Original Article

Patient safety climate in a hospital specialized in oncology*

Clima de segurança do paciente em um hospital especializado em oncologia

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* This research received financial support from the Support to Research Foundation from the State of Minas Gerais (FAPEMIG).

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ABSTRACT

The study's objective was to assess the safety climate from the perspective of a health team from a hospital specialized in oncology. An observational sectional study, conducted with 66 health professionals, using the Safety Attitudes Questionnaire. For analysis, Student's t test and Sperman's correlation (α=0.05) were used. The instrument's general score was 70.28. The domain with best score was satisfaction at work (86.74) and, the domains with lower scores were perception from management (64.99) and stress perception (61.74). There was no differences of means statistically significant between genders, but it was present between those who had gone through graduate school or not. There was no correlation between scores and career time in the specialty at the institution. The final assessment demonstrated fragilities in the perception of health professionals related to questions involving the institutional climate of safety.

Descriptors: Patient Safety; Medical Oncology; Oncology Service, Hospital; Safety Management.

RESUMO

O objetivo do estudo foi avaliar o clima de segurança na perspectiva dos profissionais da equipe de saúde de um hospital especializado em oncologia. Estudo observacional, seccional, realizado com 66 profissionais da saúde, utilizando-se o *Safety Attitudes Questionnaire*. Para as análises foram utilizados teste *t* de *Student* e correlação de *Sperman* (α=0,05). O escore geral do instrumento foi 70,28. O domínio com melhor escore foi satisfação no trabalho (86,74) e os domínios com menor escore foram percepção da gerência (64,99) e percepção do estresse (61,74). Não houve diferenças estatisticamente significativa das médias entre os sexos, mas esta esteve presente entre os que realizaram ou não pós-graduação. Não houve correlação entre escores e tempo na especialidade de atuação na instituição. A avaliação final demonstrou fragilidades na percepção dos profissionais da saúde em relação às questões que envolvem o clima de segurança institucional.

Descritores: Segurança do Paciente; Oncologia; Serviço Hospitalar de Oncologia; Gestão da Segurança.

INTRODUCTION

The term “safety culture” can be defined as a conjunct of values, attitudes, and perceptions, being individual as well as in groups, which determine the compromise and the style regarding questions turned to patient’s safety in a health organization[1].

It is of extreme relevance to propitiate safety for those providing services and for those using it. For a better safety climate, one individual or a group of people need to establish values, competencies and attitudes, generating safety to this environment, reducing to the minimal acceptable risk of unnecessary harms during health attention[2-3].

Safety climate dimensions have been associated to diverse health outcomes, as the occurrence of adverse events, that is, undesirable and preventable incidents, that occur while providing health care. These events result in losses related to patients, as disabilities, physical and psychological traumas, increase of hospitalization time, withdraw from social relationships and at work, besides causing ethical and moral losses for health professionals[4]. Health institutions are also affected with the increase of costs, loss of trust in the institution and, moral and organization losses[5].

Patient safety became a large priority for political articulators, health professionals, and managers. To monitor hospital safety is a challenging task. For this, the institutional profile needs to be known, with the intention to observe aspects disfavoring the implementation of an environment with opinions to comprehend safe actions and act on these aspects, to propitiate a planned and quality attention[3,6].

In the specialized hospital designated to care for patients who need assistance for a determined medical specialty, as an oncology hospital service; the task may be even harder. This because cancer is a complex disease, it can be of long duration and significantly compromises the life of individuals in biological, social and affective dimensions, requiring specialized assistance of different professionals[7]. Planning safe actions for these patients would reduce the possibility to occur adverse events related to vulnerabilities of oncologic patients during their treatment.

There is a lack of national studies aiming to measure safety climate in hospitals. Between the instruments used to assess safety attitudes, the Safety Attitudes Questionnaire (SAQ), validated in Brazil in 2012, have been little used although it is a reliable tool and considered one of the most sensitive for this assessment[8]. In general, it is observed the use of other instruments to assess safety, as in a study conducted in Paraná state, with the application of a scale denominated Safety Climate, translated and validated in Brazil[9].

