revista de pesquisa ISSN 2175-5361

CUIDADO É FUNDAMENTAL

Escola de Enfermagem Alfredo Pinto – UNIRIO

ORIGINAL ARTICLE *DOI: 10.9789/2175-5361.rpcfo.v17.13644*

SAFETY CULTURE IN PRIMARY HEALTH CARE

Cultura de segurança na atenção primária à saúde

Cultura de seguridad en la atención primaria de salud

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RESUMO

Objetivo: analisar a cultura de segurança entre os profissionais da Atenção Primária à Saúde. **Método:** estudo exploratório realizado com profissionais da atenção primária de uma capital da região Centro-Oeste brasileiro. Coletou-se dados entre janeiro e julho de 2023 utilizando-se o Medical Office Survey on Patient Safety Culture, sendo posteriormente submetidos à análise estatística descritiva e inferencial. **Resultados:** participaram 355 profissionais. A dimensão da cultura de segurança melhor avaliada foi 'Seguimento da assistência ao paciente', seguida de 'Trabalho em equipe'. A 'Comunicação aberta' e 'Comunicação sobre o erro' se mostraram mais positivas entre os profissionais administrativos quando comparado aos assistenciais. A dimensão pior avaliada foi 'Pressão e ritmo de trabalho'. A cultura de segurança do paciente entre profissionais da atenção primária foi considerada fraca. **Conclusão:** elucida-se a necessidade de estratégias de educação permanente em saúde para fortalecimento da cultura de segurança, e consequente redução de riscos de erros na assistência.

DESCRITORES: Segurança do paciente. Atenção primária à saúde. Cultura organizacional. Enfermagem.

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Received: 2024/11/21. **Accepted:** 2025/04/16

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How to cite this article: Machado CFT, El Akra NMA, Teston EF, Pereira ACS, Varela PLR, Souza VS. Safety culture in primary health care. R Pesq Cuid Fundam (Online). [Internet]. 2025 [cited year month day];17:e13644. Available from: https://doi.org/10.9789/2175-5361.rpcfo.v17.13644.

ABSTRACT

Objective: to analyze the safety culture among primary health care professionals. **Method:** an exploratory study was carried out with primary care professionals in a capital city in the Midwest region of Brazil. Data was collected from January to July 2023 using the Medical Office Survey on Patient Safety Culture and subsequently subjected to descriptive and inferential statistical analysis. **Results:** 355 professionals participated. The safety culture dimension that was evaluated the best was "Follow-up of patient care," followed by "Teamwork." "Open communication" and "Error communication" received higher ratings from administrative professionals than from care professionals. The worst-rated dimension was "Pressure and pace of work." Patient safety culture among primary care professionals was considered weak. **Conclusion:** there is a need for continuing health education strategies to strengthen the safety culture and consequently reduce the risk of errors in care.

DESCRIPTORS: Patient safety. Primary health care. Organizational culture. Nursing.

RESUMEN

Objetivo: analizar la cultura de seguridad entre los profesionales de la Atención Primaria de Salud. **Método:** estudio exploratorio realizado con profesionales de la atención primaria de una ciudad capital de la región Centro-Oeste de Brasil. Los datos fueron recolectados entre enero y julio de 2023 mediante la Encuesta de Consultorio Médico sobre Cultura de Seguridad del Paciente, que posteriormente fueron sometidos a análisis estadístico descriptivo e inferencial. **Resultados:** Participaron 355 profesionales. La dimensión de cultura de seguridad mejor evaluada fue "Seguimiento de la atención al paciente", seguida del "Trabajo en equipo". La "comunicación abierta" y la "comunicación sobre errores" fueron más positivas entre los profesionales administrativos en comparación con los profesionales de la atención. La dimensión peor valorada fue "Presión y ritmo de trabajo". La cultura de seguridad del paciente entre los profesionales de atención primaria se consideró débil. **Conclusión:** se dilucida la necesidad de estrategias de educación continua en salud para fortalecer la cultura de seguridad y consecuentemente reducir el riesgo de errores en la atención.

