

# Patient Safety Culture In Primary And Home Care Services

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## Research article

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# Abstract

**Background:** The safety culture in primary care and home care services is still poorly studied, although this level of care is the gateway to health services. This study aims to evaluate the culture of patient safety in Primary and Home Care Services.

**Methods:** This is an observational cross-sectional study carried out with 147 professionals from nine district linked to the Better Home Program and six basic health units. For the evaluation of culture, the Safety Attitudes Questionnaire (SAQ) was used, which considers a positive patient safety culture with scores  $\geq 75$ .

**Results:** Men who work in home care with length of service of three to four years scored better for the Safety Climate, Job Satisfaction, Team Work Climate and Total SAQ. Perception of management and Working Conditions received lower scores from professionals with longer working time.

**Conclusions:** It is concluded that the evaluation of safety culture in the home care service was positive when compared to basic health units.

## Background

Providing safe care means changes in attitude and practice of all professionals involved in patient care. This requires, in the workplace, a safety culture that strengthens the commitment and performance of the multidisciplinary team, as well as specific competences in terms of care, in order to ensure patient safety<sup>1</sup>.

According to the World Health Organization (WHO), patient safety is the reduction, to an acceptable minimum, of the risk of unnecessary harm associated with health care. To ensure patient safety in Brazil, the National Patient Safety Program (PNSP) stands out with one of the strategies, promoting the safety culture, emphasizing learning and organizational improvement and the adherence of professionals and patients in incident prevention, using systems safe and avoiding individual accountability<sup>2</sup>.

To establish a culture of safety, it is necessary to understand that it is the product of a set of values, attitudes, perceptions, competences and abilities, whether group or individual, that integrate into a behavior of commitment to the safety and safe care of the service and/or institution. This commitment behavior should involve management and professionals in actions to improve health care, through collective learning and correction of errors<sup>3</sup>.

However, it is observed that the strategies developed for the implementation of safety culture in the Primary Care and Home Care Service have not been the target of these actions<sup>4,5</sup>.

Patient safety in Primary Care and Home Care Service is sometimes neglected, because the development of actions and research with this theme are still focused on hospital services and institutions, since a

culture of safety and safety of the patient outside the hospital is still a challenge to be faced<sup>6,7</sup>.

Home care services are part of a federal program that seeks to expand and qualify care within the Brazilian Unified Health System. It is composed of services and actions that come not to replace, but to complement other levels of care, especially the tertiary and outpatient, ensuring an objective continuity in care and integration with the other services of the network<sup>8</sup>.

It also enables a full knowledge of the user, where the professional is qualified and familiar with the routine, culture and family, which favors the execution and articulation of actions of rehabilitation, prevention, education and health promotion, configuring itself as a space in which a greater force of patient safety movements and recognition for an established safety culture<sup>9,10</sup>.

In this context, due to the prioritization of patient safety in high complexity services, today we have a shortage of studies on the subject in primary and home care, presenting gaps in research and actions that turn to practices such as this<sup>11,12</sup>. In order to elucidate possible needs for change or implementation in care practice, it is necessary, initially, to evaluate the safety actions that are practiced, based on the perception of the professionals who work there.

Among the strategies, the application of instruments that assess patient safety are important tools that can measure aspects such as organizational conditions that lead to damage during the care provided, contributing to awareness of safety issues, identification of risk factors to be objective works and interventions. This type of assessment also helps diagnose safety culture, possible harm risks, evolution of these patient safety interventions, and monitoring the safety culture over time<sup>13,14</sup>.

The Safety Attitudes Questionnaire (SAQ) is one of these tools to provide this situational diagnosis of a service and/or institution, which enables an accurate assessment of the factors that have been identified as those that need to be worked on by the professionals involved and that influence the safety culture, such as teamwork, professional satisfaction and working conditions<sup>15</sup>.