Facing the exposed, the present study aimed to assess patient safety climate, from the perspective of professionals of a health team, in an oncology specialized hospital.

METHODS

An observational sectional study with quantitative approach, conducted in an oncology specialized hospital, situated in a city located in the region of Triângulo Mineiro, Minas Gerais state, Brazil.

One hundred and seven (107) professionals of a contracted health team composed the targeted population (N) of this study, in which there were the nursing team (nurses, nursing technicians, and nursing assistants), physicians, nutritionists, pharmacists, psychologists, social assistants, pharmacy, laboratory, and radiology technicians. The inclusion criteria were to be working in their units for more than one month and to work a minimum of 20 hours weekly.

From the 107 professionals (N), 23 were excluded from the study as they were away from work during the data collection period and, 18 refused to participate. Thus, 66 professionals constituted the sample (n). The data collection occurred during the period of June to September of 2013.

The SAQ was used to obtain data, which is validated for Brazilian Portuguese language[10], and it measures the

safety climate perceived by health professionals, which directly reflects safety climate of the organization. The SAQ was given to the health team to be completed and returned after, with a pre-established return data, as recommended for the application of this instrument.

Sociodemographic and professional variables were also obtained, being: gender, professional category, career time in the specialty and the working unit, main and professional action, time of training and time working in the institution, graduation, presence of another employment and institutional link. These data were in a structured instrument delivered with the SAQ, to be returned on the same scheduled date.

All participants signed the Free and Informed Consent.

The SAQ instrument contain 41 items, and 38 correspond to six domains: (1) Team Work Climate, considering as relationship quality and the collaboration among members of a same team (items 1 to 6); (2) Safety Climate, that considers the perception of professionals regarding their organizational compromise for patient safety (items 7 to 13); (3) Satisfaction at Work, about the positive view of the work place (items 15 to 19); (4) Stress Perception, recognition of how much stressing factors can influence the work execution (items 20 to 23); (5) Perception from management, about the approval of management or administration actions, in the unit where the professional works and at the hospital as a whole (items 24 to 29); and (6) Work Conditions, that considers the quality perception in the work environment (items 30 to 33) [11].

The items 14, 34 and 36 are not part of any domain in the original instrument. The answer to each item follows a five-point Likert scale: “totally disagree” (A), “partially disagree” (B), “neutral” (C), “partially agree” (D), “totally agree” (E) and “not applicable”. The final score vary from zero to 100. Values higher or equal 75 points are considered a positive assessment[10]. As criteria to interpret the data from this study, it was used as flatness, the scoring value suggested by the creators of the instrument, considering that such data were not tested in Brazil.

Data were entered in an electronic spreadsheet in the Excel® program for Windows®, validated by double entering and exported to the program Statistical Package for the Social Sciences (SPSS), version 19.0 for Windows® for processing and analysis.

The qualitative data were analyzed using descriptive statistics through the distribution of absolute frequency and percentages, while for quantitative variables, descriptive central (mean) and dispersion (standard deviation, minimum and maximum values) measures were used.

For bivariate analysis of the categorical variables’ influence on the safety scores, the Student’s t test (dichotomous categorical) and the Sperman’s correlation test for ordinal variables were used. Associations were considered statistically significant if $p \leq 0,05$.

This study is part of the research project entitled *The patient safety culture in hospitals from a region of Minas Gerais*, that received financial support from the Support to Research Foundation from the State of Minas Gerais (FAPEMIG). It was approved by the Ethics in Research with Human Beings Committee of the Universidade Federal do Triângulo Mineiro (CEP-UFTM), protocol nº 2.306, respecting the Brazilian legislation for research involving human beings.

