

Patient safety culture in primary health care: analysis by professional categories



Cultura de segurança do paciente na atenção primária à saúde: análise por categorias profissionais

Cultura de seguridad del paciente en la atención primaria de salud: análisis por categorías profesionales

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How to cite this article:

Raimondi DC, Bernal SCZ, Oliveira JLC, Matsuda LS. Patient safety culture in primary health care: analysis by professional categories. Rev Gaúcha Enferm. 2019;40(esp):e20180133. doi: <https://doi.org/10.1590/1983-1447.2019.20180133>.

ABSTRACT

Objective: To compare the patient safety culture among the professional categories working in Primary Health Care.

Method: A cross-sectional study carried out between April and May 2017 in a municipality in south Brazil, with 144 workers who answered the instrument "Research on Patient Safety Culture for Primary Care". In addition to the descriptive analysis, the Kruskal-Wallis test was used to compare the patient safety culture among the professional categories followed by the post hoc Dunn multiple comparisons test.

Results: The highest and lowest overall scores of positive responses to the patient's safety culture were respectively for nurses (67.70%) and community health agents (46.73%). In the comparative analyses, the physicians, community health agents, and dentists had significant differences in comparison to the other categories, tending toward a less positive culture.

Conclusion: Differences were observed in the patient safety culture among professional categories investigated.

Keywords: Patient safety. Organizational culture. Primary healthcare. Patient care team. Nursing.

RESUMO

Objetivo: Comparar a cultura de segurança do paciente entre as categorias profissionais atuantes na Atenção Primária a Saúde.

Método: Estudo transversal realizado entre abril e maio de 2017 em um município do sul do Brasil com 144 trabalhadores que responderam ao instrumento "Pesquisa sobre Cultura de Segurança do Paciente para Atenção Primária". Além da análise descritiva, para comparar a cultura de segurança do paciente entre as categorias profissionais, aplicou-se o teste Kruskal-Wallis, seguido do teste post hoc de comparações múltiplas de Dunn.

Resultados: A maior e menor pontuação geral de respostas positivas à cultura de segurança do paciente foi respectivamente para enfermeiros (67,70%) e agentes comunitários de saúde (46,73%). Nas análises comparativas, os médicos, agentes comunitários de saúde e dentistas apresentaram diferenças significativas em comparação às demais categorias, tendendo à cultura menos positiva.

Conclusão: Houve diferença na cultura de segurança do paciente entre as categorias profissionais investigadas.

Palavras-chave: Segurança do paciente. Cultura organizacional. Atenção primária à saúde. Equipe de assistência ao paciente. Enfermagem.

RESUMEN

Objetivo: Comparar la cultura de seguridad del paciente entre las categorías profesionales actuantes en la Atención Primaria a la Salud.

Método: Estudio transversal realizado entre abril y mayo de 2017 en un municipio del sur de Brasil con 144 trabajadores que respondieron al instrumento "Investigación sobre Cultura de Seguridad del Paciente para Atención Primaria". Además del análisis descriptivo, para comparar la cultura de seguridad del paciente entre las categorías profesionales, se aplicó la prueba Kruskal-Wallis, seguida de la prueba post hoc de comparaciones múltiples de Dunn.

Resultados: La mayor y menor puntuación general de respuestas positivas a la cultura de seguridad del paciente fue respectivamente para enfermeros (67,70%) y de agentes comunitarios de salud (46,73%). En los análisis comparativos, los médicos, agentes comunitarios de salud y dentistas presentaron diferencias significativas en comparación a las demás categorías, tendiendo a la cultura menos positiva.

Conclusión: Hubo diferencias en la cultura de seguridad del paciente entre las categorías profesionales investigadas.

Palabras clave: Seguridad del paciente. Cultura organizacional. Atención primaria de salud. Grupo de atención al paciente. Enfermería.

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■ INTRODUCTION

Patient safety is an essential element of quality health-care because it comprises the management and prevention of risks to which patients are exposed⁽¹⁾. Thus, safety is configured as the continuous and strategic reduction of potential hazards in healthcare⁽²⁾.