DESCRIPTORES: Seguridad del paciente. Atención primaria de salud. Cultura organizacional. Enfermería.

INTRODUCTION

A safety culture involves behaviors that minimize risks and avoidable damage.[1] Encouraging safe practices promotes patient safety and improves the quality of care in health services.[2]

Health risks accompany patients from the moment they are admitted to an institution, regardless of the level of care. Therefore, it is essential to promote a culture of safety among health professionals to ensure patient safety.

In primary health care (PHC), professionals often work in unstable situations with limited resources. They are responsible for providing care to diverse users in a short amount of time while balancing scheduled and spontaneous demands.[3,4] Among PHC professionals' responsibilities are providing care and performing administrative activities, as well as managing units.[5] Thus, the complexity of their tasks and the burden of responsibility regarding the health and well-being of patients pose challenges to the quality of care provided.

Internationally, patient safety failures in PHC are also a reality. A study in Greece revealed that 50% of incidents result in avoidable damage to the PHC environment in developing countries, with rates increasing by up to 60% in underdeveloped countries.[6] In Brazil, a study analyzing the nursing team's perception of patient safety in PHC revealed a lack of knowledge regarding the subject. Effective safety culture requires collaboration between the healthcare team and management.[7]

Research aimed at identifying the patient safety challenges described by health professionals in primary health care (PHC) revealed challenges related to managing users and their families, highlighting the complexity and diversity of these challenges.[8] Hence, overcoming the stereotype that primary care is simplistic[9] can be considered a way to promote patient safety in the Health Care Network (HCN).

Providing quality and safe care to users is essential, so an environment that fosters a safety culture must be established. In light of these facts, the following question arises: What is the state of safety culture among PHC professionals? Thus, the present study aimed to analyze the safety culture among primary health care professionals.

METHOD

This quantitative, exploratory study was carried out in a capital city in Brazil's Midwest region, following

the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines for cross-sectional studies.[10]

The PHC Network comprised 60 Family Health Units (USF), 11 Basic Health Units (UBS), and three Family Clinics (FC) distributed across seven health districts. Only professionals with at least six months of experience in their position were included, excluding those on sick leave, maternity leave, or vacation.

A total of 4,231 workers were surveyed, and a heterogeneous sample of 353 participants was obtained based on the sample calculation, considering a 95% confidence level and a margin of error of 5%.

Data was collected from January to July 2023 through questions on the sociodemographic, economic, and functional characteristics of the workers. These questions were developed by the researchers and included the Medical Office Survey on Patient Safety Culture (MOSPSC) instrument, which was translated and validated for the Brazilian context.[12]

The MOSPSC instrument contains 51 questions focused on patient safety and the quality of services provided in primary care environments. These questions are subdivided into 12 dimensions within nine sections.[11,12]

Initially, the collection took place online via Google Forms, where the instruments and the Informed Consent Form (ICF) were made available to the interviewee. The municipality's Primary Care Coordination was asked for the contact information of the managers to begin the collection process. Then, the link and invitation were sent via email and WhatsApp to the network managers once a week. They were asked to disseminate the survey.

Starting in May, on-site visits were initiated in some units to reach the required sample size due to exhaustion. Before the visits, the managers were informed about the face-to-face collection, during which the professionals were recruited and invited to participate and answer the questionnaires.

Regarding the analysis of the MOSPSC:11 instrument in sections A and B, six-point frequency scales are used. Combinations are suggested based on response categories (no problems in the last 12 months, one or two problems, or several problems). These sections do not calculate negative or neutral percentages. Regarding sections C, D, E, and F, the answers are organized into three categories: I) totally agree/agree/always/often (positive answers); II) totally disagree/disagree/never/rarely (negative answers); and III) neither agree nor disagree/sometimes (neutral answers). Sections G and H provide a global assessment of patient safety and the quality of the health service. Then, the percentage response is calculated for each topic to classify it as poor, reasonable, good, very good, or excellent. Section I is a space for the interviewee to leave suggestions.