Thus, the objective of this study was to evaluate the safety culture in Primary and Home Care Services through the Safety Attitudes Questionnaire (SAQ).

## Methods

The present study is an observational study of a cross-sectional type. The survey was conducted at the Home Care Service of the municipalities of the metropolitan region of Fortaleza and in six primary care units in two cities in northeastern Brazil from January to July 2019.

All 69 professionals working in the Multiprofessional Home Care Team (MHCT) of the nine municipalities and 95 professionals from the six primary care units were invited to participate. The sample used was intentional, non-probabilistic, and professionals who were developing their work activities during the data collection period were included, with more than six months of activity in the service. Regarding the

exclusion criteria, professionals who were not developing their work activities were considered due to holidays or sick leave.

During the collection, four professionals were absent from their work activities due to vacation or leave. In addition to these, six more professionals did not return the questionnaire or did not want to participate. Thus, of the home care teams, of the 65 questionnaires distributed, 56 professionals answered. In primary care, of the 65 questionnaires delivered in the five health units of the city of Acarape, 55 returned. In primary care in Fortaleza, 40 questionnaires were distributed and 36 returned.

For data collection, the instrument Safety Attitudes Questionnaire (SAQ) was used in its version translated and validated for Brazil<sup>15</sup>. For this research, the instrument was sent to professionals, virtually, via Google Form.

The SAQ instrument is divided into two parts. The first part contains the 41 items divided into six domains and the second part refers to the information of professionals. The domains present are: Team Work Climate, Job Satisfaction, Perception of Unit and Hospital Management, Safety Climate, Working Conditions and Stress Perception. The analysis of the answers is done by each item following the Likert five-point scale. The final score can range from 0 to 100 points, where zero corresponds to the worst perception of safety culture and 100 the best perception. The limit value for positive values is when the total score is  $\geq 75$ <sup>15</sup>.

The data collected were tabulated in Microsoft Excel 2007® and analyzed using the Statistical Package for Social Science (SPSS) version 22.0. To determine if there was a difference between the mean scores of the domains, we used the analysis of variance (ANOVA) for the quantitative variables and the Kruskal-Wallis test for the qualitative variables, considering a significance level of  $< 0.05$ .

Multiple regression analysis was performed for the adjustment of the predictive model. Dependent or response variables were considered the scores of each domain and the total SAQ value, for independent or predictor variables: sex, type of service (primary care and home care) and length of service.

For the hypothesis test, the following question was formulated: H0- There is no relation between the domains of the SAQ and the variables sex, service (primary care and home care) and length of service. H1- there is a relationship between the domains of the SAQ and the variables sex, municipality, team, position and length of service.

## Results

Participants were 147 professionals. Of these, 98 (66.7%) females, 91 (61.9%) belonging to primary care, with up to 2 years in service 58 (39.5%). Community Health Agents (CHA) represented 23 (15.6%) of the sample, followed by nursing technicians and doctors, with 22 (15%) and 20 (13.6%), respectively. (Table 1)

Table 1  
Profile of professionals participating in the research (n = 147).

<b>Variables</b>	<b>N</b>	<b>%</b>
<b>Gender</b>		
Female	98	66.7
Male	49	33.3
<b>Service</b>		
Home care	56	38.1
Primary care	91	61.9
<b>Profession</b>		
Community health agent	23	15.6
Nursing Technician	22	15
Doctor	20	13.6
Nurse	19	12.9
Physiotherapist	16	10.9
Admin Support	12	7.5
Psychologist	10	6.8
Social worker	5	3.4
Speech Therapist	4	2.7
Outhers*	16	2.0
<b>Time in service</b>		
Less than 6 months	11	7.5
6 to 11 months	12	8.2
1 to 2 years	35	23.8
3 to 4 years	29	19,7
5 to 10 years	23	15.6
11 a 20 years	12	17
more than 20 years	12	8.2
*Nutritionists, pharmacists, occupational therapists, dentists		
Source: Prepared by the author.		