To achieve safe care, health institutions have strived to improve care processes, initially recognizing the importance of establishing a patient safety culture in their *modus operandi*⁽³⁾. A safety culture is defined as the set of practices, skills and behaviors that define a commitment to safety management, providing a punishment from the worker's and team's chance to learn with their faults and improve the care provided⁽²⁾. In other words, it means to act with humanity, ability, responsibility, and commitment to the safety and health of patients in order to provide safe, effective and comprehensive assistance with minimal risk/harm to patients.

To implement a patient safety culture, it is necessary to understand the beliefs, values and norms the institution considers important and which patient safety actions and behaviors are expected, encouraged, and monitored⁽³⁾. Once in place, a positive patient safety culture in health-care institutions favors safe and quality care⁽⁴⁾.

With regard to patient safety, adverse events and incidents seem to be more common in hospitals⁽⁵⁾; however, they can also occur at other levels of health care, as in primary care⁽⁶⁾. In one study that identified incidents in primary care, the authors recorded an incidence rate ratio of 1.11%, in which 82% caused harm to patients⁽⁷⁾.

To support the identification of unsafe practices in primary care, the Health Foundation of London reviewed investigations carried out between 2000 and 2011 on incidents and harm resulting from primary care and found that, in addition to the scarcity of studies on the topic, harm varied from less than one to 24% and around 2% of primary care consultations were related to adverse incidents and events⁽⁸⁾.

In view of the cases of unsafe patient care and in order to promote and encourage safe care practices, Brazil became a member country of the World Alliance for Patient Safety. This alliance was launched in 2004 by the World Health Organization to encourage countries to commit to safe and quality assistance at all levels of care⁽⁵⁾.

To reach the objectives proposed by the World Alliance for Patient Safety, the national patient safety program ("PNSP") was established in Brazil in 2013 by means of Ordinance No. 529/2013⁽⁹⁾.

Despite implementation of the PNSP, encouraging patient safety and the adoption of a patient safety culture

in primary care were only mentioned when the Brazilian primary care policy was updated and published in Ordinance No. 2436 of 21 September 2017⁽¹⁰⁾. This ordinance highlights the need to implement patient safety actions in primary care, promote safe care, and encourage a patient safety culture among primary care workers⁽¹⁰⁾.

Considering the clear gaps in knowledge in Brazil on patient safety in primary care and the relationship between patient safety culture and safe care, in addition to the possibility of obtaining a situational diagnosis of the studied phenomenon specifically by professional categories, this study was based on the following questions: How is the patient safety culture presented among the categories of professionals working in primary care? Is there any difference in the patient safety culture between the categories of professionals working in primary care? Thus, the aim of this paper was to compare patient safety cultures among categories of professionals working in primary care.

■ METHOD

This is a cross-sectional study with a quantitative approach conducted with teams linked to primary care in a medium-sized municipality in southern Brazil, namely family health team ("eSF"), primary care team ("eAB") and oral health team ("eSB").

The municipality has six eAB (4 nurses, 8 physicians, 4 nursing assistants/technicians, and 10 community health workers - ACS); 22 eSF (22 nurses, 39 physicians, 61 nursing assistants/technicians, and 111 ACS); 17 eSB (21 dentists and 17 oral health assistants/technicians). In all, the municipality has 26 nurses, 46 physicians, 21 dentists, 65 nursing assistants/technicians, 17 oral health assistants/technicians, 122 ACS, totaling 297 professionals working in the primary care teams.

The study population was composed of the workers in the teams mentioned above, in accordance with the following inclusion criteria: working as a nurse, nursing assistant/technician, physician, dentist, oral health assistant, or community health worker. The exclusion criterion were professionals working for less than 12 months in the primary care teams (eSF, eAB, and eSB).

Pharmaceutical professionals, general services workers, administrative assistants, undergraduate interns, or high school interns did not participate in the study because of the shortage and high turnover of these workers in the units, and because many had worked for less than 12 months in the team, as previously identified.

No sampling procedure was used since all the workers in the studied categories was invited to participate, after checking the eligibility criteria.