Thus, the score for each dimension was calculated using the average proportion of answers obtained for each dimension within each topic. Dimensions that were considered positive were classified as strong if 75% or more of the interviewees answered "strongly agree/agree" or "often/always" to the positively worded questions and "strongly disagree/disagree" or "never/rarely" to the negatively worded questions.

Descriptive and inferential statistical analyses were performed. The nominal variables were expressed as relative and absolute frequencies, and their 2x2 associations were analyzed using Fisher's exact test. Those with greater contingencies were analyzed using Pearson's chi-square test with Bonferroni correction to identify differences in proportions. It is noteworthy that the multivariate analysis using multiple logistic regression included variables statistically associated with the studied event in the bivariate analysis with a p-value of less than 0.20, using BioEstat 5.3 software.

The study was approved by the Research Ethics Committee (REC) for studies involving human participants. The study received approval under opinion no. 5,837,387 and was registered under CAAE: 66030522.2.0000.0021.

RESULTS

A total of 355 professionals participated (Table 1).

Table 1. Characterization of primary health care workers (n=355). Midwest Capital, Brazil, 2023.

Demographic characteristics	(n)	%
Gender		
Female	276	77,7
Male	76	21,4
Non-binary	3	0,8
Age (years)		
20 to 39	202	56,9
40 to 59	147	41,4
More than 60	6	1,7
Ethnicity		
White	201	56,6
Brown	114	32,1
Black	26	7,3
Yellow	11	3,1
Indigenous	2	0,6
I don't want to inform	1	0,3
Marital status		
Married or in a stable union	191	53,8
No partner (Divorced, separated, single, or widowed)	164	46,3
Education		
Elementary/high school	74	20,9
Higher/Graduate Education	281	79,1
Formation time		
Up to five years	96	27,0
From five to ten years	80	22,5
More than ten years	179	50,4
Position or Function		
Nurse	112	31,5
ACS or ACE	63	17,8
Dentist	40	11,3
Administrative / Government Advisor / Municipal Civil Guard / Proinc / Health Services Assistant / Oral Health Assistant	33	9,2
Physiotherapist / Speech Therapist / Nutritionist / Occupational Therapist / Pharmacist / Physical Educator / Social Worker	32	9,0
Physician	31	8,7
Manager	22	6,2

Demographic characteristics	(n)	%
Nursing technician or assistant	22	6,2
Operation Time in PHC		
Up to five years	159	44,8
From five to ten years	70	19,7
More than ten years	126	35,5
Weekly workload		
Up to 40 hours	336	94,6
48 to 60	19	5,4
Is on duty at UPA/CRS/ CAPS or Hospitals	137	38,6

CHA: community health agent; ACE: endemic disease control agent; Proinc: Professional Inclusion Program; PHC: Primary Health Care; UPA: Emergency Care Unit; CRS: Regional Health Center; CAPS: Psychosocial Care Center. Source: Research data, 2023.

Regarding clinical care (Section A) and the exchange of information with other health services (Section B), 20.00% of professionals responded that at least once a week a patient could not get an appointment within 48 hours for a serious or acute problem, followed by daily at 19.15%. Regarding the exchange of information with other health services, 20.84% of professionals reported daily problems with imaging centers and laboratories in the network. Compared to other health or medical services, 18.59% of health workers reported problems at least once a month (Table 2).

Table 2 - Distribution of relative frequencies related to the answers to sections A and B of the MOSPSC instrument among the 355 PHC professionals. Midwest Capital, Brazil, 2023.