RESULTS

Sixty-six health professionals participated in the study. From those, 19 (28.8%) were nursing technicians, 15 (22.7%) pharmacy, lab and radiology technicians, 12 (18.2%) physical therapists, five (7.6%) nurses, four (6.1%) pharmacists, four (6.1%) psychologists, two (3.0%) social assistants, one (1.5%) nursing assistant and one (1.5%) nutritionist. From those, 46 (69.7%) were female, 26 (39.4%) had five to 10 years of training, and the majority (62.1%) did not have a graduate degree. From the 25 (37.9%) who had one, 23 (34.8%) were specialization

courses, one (1.5%) master 's degree, and one (1.5%) doctoral degree.

Regarding the time working at the institution, 15 (22.7%) professionals worked from one to two years at the oncology specialized hospital. The same period was found for 16 (24.2%) professionals regarding their work in oncology. Most professionals (68.2%) worked in assistencial only positions and 51.5% worked only with adults.

Regarding the sector, majority of professionals worked in semi-critical field, with prevalence in the Medical Clinic, with 23 (34.8%) professionals. The critical field was the second with major number of professionals, being seven (10.6%) working in the adult intensive care unit (ICU). In the non-critical, the majority worked in the Hospital Infection Control Commission (HICC) and in the Social Services Department, with 3% in each. From all participants of the study, 39 (59.1%) had only one employment. Table 1 presents the sociodemographic and professional characteristics of participants.

Table 1: Sociodemographic and professional characteristics of research participants. Uberaba, MG, Brazil, 2013.

Variables		N	%
Gender	Male	20	30.3
	Female	46	69.7
Main occupation	**Adult**	34	51.5
	Adult and Pediatrics	32	48.5
Professional occupation	**Assistencial**	45	68.2
	Administrative	3	4.5
	Assistencial and Administrative	18	27.3
Time in specialty	Less than 6 months	11	16.7
	6 to 11 months	13	19.7
	1 to 2 years	16	24.2
	3 to 4 years	7	10.6
	5 to 10 years	8	12.1
	11 to 20 years	11	16.7
Time of work in the institution	Less than 6 months	12	18.2
	6 to 11 months	12	18.2
	1 to 2 years	15	22.7
	3 to 4 years	8	12.1
	5 to 10 years	7	10.6
	11 to 20 years	12	18.2
Time of training	6 to 11 months	2	3.0
	1 to 2 years	10	15.2
	3 to 4 years	12	18.2
	5 to 10 years	26	39.4
	11 to 20 years	16	24.2
Graduation	Yes	25	37.9
	No	41	62.1
Graduation			
Lato sensu	Specialization	23	34.8
Stricto sensu	Masters	1	1.5
	Post-Doctoral	1	1.5
	Not applicable	41	62.1
Another employment	Yes	27	40.9
	No	39	59.1
Total		**66**	**100**

*The terms presented in bold were the most frequent.

Table 2 present scores of each one of the six safety climate domains, according with the SAQ. The mean general score obtained by the instrument was 70.28 (S=14.25), with a minimum of 27.44 and maximum of

97.97. Three was the domain presenting higher score, related to satisfaction at work, with mean of 86.74 (S=14.79), affirming that most professionals were satisfied with their work environment. The domain presenting the lower score was related to stress perception, domain four, with a mean of 61.74 (S=27.45).

Table 2: Distribution of score analysis by domain. Uberaba, MG, Brazil, 2013.

Domains	Team work climate	Safety climate	Satisfaction at work	Stress perception	Management perception	Work conditions
Mean	73.91	72.00	86.74	61.74	64.99	67.23
Standard deviation	19.31	17.75	14.79	27.45	18.88	26.87
Minimum	25.00	32.14	30.00	0.00	13.64	0.00
Maximum	100.00	100.00	100.00	100.00	100.00	100.00

Table 3 presents answers to items 14, 33, 34, 35 and 36 – those not pertaining to any domain. Thus, the majority of answers were concentrated in "partially agree" and "totally agree".

Table 3: Frequency of participant's answers related to items not corresponding to any domain. Uberaba, MG, Brazil, 2013.