Data were collected between April and May 2017 by applying the instrument “Medical Office Survey on Patient Safety Culture” (MOSPSC), which was translated into Portuguese and adapted for use in Brazil in 2016, with the name, “*Pesquisa sobre Cultura de Segurança do Paciente para Atenção Primária*”⁽¹¹⁾. This questionnaire identifies whether the patient safety culture in primary care is positive/favorable for safe care, when the percentage of positive responses is above 50% and indicates the areas that need improvements⁽¹¹⁾.

This instrument is composed of nine sections, namely: **Section A:** 10 questions related to patient safety and quality of care; **Section B:** 4 questions about the exchange of information between the team and other healthcare institutions; **Section C:** 15 questions related to the topic “working in your medical office”; **Section D:** 12 questions about communication between the workers and patient tracking/follow-up; **Section E:** 4 questions related to the support workers get from managers/administrators/leaders; **Section F:** 7 questions on the topic “your medical office”; **Section G:** 2 questions regarding the overall perception of the provided healthcare; **Section H:** 3 questions about the professional practice; **Section I:** 1 discursive question about the participants’ comments⁽¹¹⁾.

It should be noted that in section A to section G, the questions are rated using a Likert-type scale; in section H, the answers are multiple choice; and in section I, the question is open-ended and must be answered discursively⁽¹¹⁾. Due to the research design and purpose, the results of this last question are not presented in this study.

To use this questionnaire, it was necessary to request the permission of the authors who translated, adapted, and

validated the instrument, by email in July 2016. Both authors authorized application of the instrument.

For data collection, after the start of research was authorized by the primary care coordinator of the investigated municipality, the nurses responsible of each team were contacted to schedule the date and time of the beginning of this research stage. On the scheduled time and day, the researcher visited the primary care unit and informed the members of each team of the study objective, data collection procedures, and ethical issues.

The participants read and signed the informed consent statement and they were handed the data collection instrument. Once completed, it was collected at the end of the shift by the nurse of each team. To ensure confidentiality, the workers were advised to place the completed instrument in an envelope provided by the researcher and, if preferred, seal the envelope.

Data of the MOSPSC were treated and analyzed according to the recommendations of the Agency for Health Care Research and Quality (AHRQ), using the percentage of positive responses for patient safety culture⁽¹²⁾.

This instrument is used to identify whether the culture of patient safety in primary care is positive, whereby, on average, the percentage of positive responses must reach 50% or more, and to identify areas that need improvements⁽¹²⁾.

To obtain the percentage of positive responses, the answers were grouped and the positive responses to the questions were considered as being: several times in the past 12 months, once or twice in the past 12 months or not in the past 12 months; strongly agree or agree; almost always or always; good, very good and excellent. Chart 1 shows an example calculation of the positive response percentage, in a positive question.

Section C – Working in this medical office. Question 4: This office trains staff when new processes are put into place			
Points and Response	Frequency of Responses	Percentage of Response	Combined percentage
1 - Strongly disagree	1	10%	20% Negative
2 - Disagree	1	10%	
3 - Do not agree or disagree	2	20%	20% Neutral
4 - Agree	4	40%	60% Positive
5 - Strongly agree	2	20%	
Total	10	100%	100%
9 - Does not apply or don't know	2		-
Total number of responses	12		-

Chart 1 – Example calculation of positive responses

Source: Agency for Health Care Research and Quality, 2015.

Negative responses were considered as those with answers strongly disagree or disagree as positive responses to the patient safety culture. Chart 2 shows an example of inverted points for each answer for calculating positive response percentages in negative questions.

It should be highlighted that the instrument helps to

identify “strengths” in the patient safety culture the average percentage of positive responses is equal to or greater than 75%, and “weaknesses” when the positive response percentage is less than 60%⁽¹²⁾. According to the *Agency for Health Care Research and Quality*, results with less than 60% of positive responses call for improvements⁽¹²⁾.

Section C – Working in this medical office. Question 8: This office more disorganized than it should be.		
Response:	Points of the responses	Inversion of the points of the responses
Strongly disagree	1	5
Disagree	2	4
Neither agree nor disagree	3	3
Agree	4	2
Strongly agree	5	1

Chart 2 – Example inversion of points to responses for calculating the positive response percentage in negative questions
Source: Agency for Health Care Research and Quality, 2015.

