



# PERCEPTION OF ORGANIZATIONAL CLIMATE AND SAFETY CULTURE IN THE SURGERY SERVICE OF A LEVEL III-1 EMERGENCY HOSPITAL

PERCEPCIÓN DEL CLIMA ORGANIZACIONAL Y CULTURA DE SEGURIDAD EN EL SERVICIO DE CIRUGÍA DE UN HOSPITAL DE EMERGENCIAS NIVEL III-1

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## ABSTRACT

To determine the correlation between the perception of organizational climate and the safety culture in the surgery department of the José Casimiro Ulloa Emergency Hospital (HEJCU), a descriptive and correlational study was conducted with 100 healthcare professionals, using the ECO-S and MOSPS questionnaires, respectively. The correlation was analyzed using Spearman's correlation coefficient, with  $p < 0.05$  considered statistically significant. Of the total, 57% were men and 43% women; 62% were physicians and 38% nurses. The organizational climate was adequate (43%), at risk (40%), and inadequate (17%); the safety culture was high (14%), medium (82%), and low (4%). A significant positive correlation was found between safety culture and organizational climate ( $\rho = 0.501$ ), organizational behavior ( $\rho = 0.477$ ), organizational structure ( $\rho = 0.494$ ), and management style ( $\rho = 0.474$ ) ( $p < 0.001$ ). In conclusion, there is a positive correlation between organizational climate and safety culture in the surgery department of HEJCU.

**Keywords:** Security Measures; Organizational Culture; Health Personnel. (Source: MESH-NLM)

## RESUMEN

Para determinar la correlación entre la percepción del clima organizacional y la cultura de seguridad en el servicio de cirugía del Hospital de Emergencias José Casimiro Ulloa (HEJCU), se realizó un estudio descriptivo y correlacional con 100 profesionales de salud, utilizando los cuestionarios ECO-S y MOSPS, respectivamente. La correlación se analizó con el coeficiente de correlación de Spearman, siendo  $p < 0,05$  estadísticamente significativo. Del total, 57% fueron hombres y 43% mujeres; 62% médicos y 38% enfermeros. El clima organizacional fue adecuado (43%), en riesgo (40%) e inadecuado (17%); la cultura de seguridad fue alta (14%), media (82%) y baja (4%). Se encontró una correlación positiva significativa entre la cultura de seguridad y el clima organizacional ( $\rho = 0,501$ ), comportamiento organizacional ( $\rho = 0,477$ ), estructura organizacional ( $\rho = 0,494$ ) y estilo de dirección ( $\rho = 0,474$ ) ( $p < 0,001$ ). En conclusión, existe una correlación positiva entre el clima organizacional y la cultura de seguridad en el servicio de cirugía del HEJCU.

**Palabras clave:** Medidas de Seguridad; Cultura Organizacional; Personal de Salud. (Fuente: DeCS- BIREME)

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## INTRODUCTION

The aim of quality management in healthcare services is to provide continuous improvement in the care of external users<sup>(1)</sup>. The World Health Organization (WHO) identifies safety as an important dimension within healthcare quality, aiming to reduce errors during medical procedures<sup>(2)</sup>. Considering global statistics, 1 in 10 hospitalizations suffer some injury resulting from a medical error, totaling 3 million annual deaths in surgical care services<sup>(3)</sup>, and 70% of adverse events in hospitals in developing countries are attributed to quality control failures<sup>(4)</sup>. The beliefs and attitudes assumed collectively by healthcare personnel to avoid unnecessary real and/or potential harm to the patient define the organizational safety culture<sup>(4,5)</sup>. Measurement, educational interventions, and systematic reporting allow the healthcare team to become aware of the frequency and severity of incidents, leading to a progressive reduction of such incidents<sup>(6)</sup>. According to the Medical Office Survey on Patient Safety Culture (MOSPS), four dimensions are used to measure safety culture: care, organization, relationships, and management<sup>(7)</sup>.

Organizational climate refers to employees' perceptions of their environment, structure, and workplace hierarchy, which influence their behavior during their workday. This concept has been extrapolated from the corporate sector to healthcare institutions<sup>(8)</sup>. The evaluation of the organizational climate in health services has been developed, allowing service managers and health administrators to identify and develop internal policies to improve staff perception for better job performance and reduce the frequency of errors during medical procedures<sup>(9,10)</sup>. Therefore, the objective of this research was to determine the relationship between the perception of organizational climate and the safety culture of the surgical service staff at the Hospital de Emergencias José Casimiro Ulloa (HEJCU) in Lima, Peru.