Answers	Daily	At least once a week	At least once a month	Several times in the last 12 months	Once or twice in the last 12 months	It hasn't happened in the last 12 months	It doesn't apply or I don't know
	%	%	%	%	%	%	%
Section A: How often have these events happened in your workplace in the last 12 months?							
The patient was unable to schedule an appointment within 48 hours for a serious or acute problem	19,15	20,00	11,27	7,89	11,83	20,28	9,58
In caring for one patient, the medical record of another patient was used	5,07	5,07	6,20	6,20	18,03	36,06	23,38
A patient's record was unavailable when needed	7,61	14,93	11,83	16,06	18,03	18,31	13,24
One patient's clinical information was filed, scanned, or entered into the wrong medical record	5,07	5,07	3,66	7,04	16,62	38,31	24,23

Answers	Daily	At least once a week	At least once a month	Several times in the last 12 months	Once or twice in the last 12 months	It hasn't happened in the last 12 months	It doesn't apply or I don't know
	%	%	%	%	%	%	%
The equipment needed for care did not work properly and required repair or replacement	24,51	19,72	13,24	20,28	9,86	6,48	5,92
The patient returned to the health unit to clarify or correct a prescription	5,63	17,46	11,27	11,83	21,97	19,44	12,39
The patient's medications were not reviewed by a healthcare professional during their consultation	3,66	9,30	8,17	9,30	8,45	29,58	31,55
Laboratory or imaging tests were not performed when necessary	12,39	14,65	9,30	16,06	12,39	16,90	18,31
Laboratory or imaging test results were not available when needed	9,58	17,18	11,55	18,87	13,24	14,37	15,21
An abnormal result of a laboratory or imaging test was not evaluated or followed up on in a timely manner	5,07	11,27	9,58	13,24	11,55	22,25	27,04
Section B: In the last 12 months, how often did this health service present problems related to the exchange of complete, accurate and timely information with:							
Imaging centers and laboratories of the healthcare network	20,85	7,32	18,87	12,68	17,75	10,42	12,11
Other health services and physicians in the network	14,93	9,01	18,59	14,93	18,31	10,99	13,24
Pharmacies	20,85	8,73	15,77	13,24	12,68	16,90	11,83
Hospitals	8,45	8,73	13,80	11,83	11,27	15,77	30,14

MOSPSC: *Medical Office Survey on Patient Safety Culture.*
Source: Research data, 2023.

None of the evaluated dimensions obtained positive response percentages classified as "strengths" (above 75%). The dimension that was evaluated most positively was "Follow-up of Patient Care" (63.7%), while the dimension that was evaluated least positively was "Pressure and Pace of Work" (18.6%) (Table 3).

Table 3 – Distribution of absolute and relative frequencies related to the responses of the 355 PHC professionals according to the dimensions of the MOSPSC instrument. Midwest Capital, Brazil, 2023.

Dimensions	Positives		Negatives	
	%	n	%	N
1. Open communication (D1, D2, D4, D10)	49,7	166	32,9	83
2. Reporting errors (D7, D8, D11, D12)	45,0	160	29,6	105
3. Exchange of information with other sectors (B1, B2, B3, B4)	41,7	148	36,6	130
4. Working processes and standardization (C8, C9, C12, C15)	43,4	154	34,4	122
5. Organizational Learning (F1, F5, F7)	55,2	196	22,1	78
6. Overall Perception of Patient Safety and Quality (F2, F3, F4, F6)	51,8	184	27,3	97
7. Managerial support for patient safety (E1, E2, E3, E4)	26,7	95	46,8	166
8. Patient Care Follow-Up (D3, D5, D6, D9)	63,7	226	11,3	40
9. Issues related to patient safety and quality (A1, A2, A3, A4, A5, A6, A7, A8, A9, A10)	49,0	174	33,0	117
10. Team Training (C4, C7, C10)	34,4	122	46,2	164
11. Teamwork (C1, C2, C5, C13)	60,3	214	22,0	78
12. Pressure and Pace of Work (C3R, C6R, C11, C14)	18,6	66	69,0	244

MOSPSC: *Medical Office Survey on Patient Safety Culture.*
Source: Research data, 2023.

There was no association between the characteristics of the functions and the percentage of positive responses regarding patient safety among professionals performing care or administrative functions (p = 0.86; Table 4):

Table 4 – Representation of the distribution of relative frequencies related to the responses of the 300 professionals with care functions and the 55 with administrative functions of PHC according to the dimensions of the MOSPSC instrument. Midwest Capital, Brazil, 2023.

