ANALYSIS OF THE CLINICAL OUTCOME OF PATIENTS DIAGNOSED WITH SEPSIS IN A INTENSIVE CARE UNIT

ANÁLISE DO DESFECHO CLÍNICO DE PACIENTES DIAGNOSTICADOS COM SEPSE EM UMA UNIDADE DE TERAPIA INTENSIVA

ANÁLISIS DE LA EVOLUCIÓN CLÍNICA DE PACIENTES CON DIAGNÓSTICO DE SEPSIS EN UNA UNIDAD DE CUIDADOS INTENSIVOS

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ABSTRACT

The prognosis of patients with sepsis is influenced by several factors. In addition to lethality, the impact on quality of life after a sepsis diagnosis also needs to be considered, since patients affected by this clinical condition become susceptible to any other type of complication. Therefore, the objective of this study was to analyze the clinical outcome of the sepsis protocol for patients admitted to an intensive care unit. To this end, a retrospective cohort study of a quantitative nature was conducted in a hospital in Rio de Janeiro, Brazil. 146 medical records of adult patients diagnosed with sepsis from the start of the sepsis protocol in the intensive care unit between March and December 2024 were analyzed. The analysis was performed using IBM SPSS Statistics®, version 30.0.0. High mortality rates from sepsis in the intensive care unit were evidenced, highlighting age 70 years or older as the main associated factor. The presence of comorbidities, gender, and use of mechanical ventilation did not show a significant association with the outcome, although some showed a trend towards higher risk. The prevalence of chronic conditions, especially hypertension and

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diabetes, corroborates the profile described in the literature. It was concluded that sepsis is associated with mortality independently of clinical characteristics in isolation.

Keywords: Intensive Care Units. Nursing. Sepsis. Clinical Protocols.

RESUMO

O prognóstico de pacientes com sepse é influenciado por diversos fatores. Além da letalidade, a interferência na qualidade de vida após o diagnóstico de sepse também precisa ser considerada, visto que os pacientes acometidos por esta condição clínica tornam-se susceptíveis a qualquer outro tipo de complicação. Por isso, o objetivo do estudo foi analisar o desfecho clínico do protocolo de sepse dos pacientes internados em uma unidade de terapia intensiva. Para isso, realizou-se um estudo coorte retrospectivo, de natureza quantitativa, realizado em um hospital no Rio de Janeiro, Brasil. Analisou-se 146 prontuários de pacientes adultos diagnosticados com sepse a partir da abertura do protocolo de sepse na unidade de terapia intensiva de março a dezembro de 2024. A análise foi realizada no programa IBM SPSS Statistics®, versão 30.0.0. Evidenciou-se elevada mortalidade por sepse na unidade de terapia intensiva, destacando a idade 70 anos ou mais como principal fator associado. A presença de comorbidades, gênero e uso de ventilação mecânica, não apresentaram associação significativa com o desfecho, embora algumas tenham demonstrado tendência de maior risco. A prevalência de condições crônicas, especialmente hipertensão e diabetes, corroboram o perfil descrito na literatura. Concluiu-se que a sepse associa-se a mortalidade independente das características clínicas de maneira isolada.

Palavras-chave: Unidades de Terapia Intensiva. Enfermagem. Sepse. Protocolos Clínicos.

RESUMEN

El pronóstico de los pacientes con sepsis se ve influenciado por varios factores. Además de la letalidad, también debe considerarse el impacto en la calidad de vida después de un diagnóstico de sepsis, ya que los pacientes afectados por esta condición clínica se vuelven susceptibles a cualquier otro tipo de complicación. Por lo tanto, el objetivo de este estudio fue analizar el resultado clínico del protocolo de sepsis para pacientes ingresados en una unidad de cuidados intensivos. Para ello, se realizó un estudio de cohorte retrospectivo de naturaleza cuantitativa en un hospital de Río de Janeiro, Brasil. Se analizaron 146 historias clínicas de pacientes adultos diagnosticados con sepsis desde el inicio del protocolo de sepsis en la unidad de cuidados intensivos entre marzo y diciembre de 2024. El análisis se realizó con IBM SPSS Statistics®, versión 30.0.0. Se evidenciaron altas tasas de mortalidad por sepsis en la unidad de cuidados intensivos, destacando la edad de 70 años o más como el principal factor asociado. La presencia de comorbilidades, el género y el uso de ventilación mecánica no mostraron una asociación significativa con el resultado, aunque algunos mostraron una tendencia hacia un mayor riesgo. La prevalencia de enfermedades crónicas, especialmente hipertensión y diabetes, corrobora el perfil descrito en la literatura. Se concluyó que la sepsis se asocia con la mortalidad independientemente de las características clínicas de forma aislada.