The total score obtained, considering the standard deviation, was 68.5, indicating that primary care and home care services, in general, did not reach a positive value for the safety culture that would be greater than or equal to 75. The values of the scores of the domains ranged from 57.3 to 80.4. Job satisfaction obtained the best value (80.4), this means that professionals are satisfied with the work, on the other hand, management perception presented lower scores, showing that professionals do not identify management actions for patient safety (Table 2).

Table 2  
Safety Attitudes Questionnaire (SAQ) scores by domain.

<b>Domains</b>	<b>mean</b>	<b>SD*</b>	<b>Median</b>	<b>Mín</b>	<b>Máx</b>	<b>75th percentile</b>
Teamwork climate	75.8	21.5	79.1	25	100	87.5
Safety climate	68.6	15.8	83.3	0	100	90
Job satisfaction	80.4	15.8	83.3	25	100	94.8
Perception of stress	64.1	27.2	62.5	0	100	87.5
Management perception	57.9	23.5	60	0	100	75
Working conditions	57.3	27.8	58.3	0	100	75
Total SAQ	68.5	14.4	72.2	25	100	80.3
Source: Prepared by the author.						

Comparison of variables with domains showed that there was a statistically significant difference in the domain Safety climate with the variables gender, type of service (primary care x home care service) and length of service. Male professionals from home care services with three to four years of experience in the service positively perceived this domain (Table 3).

Table 3

Comparison of the averages of the domains with the variables sex, municipality, team and time in service.

	Domains						
	SC	JS	PS	TC	MP	WC	Total SAQ
<b>Gender</b>							
Female	65.2	79.8	57.6	74.5	52.6	54.5	65.7
Male	75.4	81.5	77	78.5	68.9	62.9	74
	<b>&lt; 0.05</b>		<b>&lt; 0.001</b>		<b>&lt; 0.001</b>		<b>&lt; 0.001</b>
<b>Service</b>							
Home care	83.4	88.8	61.4	86.3	63.8	67.1	78
Primary care	59.5	75.1	65.8	69.4	54.5	51.2	62.6
	<b>&lt; 0.001</b>	<b>&lt; 0.001</b>		<b>&lt; 0.001</b>	<b>&lt; 0.03</b>	<b>&lt; 0.001</b>	<b>&lt; 0.001</b>
<b>Time in service</b>							
Less than 6 months	61.4	70.6	58.3	73.1	62.3	42.9	62.3
6 to 11 months	78.5	78.8	76	79.8	66.7	68	73.5
1 to 2 years	77.3	84.6	62.5	79.5	67.9	70.1	74.8
3 to 4 years	79.3	86.8	67.6	83.9	63.4	62.2	75.5
5 to 10 years	70.3	80.8	69.4	81.9	57.5	58	70.6
11 a 20 years	48,3	75.3	57.3	59	39	41.6	55.2
more than 20 years	53.6	72.9	57.8	67.9	45	42.3	57.6
	<b>&lt; 0.00</b>	<b>&lt; 0.002</b>		<b>&lt; 0.00</b>	<b>&lt; 0.00</b>	<b>&lt; 0.001</b>	<b>&lt; 0.00</b>
Source: Prepared by the author.							
Safety Climae (SC), Job satisfaction(JS), Perception of stress (PS); Teamwork climate (TC), Management perception (MP) and Working conditions (WC).							

Professionals with three to four years in the home care service were the most satisfied with work. The perception of stress was different between men and women ( $p < 0001$ ), showing that men are able to identify the stressful factors that influence work performance.

The teamwork climate was statistically different between primary care and home care services, indicating that in home care professionals understand the importance of quality of relationship and collaboration between team members for patient safety when compared to other professionals.

Management perception obtained a lower score among women, in family health teams with less than six months and more than 11 years of service. A result similar to the domain Working conditions that obtained lower scores with this population, however, with a statistically significant difference for the type of service and the duration of work.