Dimensions	Assistancy	Administrative
	%	%
1. Open communication (D1, D2, D4, D10)	45,50	54,10
2. Reporting errors (D7, D8, D11, D12)	42,90	55,90
3. Exchange of information with other sectors (B1, B2, B3, B4)	61,30	78,20
4. Working processes and standardization (C8, C9, C12, C15)	26,80	26,40
5. Organizational Learning (F1, F5, F7)	51,00	56,80
6. Overall Perception of Patient Safety and Quality (F2, F3, F4, F6)	52,80	69,10
7. Managerial support for patient safety (E1, E2, E3, E4)	40,90	58,20
8. Patient Care Follow-Up (D3, D5, D6, D9)	41,10	45,90
9. Issues related to patient safety and quality (A1, A2, A3, A4, A5, A6, A7, A8, A9, A10)	49,50	46,50
10. Team Training (C4, C7, C10)	30,10	52,10
11. Teamwork (C1, C2, C5, C13)	58,10	72,70
12. Pressure and Pace of Work (C3R, C6R, C11, C14)	17,70	22,70

MOSPSC: *Medical Office Survey on Patient Safety Culture.*
Source: Research data, 2023.
Note: *Positive answers percent.

The difference in proportions of positive responses related to the general evaluation and its dimensions ($p < 0.0001$) was significant. Paired analyses of the post-test revealed that the "Effective" dimension received a higher percentage of positive responses (Excellent/Very Good/Good) than the "Patient-Centered," "Punctual," and "Efficient" dimensions. However, the "effective" dimension did not differ significantly from the "impartial" dimension. Nevertheless, the "impartial" dimension had a significantly higher prevalence than the "punctual" dimension (Table 5).

Table 5 - Distribution of the frequency of responses related to the general assessment of patient safety and quality of health service. Midwest Capital, 2023.

Overall Rating	MOSPSC Classification	
	Excellent/Very Good/Good	Reasonable/Bad
Patient-centered	60,9 (216)[b]	39,1 (139)
Effective	73,9 (262)[a]	26,2 (93)
Punctual	52,3 (186)[c]	47,6 (169)
Efficient	62,2 (221)[b]	37,7 (134)
Impartial	69,6 (247)[ab]	30,4 (108)
P-value	p<0,0001	

MOSPSC: *Medical Office Survey on Patient Safety Culture.*
Source: Research data, 2023.
Note: *Different letters in the column indicate the differences between the dimensions (Chi-square test with Bonferroni correction). Values expressed as relative and absolute frequency %(n).

DISCUSSION

Of the study participants, 31.5% were nurses. The performance of these professionals in primary care refers to integral care and health promotion, which contributes to strengthening the Unified Health System.[13]

However, none of the 12 evaluated dimensions had a "strong" response rate (above 75%), indicating the fragility of the safety culture among primary health care (PHC) professionals in the capital city under study. Similarities in mean positive responses were found in other studies that evaluated patient safety in primary health care (PHC) using the MOSPSC instrument. As mentioned previously, 49.9% and 50.8% were reported in studies in Brasília and Paraná, respectively.[14,15]

Regarding time of experience, 44.8% of professionals had worked for less than five years, suggesting a high work turnover. This factor constitutes a barrier to a safety culture because it restricts the formation of the essential patient-professional bond in the organization of PHC. It can also compromise longitudinality because, for this to occur properly, users must be continuously monitored within the network over time, creating a bond with PHC. PHC is the organizer and coordinator of care.[16,17]

However, "Patient Care Follow-Up" received the highest evaluation at 63.7%. This suggests that the network prioritizes patient follow-up according to health programs determined by the Ministry of Health.[18] Although this dimension is not considered "strong" because it did not reach a 75% evaluation threshold, the results of the present investigation were better compared to other municipalities.[14,15]

