated the relationship of the time of experience of the professionals and intention to leave the job variables with the perception of the safety attitudes. A previous study highlights that, although weak, there was a link between most SAQ areas and the intention to leave the profession<sup>(12)</sup>. Considering that the professionals of an institution must engage in order to effectively implement a positive safety culture in the institutions<sup>(13)</sup>, the relevance of this research, besides the structural factors, lies on analyzing the relation of the intention to leave the job and time of experience in the job variables with the evaluation of the safety attitudes in the perspective of the nursing professionals.

Therefore, the following questions were asked: what is the evaluation of the safety climate and the correlation with the perception of resources' adequacy at work, time of professional practice and intention to leave the job by the nursing professionals?

The objective of this study was to evaluate the safety attitude of the nursing team and its relationship with the adequacy of the team and material resources, time of experience and intention to leave the job.

## ■ METHOD

This is a descriptive and cross-sectional study with a quantitative approach carried out in a public teaching institution belonging to the tertiary and quaternary level state network in the inland of the state of São Paulo, with an operational capacity of 409 beds.

For the composition of the non-probabilistic convenience sample, nurses and nursing technicians involved in direct patient care were considered, with a time of experience in the unit of at least three months, coming from the intensive care units, medical-surgical clinic, and pediatrics. Data was collected by two of the researchers from January to April 2016 on the premises of the institution, after authorization by the nursing service management and approval by the Research Ethics Committee. The selection of participants was made upon invitation to the nursing team members, who participated in the study voluntarily. After the study's objectives were clarified and the Free and Informed Consent Form was signed, the data were collected using the Brazilian version of the *Safety Attitudes Questionnaire - Short Form 2006* (SAQ)<sup>(14)</sup>, and a personal and professional characterization sheet was built for this study. This sheet contained variables to assess the intention to leave the job next year, the quality of care, the assessment from the professional's point of view on the

adequacy of the professionals' number and of the material resources and physical structure for providing care.

The response options for the leaving job variable ranged from zero to ten points and the closer to ten, the greater the intention. For the perception of the quality of care, the response options were the following: bad, good or very good and, for the adequacy of the professional's number for assistance and adequacy of material resources variables, the response options were the dichotomous yes or no type.

The purpose of the SAQ is to assess the safety attitudes of the professionals in health care institutions. There are 41 items distributed in eight domains, namely: teamwork climate, safety climate, job satisfaction, stress recognition, perception of management of the unit and of the hospital, working conditions, and safe behavior. The response scale is of the five-point Likert type, which ranges from totally disagreeing (1 point) to totally agreeing (5 points); and there is also the not applicable category, for which no score is given. The score for each domain is obtained by averaging the scores, and averages over 75 points<sup>(14)</sup> are considered as a positive perception of the safety attitudes. This instrument, developed in the United States of America, is adapted to the Brazilian culture and obtains satisfactory levels of construction validity and indexes of reliability<sup>(9,14)</sup>.

The reliability values, evaluated by the Cronbach's alpha coefficient in this study were the following: teamwork climate (0.68); safety climate (0.66); job satisfaction (0.80); stress recognition (0.82); perception of the unit's management (0.75); perception of the hospital management (0.74); working conditions (0.70) and safe behavior (0.77).

The SAS software version 9.4 was used for data analysis. A descriptive analysis of the sample profile was performed and, after performing the normality adherence test using the Kolmogorov-Smirnov test, it was decided to analyze the correlations between the domain scores and the quantitative variables using the Spearman's correlation coefficient. For the interpretation of the results, the categorization of the correlation forces was considered: 0.1 to 0.29 (weak), 0.30 to 0.49 (moderate) and higher or equal to 0.50 (strong)<sup>(15)</sup>.

For the comparison tests involving qualitative variables with two categories and the SAQ domains' scores, the non-parametric Mann-Whitney test was applied, and for the comparisons between units the nonparametric Kruskal-Wallis test was applied. For all the analyses, a level of significance equal to 5% was considered. The Research Ethics Committee

approved the conduction of this research, under CAAE opinion No. 23153313.5.0000.5404.

## ■ RESULTS

A total of 262 nursing professionals participated in the study, of whom 98 (37.40%) are nurses and 164 (62.60%) nursing technicians (Table 1).