Items not pertaining to any domain	TD	PD	Neutral	PA	TA	NA
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)
14. My suggestions about safety would be practiced if I expressed them to management.	3 (4.5)	7 (10.6)	21 (31.9)	17 (25.7)	15 (22.7)	3 (4.6)
33. I experience good collaboration with nurses in this field.	-	2 (3.0)	8 (12.1)	24 (36.4)	28 (42.5)	4 (6.0)
34. I experience good collaboration with the medical team in this field.	-	3 (4.5)	9 (13.6)	19 (28.8)	33 (50.0)	1 (1.5)
35. I experience good collaboration with the pharmacists in this field.	1 (1.5)	4 (6.1)	12 (18.2)	15 (22.7)	25 (37.9)	9 (13.6)
36. (R) Fails in communication that lead to delays in attention are common.	7 (10.6)	5 (7.6)	10 (15.2)	22 (33.3)	20 (30.3)	2 (3.0)

TD: totally disagree; PD: partially disagree; PA: partially agree; TA: totally agree; NA: not applicable; R: reverse item.

The question 33 ("I experience good collaboration with nurses in this field") was the one presenting higher level of "totally agree" answers: 33 (50.0%). From the answers, it was observed a positive interaction among professionals, teams, and management.

Regarding the bivariate analysis, there was no difference between genders (p>0.05); but there was a difference regarding having or not a graduate degree in the general score (p=0.01), domain one (p=0.03), domain three (p=0.04), domain five (p=0.01) and domain six (p=0.02).

There was no correlation of the time working in the institution, time in the specialty and time of training with the scores (p>0.05), except in relation to time in the specialty with domain four (correlation coefficient 0.29, p=0.01).

DISCUSSION

From the 66 professionals who answered the instrument, the nursing team was prevalent with 25 (37.9%) professionals, with higher proportion between the nursing technicians (28.8%). The higher adherence of professionals marked by the nursing team can be seen as a positive point, as they are professionals involved in a continuous period in the care and management practice related to the patient[12]. Besides, the nurse is the responsible for assessing the patient as well as the risks threating safety[13].

The majority of professionals (69.7%) were female, as also found in a study conducted in Taiwan (87.2%)[14]. One of the reasons of women being the majority is due to feminine representation in the nursing team. Another justification is that Nursing, Nutrition, Social Services, Psychology, and Languages are careers presented as

designated to women[15], and four of these cited professions participated in the study. In the literature, studies conducted in intensive care units, using the same instrument, also obtained higher proportion of the nursing team (82% and 41.6%, respectively) [16-17].

Regarding the time in the professional specialty and the time of experience in the respective sector, there was a higher proportion between one and two years of experience (24.2%), a period coinciding with the time acting in the institution for 22.7% of professionals. Referring to the time of professional training, it is noted a higher number of professionals with five to 10 years of training (39.4%) and without graduate degree (62.1%).

A good performance in the execution of general procedures can be a reflex of the professional experience time, but those professionals who presented less experience time tend to have higher chances to discuss their difficulties with those with more years of experience, providing distinct perceptions of safety climate in the institution[18].

It was observed that 62.1% of professionals did not have graduate degree. The job market requires qualifications and specializations to bring something different and to value professionals. The search for training updates knowledge, which is dynamic in the health field, as the use of new technologies or new evidence regarding treatments and therapies.

Most professionals (59.1%) did not have another employment. Double work journey favors decrease in time dedicated to self-care and leisure, increasing tiredness and stress[19].

Regarding scores of the SAQ domain, the study presented a general mean score of 70.28 (S = 14.25) points, that is, less than the recommended in the methodology. The literature corroborates the data from the present study, with values lower than recommended (61.5 points) [10].

About the domain 1, considering the relationship quality and the collaboration among members of a team, the mean score was 73.91 (S=19.31) points, that is, lower values than recommended. Other studies also found means lower than 75.0 for this domain[14,20]. The good team relationship favors assistance quality and significantly contributes for safety attitudes.