The data were analyzed using Statistical Analysis Software (SAS), version 9.4, from a tabular database in Microsoft Office 2010 Excel. To compare the differences between the total score attributed to the different dimensions, composing the patient safety culture in the occupational primary care categories, the Kruskal-Wallis test was applied followed by the post hoc Dunn multiple comparisons test. A confidence level of 95% ($\alpha = 0.05$) and a p-value <0.05 were considered.

This study was conducted according to the ethical principles set out in Resolution No. 466/2012 of the National Health Council⁽¹³⁾, and it was approved by the Standing Committee on Ethics in Research Involving Humans of the Universidade Estadual de Maringá filed under opinion No. 1.963.656/2017. This study is based on a dissertation titled “*Cultura de Segurança do Paciente: Análise na Atenção Primária à Saúde*”⁽¹⁴⁾.

RESULTS

Figure 1 shows the participant selection plan. As shown in the figure, 144 workers of primary care teams participated in the study. These workers were nurses (n = 16), physicians (n = 8), nursing assistants/technicians (n = 31), community health workers (n = 63), dentists (n = 15) and oral health technicians (n = 11). At the time of data collection, 54 did not participate because they were on vacation, bonus leave or on medical leave; 18 were excluded because

they had worked in the team for less than 12 months; and 22 did not complete the form. Of these workers, one was a physician, two were nursing assistants/technicians, and 19 were health workers.

It was identified that the professionals who did not complete the questionnaire left out the responses related to leader support and their medical office, which could be related to the fact that the municipality was assessing team quality during the data collection period of this study. This may have led the workers to become a little apprehensive about answering the questions and possibly affecting their assessment, even after they were informed of the study objectives and the confidentiality of research. Moreover, the assessment conducted by the municipality affected the workers’ decision to participate in this study since the municipal assessment reflects on the workers’ pay bonuses.

In relation to the demographic and professional profile of the participants of this study, it was found that 132 (91.6%) were women; 82 (56.93%) were 30 to 49 years old; 94 (65.27%) were married, and 78 (54.16%) had been in the team for one to five years.

Of the workers, 11 (68.65%) nurses, eight (100%) physicians and 35 (55.55%) health workers had been in the team from one to less than three years and 16 (51.61%) nursing assistants/technicians, 10 (66.66%) dentists and eight (72.72) oral health assistants/technicians had been working in the team from six to less than 11 years.

In relation to education, all the nurses, physicians, and dentists had graduate degrees. The nursing and oral health assistants/technicians had finished technical education and five (45.45%) oral health assistants/technicians and seven (22.58%) nursing assistants/technicians had

finished university. In relation to the community health workers, six (9.52%) had finished elementary school, 38 (60.31%) had finished high school, three (4.79%) had completed technical education, and 16 (25.39%) had a university degree.