The mean time of training was 10.65 years (SD = 6.70; median = 9.0; Q1-Q3 = 6.0 - 13.0; min.-max. = 2.0 - 38.0), a time of experience at the unit of 5.56 years (SD = 6.04; median = 3.25; Q1-Q3 = 1.83 - 6.25; min.-max. = 0.25 - 27.0), a time of experience in the institution of 7.37 years (SD = 7.32; median = 5.0; Q1-Q3 = 2.33 - 10.0; min.-max. = 0.25 - 30.75). Regarding the intention to leave the job in the next year, a mean score of 2.01 points was obtained (SD = 2.96; median = 0.4; Q1-Q3 = 0.0 - 2.70; min.-max. = 0.0 - 10.0). The professionals evaluated the quality of care offered to patients as good (187; 71.65%) and very good (54; 20.69%) and the number of professionals for care as adequate (142; 54.20%), and they answered that the material resources in the unit were also adequate (133; 51.15%).

The perception of the professionals in relation to the safety attitudes are presented in Table 2.

With regard to the adequacy of the number of professionals and the domains of the SAQ, there were significant statistical differences for the following domains: teamwork climate ( $p = 0.004$ ), safety environment ( $p < 0.0001$ ), job satisfaction ( $p < 0.0001$ ), perception of unit ( $p < 0.0001$ ) and hospital ( $p = 0.005$ ) management, and safe behavior ( $p = 0.008$ ).

Regarding the adequacy of material resources, significant differences resulted for all the SAQ domains: teamwork ( $p < 0.004$ ); safety climate ( $p < 0.0001$ ); job satisfaction ( $p < 0.0001$ ) and perception of unit ( $p < 0.0001$ ) and hospital ( $p = 0.0002$ ) management; working conditions ( $p = 0.0002$ ), and safe behavior ( $p = 0.024$ ). There was no difference in the comparison of safety attitudes among the professionals of the hospitalization, intensive care, and pediatric units.

Correlations of weak magnitude were identified between the time of experience in the unit and in the institution and the domains of safety climate, perception of the unit and hospital management, working conditions and safe behavior. There was also a weak correlation between the intention to leave the job and the teamwork climate, job satisfaction and safe behavior domains (Table 3).

**Table 1** – Sample characterization. Campinas, SP, Brazil, 2016. (n = 262)

Variable	N	%
<b>Unit</b>		
Intensive Care Unit	84	32.06
Hospitalization	147	56.11
Pediatrics	31	11.83
<b>Position</b>		
Nurse	98	37.40
Nursing Technician	164	62.60
<b>Gender</b>		
Female	220	83.97
Male	42	16.03
<b>Marital status</b>		
Single	91	35.00
Married	136	52.31
Disengaged/Separated	11	4.23
Divorced	20	7.69
Widow/Widower	1	0.38
Other	1	0.38
<b>Shift</b>		
Morning	92	35.38
Afternoon	90	34.62
Evening	78	30.00
<b>Other employment link</b>		
Yes	50	19.53
No	206	80.47

Source: Research data, 2016.

**Table 2** – Perception of the professionals as regards the domains of the *Safety Attitude Questionnaire – Short form 2006 (SAQ)*. Campinas, SP, Brazil, 2016. (n = 262)

SAQ domains	Mean	Standard Deviation	Min.-Max.	Quartile 1	Median	Quartile 3
Job satisfaction	78.82	19.07	0.00 - 100	70.00	85.00	95.00
Teamwork climate	69.59	17.90	8.33 - 100	58.33	70.83	83.33
Stress recognition	69.32	27.13	0.00 - 100	56.25	75.00	93.75
Safe behavior	66.63	23.85	0.00 - 100	50.00	75.00	83.33
Safety climate	63.10	17.97	14.29 - 100	50.00	67.86	78.57
Working conditions	60.31	25.77	0.00 - 100	41.67	58.33	83.33
Perception of unit management	55.71	21.70	0.00 - 100	45.83	58.33	70.83
Perception of hospital management	50.52	20.43	0.00 - 100	37.50	50.00	62.50

Source: Research data, 2016.

**Table 3** – Correlation between the *Safety Attitude Questionnaire Short form - 2006* sub-scales, time of experience in the unit and in the institution, and intention to leave the job. Campinas, SP, Brazil, 2016. (n=262)

SAQ domains	Time of experience in the unit	Time of experience in the institution	Intention to leave the job
Teamwork climate	-0.05	-0.07	-0.15*
Safety climate	-0.20*	-0.23†	-0.06
Job satisfaction	-0.11	-0.12	-0.23*
Stress recognition	-0.02	-0.03	0.01
Perception of unit management	-0.26†	-0.27†	-0.11
Perception of hospital management	-0.22†	-0.28†	-0.09
Working conditions	-0.16*	-0.12*	-0.06
Safe behavior	-0.16*	-0.15*	-0.18*

Source: Research data, 2016.

\*Spearman's correlation coefficient,  $p < 0,05$

† $p \leq 0,001$

## DISCUSSION

Most of the professionals in the sample were nursing technicians (164; 62.60%), from inpatient units (147; 56.11%), with a mean time of training of more than 10 years and a time of experience in the unit of more than five years. They evaluated the quality of care as good (187; 71.65%) or very good (54; 20.69%), had an exclusive dedication to the job (206; 80.47%), and no intention of leaving employment next year.