Palabras clave: Unidades de Cuidados Intensivos. Enfermería. Sepsis. Protocolos Clínicos.

1 INTRODUCTION

Sepsis is characterized by a life-threatening organ dysfunction resulting from a dysregulated inflammatory response triggered by an infection. This condition represents an ongoing challenge for health professionals, due to the complexity associated with its clinical outcome, which requires early recognition and intervention for effective treatment (Brito et al., 2022).

Studies show that, in Intensive Care Units (ICU), sepsis is considered one of the main causes of mortality (ILAS, 2020). Such rates exceed the numbers of classic pathologies, such as: Cerebrovascular Accident (CVA) and Acute Myocardial Infarction (AMI), in addition to surpassing the numbers of bowel cancer and breast cancer combined (Carvalho; Carvalho, 2021). In Brazil, approximately 600 thousand new cases are registered per year, making the clinical condition responsible for the occupation of 25% of ICU beds throughout the national territory (Freitas et al., 2022).

The sepsis protocol is crucial for the identification of the condition in a timely manner and should be initiated by any member of the team when identifying the clinical suspicion through the interpretation of data obtained during the collection of vital signs, such as blood pressure, respiratory rate, level of consciousness, and urine output (Gondim et al., 2024). This tool aims to standardize approaches, optimize diagnosis and treatment, and promote efficacy and safety in interventions, in order to improve clinical outcomes and ensure quality in patient care, emphasizing essential interventions in the first hours of clinical manifestation, the so-called "first-hour package" (Silva et al., 2024).

However, despite benefits proven to be listed in the scientific literature, adherence to the first-hour package faces significant challenges for multifactorial reasons (Silva et al., 2024). Late identification of the condition makes it impossible to implement treatment in a timely manner, resulting in multiple organic complications and, thus, disfavoring a positive clinical prognosis (Pereira et al., 2023).

Clinical deterioration is characterized by the worsening of the patient's condition involving several pathologies, however, sepsis and the patient's comorbidities imply different outcomes (Santana, 2024). The first six hours after diagnosis characterize the period in which decision-making can change the prognosis of treatment, which can reduce sepsis mortality. In this sense, although health has advanced in care protocols and therapeutic management regarding sepsis, the significant mortality rate remains a significant concern, especially in patients admitted to the ICU (Rodrigues et al., 2023).

The prognosis of patients with sepsis is influenced by several factors, such as severity of the condition, etiologic agent, comorbidities, time of intervention, individual response to

treatment, site of infection, sensitivity to antimicrobials, and invasive procedures performed, all of which are closely correlated with the clinical outcome. In view of this, the analysis of the outcomes of these patients has become essential for professionals and managers, allowing the identification of weaknesses and improving the quality of hospital care (Pereira et al., 2023; ILAS, 2020).

In addition to lethality, the interference in quality of life after the diagnosis of sepsis also needs to be considered, since patients affected by this clinical condition become susceptible to any other type of complication (Pereira et al., 2024). A study conducted with patients admitted to an intensive care unit revealed that, among those diagnosed with sepsis, the prevalence of moderate to severe cognitive impairment increased from 6% to 17% when compared to the period before and after hospitalization (Romano, 2025).

Understanding this dimension allows not only to provide significant subsidies for the development of more precise and effective protocols, in line with the best international practices and the reality of ICUs, but also to optimize therapeutic strategies and analyze specific prognostic variables, fundamental aspects for the implementation of more effective care. In addition, conducting research related to this topic can offer valuable information regarding sepsis indicators, highlighting the importance of more detailed investigations in this scenario (Pereira et al., 2023).

In view of the above, the objective of this study is to analyze the clinical outcome of patients diagnosed with sepsis in an intensive care unit.