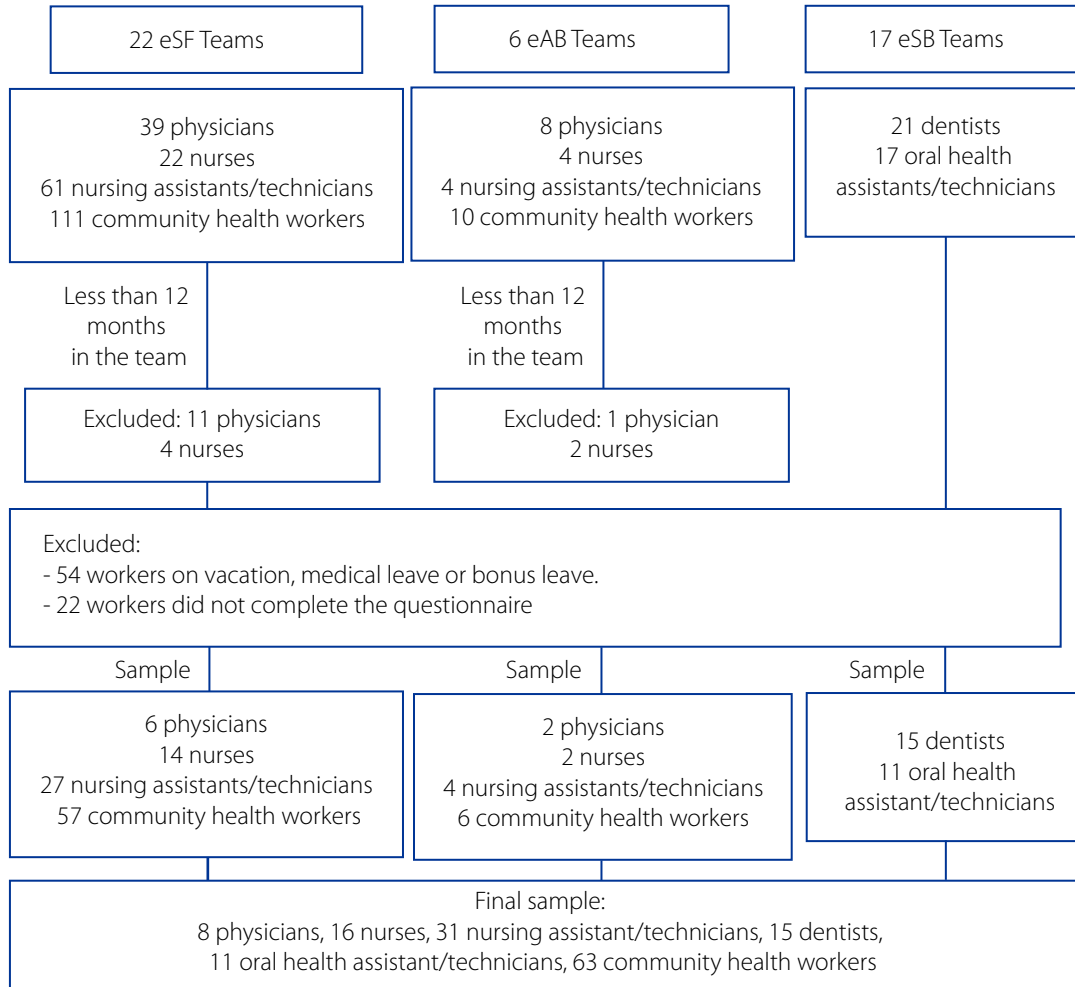


Figure 1 - Outline of the participant selection process Paraná, Brazil, 2017
Source: Author, 2018.

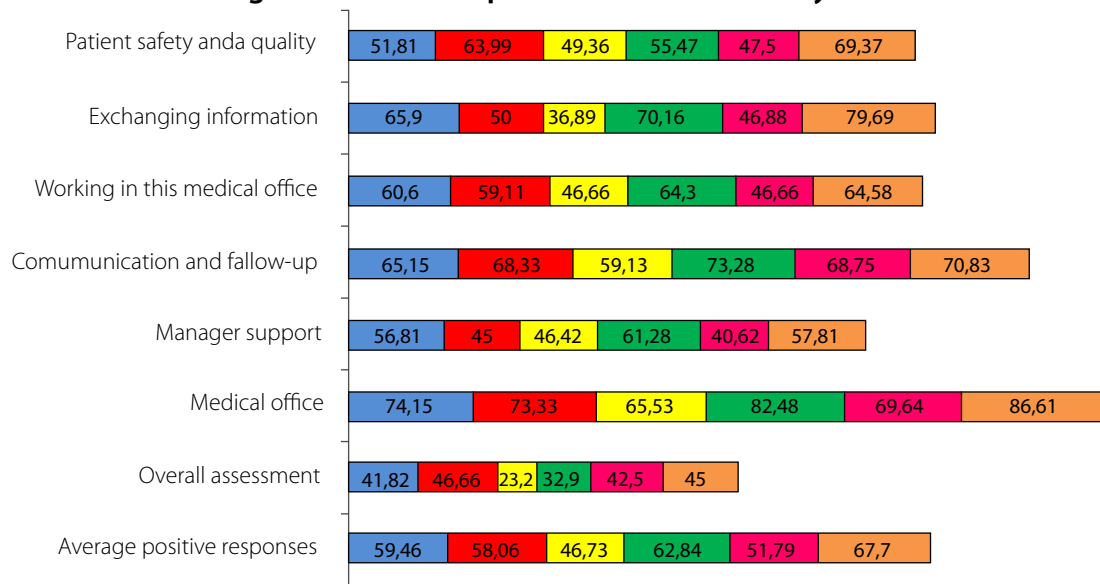
Graph 1 shows a descriptive analysis of the positive responses by dimension of patient safety culture, according to the professional category.

