Organizational safety climate and adherence to standard precautions among dentists

Clima de segurança organizacional e a adesão às precauções padrão entre dentistas

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Abstract

Objective: Check the perception of dentists about safety climate at work in relation to adherence to standard precautions.
Methods: It is a quantitative, cross-sectional study conducted through the application of the Safety Climate Scale to a population of 224 dentists who worked in units of primary health care in six municipalities of Paraná.
Results: The total score of 3.43 (SD = 0.88) reveals that dentists have a poor perception of the incentives and organizational support for adopting standard precautions.
Conclusion: Unsatisfactory safety climate, where the perception of dentists about safety in their work environment is deficient, demonstrating fragile management actions of support to safety, lack of a training program in occupational health and deficient feedback to favor the adoption of safe practices.

Resumo

Objetivo: Verificar a percepção do dentista a respeito do clima de segurança no trabalho em relação à adesão às precauções padrão.
Métodos: Trata-se de um estudo quantitativo, transversal realizado através da aplicação da escala de Clima de Segurança a uma população de 224 dentistas que atuavam em unidades de Atenção Básica de Saúde de seis municípios do Paraná.
Resultados: O escore total de 3,43 (DP=0,88) revela a baixa percepção dos dentistas a respeito do incentivo e apoio organizacional para adoção das PP.
Conclusão: Clima de segurança insatisfatório, onde a percepção do dentista sobre a segurança de seu ambiente de trabalho é deficiente, evidenciando ações gerenciais de apoio à segurança fragilizadas, falta de um programa de treinamento em saúde ocupacional e deficiência do feedback para favorecer a adoção de práticas seguras.

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Introduction

A safety climate refers to the perception shared by managers and workers about the safety of their work environment through the decision making of management, standards and practices of safety and organizational policies that together communicate the organizational commitment to safety, providing a real context of the sphere in which labor activities are carried out.[1,2,3]

This perception is associated with behaviors of better adherence to safety at work. The organizations where the safety climate presents a higher score have fewer reports of injuries inherent to the work process, not only because work was developed efficiently and safety programs are active, but because the existence of these programs guide workers to the commitment with management of safety.[4]

One of the safety measures recommended for healthcare workers is the use of Standard Precautions (SP), measures taken to minimize the risk of accidents with biological materials inherent to the practice of these professionals[5] among them, the dentists. Some peculiarities of this profession favor the exposure, such as the small field of view in which they operate, the invasive procedures they perform, the use of pointed and cutting instruments, of high speed and ultrasonic which favor the formation of aerosols and splashes, the close physical proximity with patients and even accidents due to movements of the patients at unexpected times.[6]

The low adherence to SP has causes not only in individual factors as previously thought, but also in factors related to work and organizational factors that comprise the climate of safety at work.[4,7]

It is necessary to evaluate both the process and the factors that may influence the adherence of dentists to safe working practices because even with the guidelines related to protection of workers, studies show that adherence to SP is not satisfactory.[7]

Checking up a significant number of accidents with biological material among dentists and that organizational factors may be contributing to this situation[4,5,7,8], this study aimed to verify the perception of dentists about the safety climate at work in relation to adherence to standard precautions.

Methods

It is a descriptive, cross-sectional study of quantitative approach conducted in six municipalities of Paraná.

The population consisted of all dentists who worked in the UBS – Unidade Básica de Saúde (units of Primary Healthcare) of the municipalities elected to collect data for this research, totalizing 283 dentists. The eligibility criteria were: to be active in the function of dentist and provide direct patient care. Were excluded those on vacation, on leave or who had administrative roles, managers or directors. Thus, the total subjects of the study were 224 dentists.

The data were collected in the period between July and December, 2008, through individual interviews in the workplace.

To analyze the organizational safety climate in relation to compliance with standard precautions among these workers, the Climate Security Scale was used, translated and validated for Brazil and adapted to the population of dentists. It is a 17-item scale with scores for each item ranging from one to five.[7,9] According to this scale, answers are graded expressing opinions between two extremes: totally agree, agree, undecided, disagree and totally disagree.

The scores of the Safety Climate Scale were classified as high for values greater than 4.5; intermediate for values between 3.5 and 4.49, and low for values bellow 3.5.[7]

The construction of the database was performed using double entry in the spreadsheet application Excel® for Windows® 2007. The data were exported to the program Statistical Package for Social Sciences (SPSS) version 15.0 for analysis. The results were presented using descriptive statistics from the completion of calculations of mean and standard deviation.