The professionals reported a positive assessment for the job satisfaction domain. It should be noted that, although the professionals expressed a positive perspective regarding items that present experiences of job satisfaction, they reported an unfavorable attitude in relation to the domains of teamwork climate, safety climate, working conditions, and perception of the unit's and the hospital's management. It is important to highlight that the perception of the unit and hospital management domains were those with the lowest scores, a finding that corroborates previous studies<sup>(10-11,16)</sup>.

Job satisfaction stands out as one of the constructs that most contributes to the safety attitudes<sup>(9,11-12,17)</sup>. It is also related to lower levels of emotional exhaustion and turnover rates<sup>(18)</sup>, as well as to a lower incidence of adverse events and to an improvement in the quality of care<sup>(19)</sup>.

The study also identified that the professionals who reported working in environments with adequate material resources assessed the safety attitudes for all SAQ domains more positively. Apart from that, working with an adequate

number of professionals for providing care can foster a positive perception of the safety attitudes for most of the SAQ domains, with the exception of the domains of stress recognition and working conditions, for which no statistically significant differences were identified.

Although a weak correlation among the SAQ's constructs was evidenced, it can be highlighted that the longest time of experience of the professionals, both in the unit and in the institution, was related to the negative evaluation of the safety climate, the performance of the unit's and institution's management, the working conditions and the adoption of safe behaviors in the practice. A negative perception of hospital management was also identified in an Australian study, which found that nurses with longer time working in the institution also have a negative perception of hospital management<sup>(3)</sup>.

A national study obtained a weak correlation between the time of experience in the unit variable and the domains of safety climate, job satisfaction, and perception of the unit's and hospital's management<sup>(10)</sup>. Not only did this study find a weak correlation for these domains as well, but also for the domains of working conditions and safe behavior.

The nursing professionals who reported greater intention to leave their jobs in the following year assessed teamwork climate, job satisfaction and safe behaviors in the work environment more negatively. This finding adds a piece of relevant information to the literature in the area since there is little evidence of the relationship between the perception of safety attitudes by nursing professionals with the intention to

leave the job. Similarly to his study, a Taiwanese study found a correlation between the nurses' intention to stay in the job position and the safety climate in hospital institutions<sup>(18)</sup>.

For the present research, a negative and weak relationship was found between the time of experience for five out of eight SAQ domains. Another national study pointed out that the professionals' time of experience in the unit was negatively related to most of the SAQ domains, except for stress recognition<sup>(12)</sup>.

Although it resulted in a weak correlation, in this research the intention to leave the job variable was negatively related to the domains of teamwork climate, job satisfaction, and safe behavior. The literature found evidence of a weak and negative correlation between the intention to leave the profession and most of the domains, with the exception of the stress recognition and perception of management of the hospital domains<sup>(12)</sup>.

The safety climate in health care institutions has been directly related to the patient safety outcomes<sup>(8,20)</sup>, and measuring safety attitudes in these settings can provide managers with insights into the need for improvements in care. Strategies such as multidisciplinary rounds or visits, programs of unit interventions, training initiatives and facilitated communication (such as the introduction of tools and checklists) were cited in a systematic review as effective in promoting the safety climate in health care facilities<sup>(4)</sup>.

This is a study that sought to evaluate the safety attitudes from the perspective of the nursing professionals and, since it is a convenience sample, such results cannot be generalized in their entirety. Although there is this limitation, the findings of this research reinforce interesting data regarding the management of people in health care organizations, recommending special attention to the professionals with longer time of experience in the institutions, as well as actions to favor a positive safety climate in the clinical practice, which may be related to the evaluation of satisfaction by the professional, less desire to leave the job and adoption of safe behaviors in care. In future studies, it is suggested to assess the impact of the professionals' perceptions of the safety attitudes in health care institutions.

## ■ CONCLUSION

The nursing team has a positive perception of the safety attitudes only for the job satisfaction domain. Although there was a weak relationship, the time of professional experience was related to a more negative assessment of the safety climate, working conditions, perception of safe behavior and perception of management of both the unit and the institution. The intention to leave the job was also negatively related to

the perception of the teamwork climate, job satisfaction and the adoption of safe behaviors in the clinical practice.

The adequacy of material resources has positively influenced the SAQ domains and working in unity with an adequate number of professionals can favor the positive perception of safety attitudes for most domains, except for stress recognition and working conditions. The unfavorable perception of the teamwork climate, job dissatisfaction and not adopting safe behavior were related to the intention to leave the job in the following year.

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