Respecting the cutoff point of the questionnaire, with regard to the overall average of positive responses, the nurses (67.70%), nursing assistants/technicians (62.84%) oral health assistants/technicians (59.46%), dentists (58.06%) and physicians (51.79%) showed a positive patient safety

culture. However, the positive responses of the community health workers totaled 46.73%, indicating a negative patient safety culture.

The “overall assessment” was the only dimension that performed negatively among all the primary health workers. In contrast, the dimensions “medical office” and “communication and follow-up” were positive for all the professional categories.

Percentage of Positive Responses for Patient Safety Culture



■ Oral health assist./tech. ■ Dentist ■ Community health worker ■ Nursing assist./tech. ■ Physician ■ Nurse

Graph 1 - Percentage of positive responses for patient safety culture according to professional category in primary care. Paraná, Brazil, 2017.

Source: Author, 2018.

Table 1 illustrates the differences in the comparison of patient safety culture dimensions among the professional categories. The dimensions “exchanging information” (0.0001) and “manager support” (0.0390) showed

significant differences among the physicians, dentists, and community health workers in relation to the nurses, nursing assistants/technicians and oral health assistants/technicians.

Table 1 – Comparison of the patient safety culture dimensions according to the professional categories working in primary care. Paraná, Brazil, 2017

Dimensions	Nurse	Physician	Nursing assist./tech.	CH worker	Dentist	Oral health assist./tech.	p-value
Patient safety and quality							0.0428*
Exchange of information	a	b	a	b	b	a	0.0001
Working in this medical office	a	b	a	b	a	a	0.0001
Communication and follow-up							0.1237
Manager support	a	b	a	b	b	a	0.0390
Medical office	a	b	a	b	a	a	0.0008
Overall Assessment							0.0600

Source: Author, 2018.

*Differences in the professional categories not detected in the post hoc Dunn test. Different letters indicate significant differences (α=0.05 and p<0.05).

In the dimensions “working in the medical office” (0.0001) and “medical office” (0.0008), the physicians and community health workers showed lower percentages, resulting in a significant difference when compared to the nurses, dentists, nursing assistants/technicians, and oral health assistants/technicians.

■ DISCUSSION

It was found that the professional categories participating in the study had a positive patient safety culture, except the community health workers. The data differ from the findings of another study conducted in Turkey, in which a questionnaire on the patient safety culture in hospitals was used with doctors, nurses, midwives and community health workers in primary care units⁽¹⁵⁾. The authors identified a positive patient safety culture in 46% of workers, with a low and negative percentage, whereas in this study, a positive culture was identified in most of the investigated professional categories. In a study conducted in Iran using the modified version of a questionnaire on the patient safety culture in hospitals⁽¹⁶⁾ with medical professionals, dentists, midwives, unit coordinators and other primary care health workers, the safety culture was positive in 57% of the professionals.

Despite the positive patient safety culture among most of the professional categories, none of the dimensions had an overall average of positive responses that were considered “strengths” of the safety culture, i.e. average positive responses above 75%. The positive response averages for patient safety culture among the community workers, physicians, dentists, and oral health assistants/technicians, however, were below 60% and, therefore, considered as “weaknesses” of the patient safety culture that must be improved.

The patient safety culture of the community workers was negative according to the data collection instrument. This different perception may be related to the fact that they worked directly with the community, closer to the population, and spent less time at the unit; moreover, education can be related to their perception of the patient safety culture since 69.83% of the workers only finished high school, unlike the other professionals. These data agree with the findings of a study conducted in Brazil⁽⁶⁾, in which a positive safety culture was identified among the participants; however, the community workers assessed the patient’s attitude towards safety differently, with lower percentages than in the other professional categories.

In contrast, the negative patient safety culture of the community workers must be investigated because they

spend more time with the community, outside the unit, and may represent the perception of users in relation to the health service, suggesting faults in communication and integration of the health team that impair the quality and safety of care.