As for total SAQ, it was observed that men from home care teams with 3 to 4 years of service time showed a better perception of safety culture (Table 3).

Statistically significant data values do not necessarily indicate an underlying relationship between variables. Thus, it was observed how much an independent variable explains a response variable through multiple linear regression analysis. The data presented in Table 4 reveal the values of standardized and non-standardized coefficients, in addition to test t, indicating how much the variables sex, type of service and length of service explain the answers variables: Working condition, Safety climate, Job satisfaction, Perception of stress, Climate of Team work and the total amount of SAQ (Table 4).

Table 4  
Multiple linear regression of response and explanatory variables.

Dependent Variables	Variables Independents	Unstandardized Coefficients	Standardized Coefficients	R <sup>2</sup>	t	p
Safety Climate	Gender	11.88	.26	.393	3.86	0.000
	Primary/home care	-23.76	-.54		-7.95	0.000
Job satisfaction	Time in service	-2.07	-.16	.174	-2.35	0.002
	Primary/home care	-14.64	-.45		-5.69	0.000
Perception of stress	Gender	19.10	.33	.096	3.14	0.001
Safety climate	Primary/home care	-16.52	-.47	.262	-6.32	0.000
Management perception	Gender	14.66	.29	.215	3.81	0.000
	Time in service	-3.81	-.27		-3.45	0.001
Working condition	Primary/home care	-15.06	-.26	.107	-3.17	0.002
Total SAQ	Gender	9.60	.31	.392	4.64	0.000
	Primary/home care	-15.80	-.53		-7.87	0.000
Source: Prepared by the author.						

The adjusted values of the square (R<sup>2</sup>) ranged from 0.096 to 0.393. Adjusted R<sup>2</sup> suggests that 39% of the variation in the variables Safety climate and total SAQ can be explained by the variables sex, type and time in service. The R<sup>2</sup> adjusted for the domain Teamwork climate suggests 26% of the variation in the variable type of service (primary care x home care).

## Discussion

The safety culture in primary and home care services evaluated in this study was attended by 147 professionals, most of them female and community health agents, with time in the profession of one to two years, indicating that they are the most professionals in this type of service, because they are responsible for the entry of the health team into the home<sup>16</sup>.

The total score for assessing safety culture in both services was 68.5. There was a statistically significant difference in the safety culture scores for home care services (78) indicating that this service has a positive safety culture when compared to primary care services. Although no comparison studies were identified between these two services, it is observed that the values of the scores identified in primary care coincide with the results of another research conducted in the south of the country.

According to a study conducted in the southern region of Brazil, almost all domains presented negative scores for safety culture in primary care<sup>12</sup>. Opposite result was identified in another study, primary care team and oral health team that valued safety culture through the instrument Medical Office Survey on Patient Safety Culture (MOSPSC) and identified positive values in the culture of safety at this level of attention<sup>11</sup>.

The scores of the domains ranged from 57.3 to 80.4. The job satisfaction domain obtained the best value, in contrast to the management perception domain, which presented lower scores, with a statistically significant difference between the types of service and the time of work. Home care professionals were more satisfied than primary care professionals, reaching the best value with three to four years of service.

Study conducted with professionals from five homes in Tonsberg, Norway presented job satisfaction as the best scoring domain, followed by teamwork climate and safety climate<sup>17</sup>. In home care services developed in Norway, Teamwork was the dimension with the highest percentage positive score<sup>18</sup>.

In the present study, men who work in home care with three to four years of service scored better for the Safety Climate, Job Satisfaction, Teamwork Climate and Total SAQ. This means that these professionals positively evaluate the organizational commitment to patient safety, as well as have a more positive view of the workplace and positively understand the quality of the relationship and collaboration between the members of a team. Until the completion of this study, no research was identified that justifies the difference in perception of safety culture between men and women. However, a study conducted in China with 2584 professionals identified that women had better perception than men in all domains, different from what was identified in our study<sup>19</sup>.