## METHODS

This quantitative, observational, descriptive, cross-sectional, and correlational study employed the

STROBE checklist for cross-sectional studies to safeguard internal validity<sup>(11)</sup>. The study was conducted in the emergency surgery area of HEJCU. The study included the entire emergency service staff at HEJCU, comprising 100 individuals, part of the Lima Center Health Network. The Epidat statistical package version 4.2 was used, with an expected correlation coefficient of 0.43 taken from the results of Ojeda et al.<sup>(12)</sup>, a 95% confidence level, for a total of 100 individuals, resulting in a statistical power of 99.5%.

The variables of interest were organizational climate and safety culture. Sociodemographic characteristics included gender and type of health professional, divided into doctors and nurses.

To measure the organizational climate, the Health Organizational Climate Evaluation (ECO-S, by its Spanish acronym) was used, comprising 50 Likert-type items, with possible responses: no (0) coded as a negative response; sometimes (1) and always (2) coded as positive responses. The overall final score was presented on the following ordinal scale based on the average obtained from the evaluated population in the design and validation of the instrument by Segredo et al.: inadequate (<40), at risk (40-59), and adequate (>60). This instrument showed optimal internal consistency with a Cronbach's alpha coefficient of 96.6%. It is divided into three dimensions: organizational behavior, organizational structure, and leadership style; these are classified as healthy when they have 70% or more positive responses<sup>(9)</sup>.

The MOSPS questionnaire was used to measure safety culture, validated for relevance according to Martínez et al.<sup>(7)</sup>, with a Cronbach's alpha of 74.2%. The instrument is divided into four dimensions: care, organization, relationships, and management. Items used a Likert scale from 1 to 5, representing strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4), and strongly agree (5). For the score obtained, the

benchmarks established by Gavilano et al. were used, which define an ordinal scale based on the following categories for safety culture: high level (167-225), which is what every institution should aspire to; medium level (106-166), indicating efforts to promote safety culture with areas for improvement; and low level (45-105), indicating difficulties in planning, organizing, and promoting safety culture. Each dimension can be classified as significant when a value of 75% or more positive responses is achieved, or as an opportunity for improvement when a value of 50% or more negative responses is observed<sup>(13)</sup>.

After authorization from the Support Office for Teaching and Research and approval from the Institutional Ethics and Research Committee of HEJCU, participants were recruited, informed about the study, filled out informed consent forms, and completed the ECO-S and MOSPS questionnaires along with a data collection sheet for sociodemographic characteristics.

Descriptive statistics were used for result analysis, with

absolute and relative frequency tables and bar charts.

The non-parametric Spearman test was used, considering p-values less than 0.05 as statistically significant for the correlation coefficient. SPSS v25 was used for database management and analysis.

The study adhered to ethical principles outlined in the Declaration of Helsinki<sup>(14)</sup>, with approval from the Institutional Ethics and Research Committee of HEJCU, informed consent, and data confidentiality to ensure participant privacy.

## RESULTS

The study included 100 participants, with 57 (57%) males and 43 (43%) females. Regarding professional training, there were 62 (62%) doctors and 38 (38%) nurses. Among healthcare professionals, the organizational climate was adequate for 43%, at risk for 40%, and inadequate for 17%. The safety culture perception survey reported a high level of 14%, medium level of 82%, and low level of 4% (Table 1).

**Table 1.** Descriptive results of the surgical service staff at Hospital de Emergencias José Casimiro Ulloa, 2023

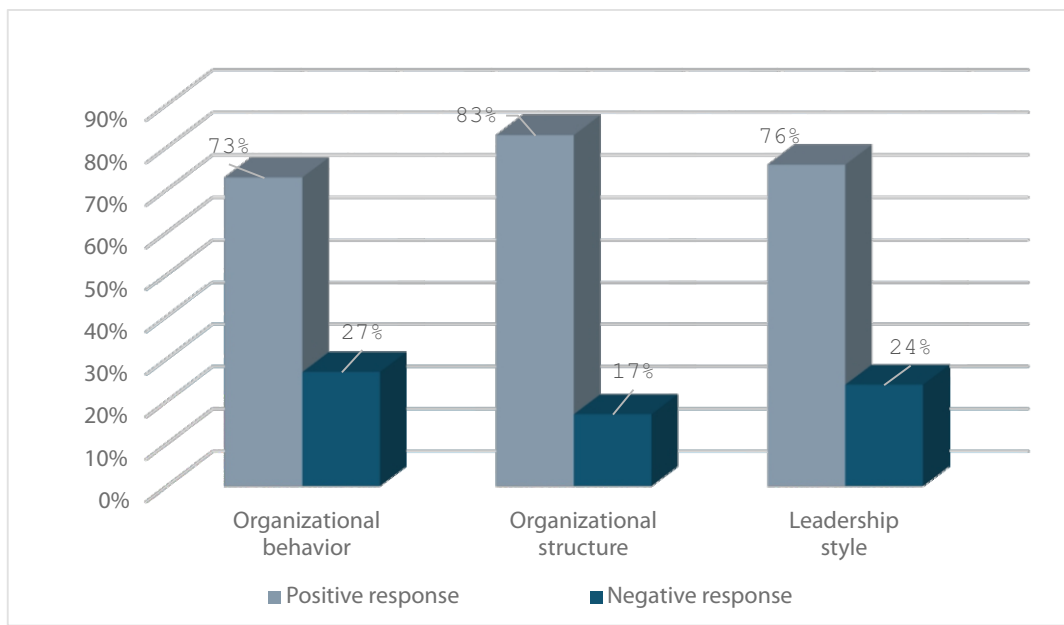
	Frequency
<b>Gender</b>	
Male	57 (57%)
Female	43 (43%)
<b>Professional training</b>	
Doctor	62 (62%)
Nurse	38 (38%)
<b>Organizational climate</b>	
Inadequate	17 (17%)
At risk	40 (40%)
Adequate	43 (43%)
<b>Safety culture</b>	
Low	4 (4%)
Medium	82 (82%)
High	14 (14%)