2 METHODOLOGY

For the development of this research, a quantitative methodological approach was chosen through a retrospective cohort study. Quantitative research is characterized by the use of structured data collection instruments, systematic collection of numerical data and the use of statistical analysis, allowing generalizations with greater scientific value (Gil, 2008). The cohort study is characterized as an observational design where participants are grouped according to the presence or absence of exposure to a certain factor and followed to verify the occurrence of the outcome of interest (Oliveira; Vellarde; Sá, 2025).

The data contained in the electronic medical records of the unit between March and December 2024 were analyzed. The time frame is justified by the fact that it covers the period in which the sepsis protocol was implemented in the hospital unit studied.

Data collection was carried out in a large municipal hospital located in the northern part of the city of Rio de Janeiro, Brazil. The hospital provides 420 beds in total, 245 of which are specific beds for intensive care. Data from patients aged 18 years or older diagnosed

with sepsis after the opening of the sepsis protocol in the unit, identified from the information contained in electronic medical records in the aforementioned specialized unit, were included. Medical records that are unavailable for access or with low data completeness were excluded, in order to minimize potential information bias.

The initial survey was carried out manually by one of the researchers using data provided by the Hospital Infection Control Commission (CCIH) of the aforementioned hospital unit. Thus, 157 medical records compatible with the inclusion criteria of the research were identified. Of these, 146 medical records were used and 11 were excluded. After this phase, the data of compatible medical records were added in a semi-structured form electronically, created in the Google Forms virtual platform.

The classification variables were: sex (female and male), age (18 to 29 years of age, 30 to 49 years of age, 50 to 69 years of age, 70 to 89 years of age, and over 90 years of age), presence of comorbidities (yes/no). The associated pre-existing comorbidities were hypertension, diabetes mellitus, heart failure, chronic respiratory disease, chronic kidney disease, and/or others. For the purposes of the descriptive analyses, the following categories were assumed to quantify previous comorbidities: none, one, two, three, or more. It was also considered whether the patient was on mechanical ventilation (yes/no).

For the variables related to the diagnosis of sepsis, the following were considered: was the sepsis protocol initiated? (yes/no), has the patient been diagnosed with sepsis? (yes/no), did the patient have antimicrobial resistance? (yes/no). The outcome variable is directly related to the patient's prognosis after the diagnosis of sepsis in the unit. This information was recorded in the analyzed medical records and, for analysis purposes, was considered in the following options: discharge or death. In cases in which they had the outcome death, the cause was presented in a descriptive manner.

Statistical analysis was performed using the IBM SPSS Statistics® software, version 30.0.0. Quantitative variables were described as mean, standard deviation, median, minimum and maximum values, while categorical variables were presented as absolute frequencies and percentages.

To assess the factors associated with the outcome (discharge or death), univariate logistic regression models were adjusted, using the Wald test to assess the significance of the variables and estimating the values of the odds ratio (OR) association measure with respective 95% confidence intervals (95%CI). For variables with low frequencies in any of its categories, the analysis of the association with the outcome was performed using Fisher's exact test. A multivariate model was adjusted to see if age is a factor associated with the outcome, regardless of the use of mechanical ventilation. Values of $p < 0.05$ were considered

statistically significant.

The study complied with Resolution No. 466 of 2012 of the National Health Council, and was submitted to the Research Ethics Committee of the Municipal Health Department of Rio de Janeiro (CEP/SMS-RJ) with opinion approved under No. 7.719.150 and Certificate of Presentation for Ethical Appreciation (CAAE) number 89102425.1.0000.5279.

3 RESULTS

The analysis presented below was based on data from 146 adult patients diagnosed with sepsis in the period between March and December 2024. All patients obtained the sepsis protocol initiated at the unit and were diagnosed with sepsis. Of this sample, males (52.1%) stood out, with an age group of 50 to 69 years (48.6%) and a predominance of 88.4% who had comorbidities.

The tables below present descriptive statistics for each variable evaluated in the study. For quantitative variables, mean, standard deviation, median, minimum and maximum are presented. For categorical variables, frequency and percentage are presented.