The study complied with national and international ethical standards in research involving humans.

Results

Among the 224 dentists who met the inclusion criteria and participated in the study, 143 (63.8) were female, aged between 30 and 49 years. Regarding

the education site (institution) there was a higher percentage of professionals that graduated in the Universidade Estadual de Londrina (56.3% - State University of Londrina) and as for professional experience, the majority had between 11 and 20 years (51.4%) of practice, working at the institution (UBS) for less than ten years (50.4%), with a 40-hour work week on average.

Regarding the items evaluated in this study, the mean scores and standard deviations are observed for each item of the *Safety Climate Scale*. The total score of 3.43 (SD=0.88) reveals the low perception of dentists about incentives and organizational support for adoption of the SP, which can be observed in table 1.

Observing each of the items separately, it was clear that none presented high scores. In nine items intermediate scores were obtained (between 3.5 and 4.49) and eight items had low scores with figures below 3.5.

Among the low scores, the following items are presented: 2 which assessed whether the prevention of occupational exposure to Human Immunodeficiency Virus (HIV) is a priority of the management (3.2, SD=1.1), 3 related to the provision of specific training on blood-borne infections (2.7, SD=1.1), 4 where it is checked if improvisations are made in the UBS when it comes to protecting employees from infectious diseases (3.3, SD=1.1), 8 which verifies if unsafe work practices in the UBS are corrected by supervisors (3.2, SD=1.1), 10 which verifies if in the UBS the top management is personally involved in safety activities (3.2, SD=1.1), 11 related to the existence of a Security Committee (2.3, SD=1.1), 12 on professionals feeling free to notify violations of safety standards (3.2, SD=1.1) and 15 where it is questioned the correction of unsafe practices by colleagues in the UBS (3.4, SD=1.0).

Among the intermediate scores, the following items are presented: 1 which verifies if in the UBS employees, supervisors and managers work together to ensure safer working conditions (3.8, SD=0.9), 5 about the availability of all personal protective equipment (3.9, SD=3.9), 6 which assesses if in the UBS all possible measures are taken to reduce hazardous tasks and procedures (3.5, SD=1.0), 7 con-

Table 1. Mean scores and the respective standard deviation for the items that comprise the measure of safety climate, according to dental surgeons

Items of the Safety Climate Scale	Mean score	Standard deviation
1. In this UBS (Primary Healthcare Unit), employees, supervisors and managers work together to ensure safer working conditions.	3.8	0.9
2. The prevention of occupational exposure to HIV is a priority for the management in this UBS.	3.2	1.1
3. This UBS offers specific training on blood-borne infections.	2.7	1.1
4. In this UBS, improvisations are not made when it comes to protecting employees from infectious diseases.	3.3	1.1
5. All the equipment and materials necessary to avoid my contact with HIV are available and easily visible.	3.9	1.0
6. In this UBS, all possible measures are taken to reduce hazardous tasks and procedures.	3.5	1.0
7. I had the opportunity to be properly trained in the use of personal protection equipment to protect me from exposure to HIV.	3.6	1. 3
8. In this UBS, unsafe work practices are corrected by supervisors.	3.2	1.1
9. The containers for disposal of pointed cutting objects are available and easily accessible in my work unit.	4.3	0.7
10. In this UBS, top management is personally involved in security activities.	3.2	1.1
11. In this UBS there is a safety committee.	2.3	1.0
12. I feel free to notify violations of safety standards in this UBS.	3.2	1.1
13. My supervisor cares about my safety at work.	3.7	0.9
14. In my unit, the leaders encourage the employees to attend lectures on biosafety.	3.6	1.0
15. In this UBS, unsafe practices are corrected by colleagues.	3.4	1.0
16. My work unit has all the equipment and materials necessary for protecting myself from exposure to HIV.	3.8	1.0
17. Employees are taught to be alert and recognize potential health hazards at work.	3.5	1.0

Legend: n=224

cerning the professional having had the opportunity to be properly trained in the use of personal protective equipment for protection against exposure to HIV (3.6, SD=1.3), 9 on the availability and accessibility of safe disposal containers (4.3, SD=0.7), 13 which refers to the supervisor's concern regarding safety at work (3.7, SD=0.9), 14 which refers to leaders encouraging workers to attend lectures on biosafety (3.6, SD=1.0), 16 which refers to the availability of equipment and materials necessary for the protection of HIV exposure (3.8, SD=1.0) and 17 which assesses whether workers are trained to be alert and recognize potential health hazards at work (3.5, SD=1.0).