Within the components that positively influenced safety climate, there are: organizational learning, communication about mistakes and team work. To assure low dissatisfaction in the work context, a good relationship in the work environment needs to be guaranteed[4]. A study conducted in hospitals in Jordan observed a strong and positive relationship between safety climate and team work[21].

The domain 2, safety climate obtained a mean of 72.00 (S = 17.74) points, also demonstrating a negative perception in relation to the organizational compromising for patient safety. Within some studies that used the SAQ, is was found superior means for this domain, varying between 80.4 and 70.9[16,20]. Few studies were found with inferior means for safety climate[14,22].

It should be highlighted that institutions with high levels of safety climate tends to present lower rates of adverse event occurrences, higher notification of mistakes and incidents, better communication between the managers and employees and more patient safety[23].

The domain 3, satisfaction at work, presented the highest mean (86.74; S=14.79), demonstrating that professionals from this study were satisfied in this field. Corroborating these results, a study in a hospital in the interior of São Paulo state registered that 94% of health professionals affirmed to like their work[11]. The quality of provided assistance is directly related to professional's satisfaction at work.

About the stress perception in domain 4, most professionals from this study did not recognize how much these stressing factors interfered at the work executed, as the general score of this domain was 61.74 (S=27.45), representing the lower score among all domains. Factors as the excessive workload, tense and tiring situation can seriously compromise patient safety and generate harmful circumstances to the patient. Corroborating with

this result, means lower than 75.00 were found in the literature[16,20].

In the domain 5, perception of the unit and hospital management, the mean 64.98 (S=18.87) was observed, demonstrating a negative view of the professionals regarding the management actions in relation to safety questions. This domain of management perception by the professional reflects the conformity in relation to management action or administration of the hospital and units related to patient safety[11]. In a study conducted in Switzerland, the mean for this domain was 70.25 (S=21.60), also demonstrating a negative view from investigated health professionals[24].

Referring to domain 6, work conditions, it was observed a general mean of 67.23 (S=26.86), representing a negative view from professionals regarding perception of the environment quality and logistic support in the work environment, contrary from other studies where the authors observed higher means than the present study for this domain[16,20].

The excess of workload is seen as responsible for emotional distress, occurrence of accidents and health problems. An adequate planning should exist to distribute workloads, continuing education, creation of strategies to improve work conditions, with the intention to prevent physical and psychic distress on the team[25].

About the items not corresponding to any domain, the item 14 asks if the professional believe that his safety suggestions would be practiced if expressed to the management. Only 22.7% of investigated professionals totally agreed with this question, demonstrating a negative view regarding this item. A Brazilian study using the SAQ found that, from 203 professionals, only 40% totally agree about their opinion participating in the hospital management[11].

Other items regards to collaborations experienced between professionals and lack of communication that lead to delays in attendance. Communication inside the hospital organizations can influence assistencial quality, as well as actions related to patient safety. With the majority of answers being “totally agree”, it can be noted that there was a positive interaction between professionals in this study, guaranteeing better assistance.

This study conducted with the nursing team from a teaching hospital obtained superior percentages for items of collaboration within the team, and 80% of professionals agreed with a good collaboration among nurses, 73% with the physicians, and 45% with the collaboration with pharmacists in the unit[11].

CONCLUSION

The safety climate in this oncology specialized hospital presented fragilities in five of the six assessed domains, with a positive assessment only at domain 5, satisfaction at work. It is highlighted the need for greater attention by the hospital management for the domains “stress perception”, “perception from management” and “work conditions”, as the perceptions of the investigated professionals about these domains were the most negatives.

With the results of this study, it should be possible to help planning actions to incentivize improvements related to institutional safety climate that assists in the training of investigated professionals, needed to identify and resolve systemic subjacent causes related to patient safety and the quality of assistance.

To be truly effective, patient safety needs to be incorporated to health professionals’ education in all scopes of health care, thus, improving their perception about organization attitudes regarding the safety climate. This change requests efforts and involvement of the whole institution.

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Received: 03/20/2015.
Accepted: 09/24/2015.
Published: 12/31/2015.