It is noteworthy that positive scores in the domains may indicate that professionals are satisfied with their own performance at work, in situations where patient care may not be ideal. For this reason, managers of these services should interpret the results with caution and consider the implementation of quality improvement interventions<sup>17</sup>.

Regarding the type of service, a study identified a similar result when assessing safety culture in home care services<sup>20</sup>. According to a Brazilian study developed in the Home Care Services with users and caregivers showed that they felt satisfied with the program, and that this feeling would be the result of the support of the teams that were available for user care, when they made available the contact for moments of doubt or intercurrence<sup>21</sup>.

As for the length of service, it was observed that professionals with longer working time tend to be more critical regarding management actions and characteristics of the work environment that interfere with patient security<sup>22</sup> which may justify the lower scores of the domains Working conditions and the Perception of manages with professionals with more than 10 years of experience. The perceptions of management and the climate of teamwork are the domains that influence the most in other dimensions, except the perception of stress<sup>23</sup>.

Based on the analysis of the regression model, it was possible to conclude with more reliability than the variables sex, type of service (primary care x home care) and time in service, contribute to the prediction, both positively and negatively, of the Safety Climate, Job Satisfaction, Stress Perception, Working Climate, Management Perception, Working Conditions and Total SAQ. Other studies have similar results from the multiple linear regression equation of demographic factors, such as sex, age and participation in training, significantly affected SAQ<sup>24,25</sup>.

Given what was presented, the limitations of the study were the scarcity of studies evaluating safety culture in primary and home care, in addition to the reduced number of studies that used the dimensions of the Safety Attitudes Questionnaire as a result of linear regression and demographic variables.

## **Conclusion**

It can be concluded that home care services obtained a positive result regarding safety culture when compared to primary care services. In addition, men with length of service between three and four years showed a good perception of the safety culture when compared to women and older professionals in the service.

In addition, professionals with longer working time were more critical regarding the perception of management and working conditions. It should be noted that this study is a part of the perception of safety culture and that patient safety in the services studied is not necessarily associated with a high quality of diagnostic skills, adequate treatment and patient-centered care. In order to further explore this subject, it is directed to investigate the associations between patient safety culture and the occurrence of adverse events in these services.

Finally, from the results evidenced in this study, it would be appropriate for managers to promote the culture of patient safety in these services, based on the awareness of professionals of the factors that can influence the culture of safety.

## **Abbreviations**

WHO- World Health Organization

PNSP- National Patient Safety Program

SAQ - Safety Attitudes Questionnaire

MHCT - Multiprofessional Home Care Team

SPSS- Statistical Package for Social Science

ANOVA - analysis of variance

CHA- Community Health Agents

MOSPSC- Medical Office Survey on Patient Safety Culture

## **Declarations**

### **Ethics approval and consent to participate**

Before starting the research, the consent of the service of each municipality was obtained. In agreement with ethical and legal aspects, all participants were invited to participate in the research and signing in writing the Free and Informed Consent Form. The study was submitted and approved by the Research Ethics Committee of the Universidade Estadual do Ceará (UECE) and the Universidade da Lusophonia Afro Brasileira (UNILAB) with numbers: 2.943.854 and 2.522.957, respectively.

### **Consent for publication**

Not applicable

### **Availability of data and material**

All data generated or analysed during this study are included in this published article [and its supplementary information files].

### **Competing interests**

There is no competing interest

### **Funding**

No funding was obtained for this study

### **Authors' contributions**

LML, BVS contributed to a project and project, analysis and interpretation of data and writing of the article.

FCSD, NLLO, IBB contributed to data analysis and relevant critical review of intellectual content.

REFLC, PFV contributed to the conception and design, analysis and interpretation of data and relevant critical review of intellectual content.

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