Conversely, "pressure and pace of work" was the worst dimension evaluated, with only 18.6% of positive responses. Similar results were found in a study in Brasília, where this dimension received 24.7% positive responses.[14] Internationally, in Ljubljana, this dimension received only 10.7% positive responses.[19] This data can be explained by the demand for attributions performed in primary health care (PHC), such as care and administrative activities inside and outside health units,[3,4,5] leading the team to feel overloaded.[14]

A low evaluation of "pressure and pace of work" is inferred to be associated with workload-related distractions during patient care.[20] Therefore, these results point to the fragility of patient safety in this dimension. There is a need to address organizational issues of care flow,[14,15] since these characteristics are inherent to the work process in PHC.[21]

The dimensions "Managerial support for patient safety" and "Team training" were also poorly evaluated, with 26.7% and 34.4%, respectively. This evaluation aligns with the results of another study[14], reiterating the fragility of this dimension. Thus, collaboration between professionals is necessary, involving the Network to train professionals, to improve care processes and, in turn, the safety culture.

PHC is based on teamwork.[22] "Teamwork" received the second-best evaluation, with 60.3%. It is important to note that health professionals in PHC are organized into teams, and

from this perspective, teamwork is essential for strengthening the safety culture because it promotes professional well-being and ensures more effective care.[24]

One means of collaborating with risk management among health unit workers is incident notification.[25] That said, it was observed that "open communication" and "communication about errors" were more prevalent among administrative professionals than care professionals (54.10% and 45.50%; 55.90% and 42.90%, respectively). Effective communication can positively impact the analysis of risk situations and the monitoring of strategies to improve safety culture.[25] Hence, it is crucial to involve care professionals in recognizing the importance of communication and fostering a culture that reviews processes rather than punishing individuals.

"Exchange of information with other sectors" was also shown to be a dimension with low scores, with only 41.7% of responses being positive. Among administrative professionals, this dimension was evaluated more positively, at 78.2%, compared to 61.3% among care professionals. This may be due to administrative workers having greater contact with bureaucratic services.[26] In Brazil, information generated in health services supports the SUS[27] and interacts with HCN services.

Integrating primary health care (PHC) with secondary and tertiary levels through computerization with regulatory units or complex cases promotes the availability of clinical information in an integrated manner, including with private services. This enables continuity of care and strengthens patient safety in referrals and removals.[18] Thus, the fragility evidenced in this dimension suggests the need to strengthen the involvement of direct care professionals in communicating with other professionals in the network to ensure safe transitions in care, strengthening the principle of problem solving.

Regarding the general evaluation of patient safety and the health service, most professionals rated it as "Excellent/Very Good/Good." The difference in proportions among positive responses was significant, similar to other Brazilian studies.[14,28] From this perspective, the «Effective» dimension had a higher prevalence of positive responses (73.9%) than the «Efficient» (62.2%), «Patient-Centered» (60.9%), and «Punctual» (52.3%) dimensions.

The "effective" dimension did not differ from the "impartial" dimension; however, the latter had significantly higher prevalence than the "punctual" dimension. Despite the positive evaluation of the "punctual" dimension, it presented a lower percentage concerning the general evaluation of patient safety and the health service. This result is like another study[14], suggesting that although it is not within the expected range, actions are being taken to reduce patient waiting time, prioritize care, and reduce delays. However, this finding indicates another aspect of the municipality's safety culture that requires improvement, as it corroborates the findings of the "Pressure and Pace of Work" dimension, which was the worst evaluated of all dimensions.

The weaknesses identified in this investigation corroborate those of other studies and may result in incidents. Given the results, it can be concluded that a weakened safety culture can pose risks to patient care and negatively impact healthcare. Although the results are limited to a Brazilian capital, the findings can contribute to understanding barriers in safety culture in the context of primary health care (PHC) and inform strategies for safe, quality care.

CONCLUSION

The patient safety culture among primary care professionals was deemed inadequate because none of the dimensions of the patient safety culture instrument were rated positively. The findings indicate challenges in communication and information exchange with other sectors, team training, and managerial support for patient safety. To strengthen the safety culture, continuing education in health is suggested, with collective participation from users and the community, which would mitigate the risk of care-related incidents.

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