Although the results of the professional categories generally reflect a positive patient safety culture, all the categories responded negatively in the dimension “overall assessment”. Whereas this dimension relates to patient-centered care, the efficiency and impartiality of care, the scientific knowledge of health professionals, and the processes to prevent, detect and resolve issues that can affect patients⁽¹¹⁾, this result suggests the workers believe the care provided is unsafe. Furthermore, this result indicates the need to provide continuing education for professionals so they can provide patient-oriented, humanized, receptive and quality care based on their technical and scientific expertise.

Similar results were identified in Al-Mukalla⁽¹⁷⁾, Yemen, using the same instrument as the one used in this study, adapted and validated in Arabic, where 47.5% of primary care workers positively assessed patient safety and the quality of care. In Turkey, this percentage was even lower (42%)⁽¹⁵⁾. Consequently, it is important to raise the awareness of workers and encourage them to provide safe, quality care through permanent training and the adoption of proactive measures that identify risks and reduce the incidence of events. Another reasonable interpretation is that, even if the individual and collective behavior drive the patient safety detected in the workers’ culture, organizations must not exempt themselves from providing the resources and means necessary for safety to occur, which will positively reflect on the culture of the organization itself.

When comparing patient safety culture in the professional categories, significant differences were found in two dimensions (exchanging information and manager support) among the physicians, dentists, and community workers in relation to the nurses, nursing assistants/technicians, and oral health assistants/technicians, with more negative results in the first categories mentioned above. Thus, the average positive responses among the physicians, dentists and community workers were lower than in the other categories, suggesting flaws in the exchange of information among workers and in the entire system.

The physicians and community workers had a lower positive response percentage than the other categories in two dimensions (working in the medical office and medical office), revealing significant differences when compared to the other studied professional categories. Therefore, the professional categories reflect the need for improvements,

possibly related to the distance or limited time spent with other members of the team and/or higher care demands. This fact may hinder integration between the professional categories, communication, case discussions, and work processes and, consequently, prevent any improvements to the service and the guarantee of effective, safe, comprehensive, and quality care for the population⁽¹¹⁾.

Significant differences were found in the patient safety culture among the professional categories of the investigated primary care unit. A study conducted in 2011, in the context of primary care in the Netherlands⁽¹⁸⁾, compared the patient safety culture among different professional categories and found slight differences in the perception of these categories. Unlike the result of this study, research conducted in primary care units in Turkey⁽¹⁵⁾ and in Iran⁽¹⁶⁾ did not identify differences in the patient safety culture among the professional categories working in primary healthcare.

Given the differences identified in four dimensions of the patient safety culture between the professional categories, team interventions such as training and regular meetings are important to ensure worker integration, the reviewing and discussion of medical cases, flow in healthcare, and other factors⁽¹⁹⁻²⁰⁾. Promoting space for joint debates to improve the quality of care and ensure safety may promote advances in healthcare at a low cost.

In places where the safety culture is low or unequal among workers, it is important to value and motivate professionals, conduct regular meetings on the work process, encourage safe care practices, and introduce protocols for risk management and incident prevention. In the investigated context, this was evident among the physicians and community health workers.

The limitations of this study are the participation of the core team of the eSF, eSB, and eAB; primary care analysis in only one municipality; the need for answers to the data collection instrument based on the professionals' recollections; the size of the study sample, considering many workers were on leave, vacation or had been working in the team for less than 12 months, in addition to the workers who did not want to participate. Consequently, it would be necessary to investigate using other approaches, such as mixed method research, to gain further insight into the patient safety culture in primary care and possibly unveil the differences detected between the professional categories.

■ CONCLUSIONS

It was concluded that the patient safety culture is positive for most of the professional categories working in pri-

mary care and differences exist in the patient safety culture of the investigated workers, especially among physicians and community health workers. One of the main strategies to promote and support a safety culture in primary care is continuing education for all teams, with a focus on safe care and quality.

The results of this study can support discussions between healthcare managers and workers and help them identify the needs and limitations of promoting a positive safety culture in all primary care teams and professional categories. Furthermore, it should be noted that this is the first study on patient safety culture in primary care using the Portuguese version of the Medical Office Survey on Patient Safety Culture.

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Received: 06.06.2018

Approved: 09.03.2018