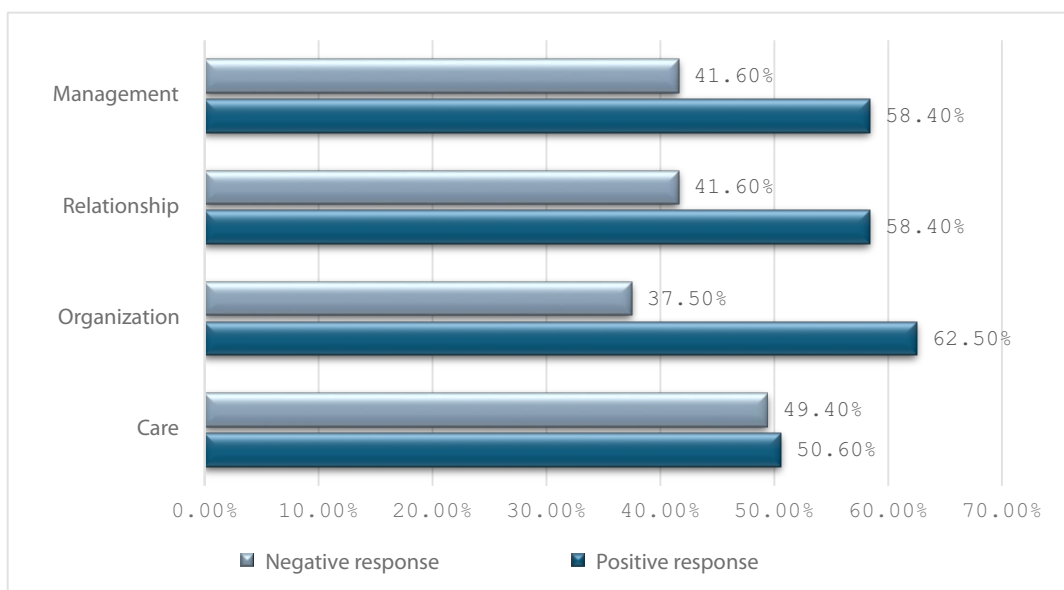
BRIEF ORIGINAL

Regarding the study of the dimensions of organizational climate, organizational structure, leadership style, and organizational behavior, the percentages were 83%, 76%, and 73%, respectively. All dimensions were above the 70% cutoff point, classifying them as healthy (Figure 1).

Additionally, for the four dimensions of the safety culture variable, positive response frequencies were identified as 50.6%, 62.5%, 58.4%, and 58.4% for the dimensions of care, organization, relationships, and management, respectively (Figure 2).



**Figure 1.** Results of the importance of organizational climate dimensions in the emergency surgery service of Hospital de Emergencias José Casimiro Ulloa, 2023.



**Figure 2.** Results of the importance of safety culture dimensions in the emergency surgery service of Hospital de Emergencias José Casimiro Ulloa, 2023.

Regarding the items of the organizational climate, it was identified that within the organizational structure dimension, the category that predominated was organizational development in the public entity with 35%, and the one with the highest risk was working conditions with 71%. In the leadership style dimension, the category that had the most influence was participation in conflict resolution (68%), and the least influential was conflict resolution in problematic situations (57%). Finally, in the organizational behavior dimension, the category with the most influence was motivation towards healthcare personnel at 33%.