Discussion

It should be considered that this study was developed within the Primary Care sphere, being important to highlight that the data obtained are limited to assessing the safety climate in relation to the adoption of SP by dentists. It did not aim to analyze the perception of safety climate by professionals with leadership positions, nor if it obtained information concerning actions taken in the services and preventive measures for occupational exposure.

The data shown in this investigation are concerning. They point to a lack of support structure, support and encouragement by the management of the studied UBS, where the organizational issue may influence negatively the adherence to SP by dentists because the safety climate in the organizations impacts on practices of management for the safety of workers, showing that the perception of professionals can be valuable or not in the organization.[1,2]

It was found that some actions relevant to the prevention of occupational accidents such as management involvement, training of workers, existence of a safety committee, surveillance, among others, are extremely important for taking care of worker's health, and in this study the perception of dentists in relation to these situations was not satisfactory.

Literature shows that recognizing the importance of the learning process and its implications in the context of work environment reflects the way employees perform their activities. As a learning mechanism training contributes with professionals so they perform activities with safety, dynamism and individually, believing that it contributes positively with the organization and the people.[10]

One of the determinant factors which aim to create and maintain a positive or favorable safety climate within the organizations are the safety policies and programs.[11] The use of this tool is important because it represents evident actions that intend to manage and reinforce safety in the workplace.

The *Centers for Diseases Control and Prevention* (CDC) include in its recommendations the issue of administrative responsibility concerning occupational safety in institutions, from the mandatory existence of a safety committee with an education program and training, immunization and prevention of exposures until the availability of resources and feedback about the performance in the adoption of safety measures.[12]

The influence of organizational factors regarding the adoption of SP is known because consolidated actions through safety committees may act in a way that favors the adoption of these measures by workers.[13] Therefore, these committees, represented by their managers should become visible by effectively changing the practice of workers. The acting of the manager in this process is a very important factor for the professionals because it can decrease inappropriate actions and increase the safety of workers.[14]

It is important to maintain a pleasant working environment, with space to dialogue, exchange of experiences through training and participation of managers. An environment with the presence of punishment can keep workers away of the presence of leaders, causing discomfort and increasing risks at work.[15]

Thus, in face of the role of the institution in what concerns the safety climate, it is necessary that administrators turn their eyes to this issue, implementing safety programs, improving the employer-employee relationship and preventing accidents at work with a consequent decrease in costs with compensation, fall in absenteeism and a better quality of life at work.[2,3,7,16]

In institutions with a strong safety climate, workers suffer fewer accidents not only due to security programs in place, but also because the very existence of these programs shows employees the commitment of the administration with their safety.[4,11,16] If there is evidence that the organization has concerns regarding adherence to safe work practices, then the workers will be more likely to adhere them.[16]

A safety climate in organizations can strongly affect the safety behavior of workers.[14] When the safety climate is deficient, the working process can show itself vulnerable, putting the health of workers at risk.

Professionals with a high perception of safety in institutions adopt safe work practices significantly influenced and may vary between the use of barriers, protection devices, proper and consistent use of needle safety devices and adherence to recommendations of vaccines, which consequently decreases the rates of accidents at work.[4]

It is necessary to start examining these dimensions in a more expanded and integrated way, as it is common that professionals without knowledge of the real risks of occupational transmission devalue the adoption of safety measures.[4,7]

The investment in Softwares of Infection Control Management that cover preventive strategies concerning organizational factors, as well as protocols that provide support in issues related to biosafety is necessary considering that a safety climate can be defined as the temporal measure of the state of the safety culture of the institution and can be measured by individual perceptions on the attitudes of the organization regarding the safety culture.[14]

In this scenario nurses have an important role, since most of the UBS are managed by this professional who must return their actions to the issue of the safety climate, thereby embracing their role of service management along with dentistry professionals.

Conclusion

In this study it was diagnosed an unsatisfactory safety climate where the perception of workers about safety in their work environment is deficient, demonstrating fragile management actions of support to safety, lack of a training program in occupational health and deficient feedback to favor the adoption of safe practices, highlighting the need for organizational actions through management of a safety organizational committee.

Collaborations

Ribeiro PHV and Gir E declare to have contributed with the conception and planning of the project, critical review of the interpretation content, data discussion and approval of the final version to be published. Brevidelli MM; Tipple AFV and Ribeiro RP participated of the content critical review, interpretation and discussion of the manuscript data.

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