For the items of the safety culture, it was identified that in the care dimension, the safety compliance category presented the following results: 71% reported problems with referrals to other hospitals, 71% noted the center reminds patients of their appointments, and 68% mentioned the pharmacy office checks the correctness of a prescription. Problems were found in the pharmacy office at 37%, and the medical record was unavailable when needed at 36%. In the relationships dimension, the category that had the most influence was teamwork, where a good working environment was observed with 73%, the administrative staff

performed their activities according to established procedures at 72%, and the center promoted teamwork and ensured that staff had the necessary information for their work, both presenting 70%. In the organization dimension, positive results were found in categories such as health professionals being receptive to improvement proposals from administrative staff at 75%, and administrative staff being willing to report observed failures in the center at 73%. Finally, in the management dimension, the most important category was monitoring, where it was observed that the center modified its processes to prevent the same problems from recurring at 75%, and that center managers prioritized improvement processes at 70%.

A statistically significant correlation was identified for the variables organizational climate and safety culture through Spearman's inferential statistics test, which reported a positive correlation coefficient of 0.501 and a p-value of <0.001. Additionally, the three dimensions of organizational climate—organizational behavior, organizational structure, and leadership style—positively correlated with safety culture, presenting correlation coefficients of 0.477, 0.494, and 0.474, respectively (Table 2).

**Table 2.** Correlational analysis between organizational climate and its dimensions with safety culture in the emergency surgery service of Hospital de Emergencias José Casimiro Ulloa, 2023.

Organizational climate	Safety culture (Spearman's Rho)	p-value
General	0.501	<0.001
Organizational behavior	0.477	<0.001
Organizational structure	0.494	<0.001
Leadership style	0.474	<0.001

## DISCUSSION

The study found a positive correlation between organizational climate and each of its dimensions with the safety culture of the healthcare staff in the emergency surgery service. The data obtained provide useful information to guide and develop skills that improve quality management among collaborators by understanding these internal and external factors of organizational culture<sup>(15)</sup>. Ojeda et al. identified a 70%

negative response rate towards the organizational climate among nurses at the Instituto Nacional Peruano Materno-Perinatal, classifying it as unhealthy. This contrasts with our study, where the organizational climate was classified as healthy, with more than 70% positive responses. Regarding the safety culture, Ojeda et al. reported 56.35% positive responses, similar to our study where all four dimensions had values above 50% in positive responses.



The correlation between organizational climate and safety culture was positive, with  $r=0.439$ , similar to our value of  $r=0.501$  <sup>(12)</sup>. Fernández et al., in a population of 125 pediatric doctors, reported 76.3% positive responses, classifying the organizational climate as healthy <sup>(16)</sup>. These similar results may be due to the fact that all three institutions belong to the Ministry of Health of Peru, which could homogenize the results.

Our study aligns with Soto's findings, who found that organizational behavior, reflected in the lack of staff motivation and lack of integration between superiors and their team, jeopardizes the organizational climate. Having integrated and recognized workers improves the safety climate <sup>(17)</sup>. Jaime et al. found that open communication and effective teamwork foster a solid institutional safety <sup>(18)</sup>. Similarly, Rojas found that an improved organizational climate positively influences job performance and fosters a preventive culture towards risks <sup>(19)</sup>. Cieza observed that organizational structure had the highest percentage of positive responses (83%). Training and integration meetings, where creative solutions are presented, improve conflict resolution and job dissatisfaction. Feedback and communication about errors positively influence the work safety environment <sup>(20)</sup>. Clear roles and responsibilities, along with a follow-up system, foster a solid and efficient organizational system <sup>(21)</sup>. Regarding leadership style, inadequate participation of different hierarchical levels in decision-making and leadership

exercised by superiors can jeopardize the institutional safety environment and that of its workers. Proper preparation for complex work and sensitivity to the safety culture are required <sup>(13)</sup>. Open communication and feedback between leaders and collaborators have a positive impact on the effective communication of relevant information that improves the safety culture <sup>(17)</sup>.

Among the limitations that could affect the internal validity of the study is its cross-sectional design, which does not allow establishing temporality between the variables of organizational climate and safety culture, preventing the establishment of a causal relationship. Additionally, external validity may be affected due to the single-center design of the study, which could limit the extrapolation of the results to other institutions of the Ministry of Health, Social Security, and the private healthcare sector. Furthermore, the nature of the data collection mechanism could introduce self-report bias due to social desirability and self-censorship, affecting the reliability of the results. As for the scope of the study, it provides valuable information to identify areas for improvement, implement specific interventions, and promote a safe, collaborative, and satisfying work environment for all personnel involved in patient care.

In conclusion, a direct correlation was identified between organizational climate and safety culture, as well as for their dimensions of organizational behavior, organizational structure, and leadership style, in the surgery service of HEJCU.

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