Table 1

Characteristics of the participants

Variable	Classif	n	%
Gender	Women	70	47,9%
	Male	76	52,1%
Age (years)	18 to 29	3	2,1%
	30 to 49	15	10,3%
	50 to 69	71	48,6%
	70 to 89	56	38,4%
	90 or more	1	0,7%
Age (years) (group1)	18 to 49	18	12,3%
	50 to 69	71	48,6%
	70 or more	57	39,0%
Age (years) (group2)	18 to 49	18	12,3%
	50 or more	128	87,7%
Has comorbidity	No	17	11,6%
	Yes	129	88,4%
How many comorbidities Median (min-max): 2 (0 – 5)	0	17	11,6%
	1	34	23,3%
	2	47	32,2%
	3	28	19,2%
	4	16	11,0%
	5	4	2,7%

Source: survey data (2025)

Regarding the comorbidities presented by the patients, it was found that 98 individuals had Systemic Arterial Hypertension (SAH), corresponding to 67.1% of the sample. The

second most frequent comorbidity was Diabetes Mellitus (DM), present in 53 patients (36.3%). Smoking was identified in 24 individuals, representing 16.4%. Each percentage was calculated on the total number of cases (n=146). Chronic Obstructive Pulmonary Disease was also found in 22 patients (15.1%) and Heart Failure in 21 patients (14.4%). Finally, 12 individuals had Chronic Kidney Disease, which corresponds to 8.2% of the total evaluated.

Of the 146 patients included in the sample, 121 (82.9%) had the outcome of death. Thus, in the target population of the study, the percentage of cases of death among patients diagnosed with sepsis is estimated at 82.9% with a confidence interval of 95% given by 76.2% to 88.3%. In other words, we have 95% confidence that this interval contains the true percentage of patients with sepsis who progress to death in the target population.

Table 2

Analysis of the use of mechanical ventilation, antimicrobial resistance, and clinical outcome

Variable	Classification	n	%
On mechanical ventilation	No	23	15,9%
	Yes	122	84,1%
Patient has antimicrobial resistance	No	4	5,8%
	Yes	65	94,2%
Clinical outcome	High	25	17,1%
	Death	121	82,9%

Source: survey data (2025)

3.1 EVALUATION OF FACTORS ASSOCIATED WITH THE OUTCOME: UNIVARIATE ANALYSIS

For each of the variables analyzed, the null hypothesis that there is no association between the variable and the probability of death was tested, versus the alternative hypothesis that there is an association.

The table below presents descriptive statistics for each variable according to the outcome, the p-values of the statistical tests, and the estimated values of the odds ratio (OR) measure of association with respective 95% confidence intervals (95%CI).

For the age analysis, the age group from 18 to 49 years was considered as the reference category and the groups from 50 to 69 and 70 years or older were compared with it. The percentages were calculated in relation to the totals in the lines. Therefore, the sum of the percentages of each line is equal to 100%.

Table 3

Descriptive statistics of the variables associated with the outcome

Variable	Classification	Total	Outcome		p*	95%CI
			High	Death		
Age (years)	18 to 49 (ref)	18	8 (44,4%)	10 (55,6%)		
	50 to 69	71	16 (22,5%)	55 (77,5%)	0,067	2,75 (0,93 - 8,13)
	70 or more	57	1 (1,8%)	56 (98,2%)	<0.001	44,8 (5,04 - 398)
Age (years) (agrup)	18 to 49	18	8 (44,4%)	10 (55,6%)		
	50 or more	128	17 (13,3%)	111 (86,7%)	0,002	5,22 (1,81 – 15,1)
Gender	Women	70	10 (14,3%)	60 (85,7%)		
	Male	76	15 (19,7%)	61 (80,3%)	0,384	1,48 (0,61 - 3,54)
Presence of comorbidities	No	17	4 (23,5%)	13 (76,5%)		
	Yes	129	21 (16,3%)	108 (83,7%)	0,459	1,58 (0,47 - 5,33)
HAS	No	48	10 (20,8%)	38 (79,2%)		
	Yes	98	15 (15,3%)	83 (84,7%)	0,407	1,46 (0,60 - 3,54)
DM	No	93	17 (18,3%)	76 (81,7%)		
	Yes	53	8 (15,1%)	45 (84,9%)	0,624	1,26 (0,50 - 3,15)
Smoking	No	122	21 (17,2%)	101 (82,8%)		
	Yes	24	4 (16,7%)	20 (83,3%)	0,948	1,04 (0,32 - 3,36)
Chronic Obstructive Pulmonary Disease	No	124	23 (18,5%)	101 (81,5%)		
	Yes	22	2 (9,1%)	20 (90,9%)	0,289	2,28 (0,50 - 10,4)
Heart failure	No	125	20 (16%)	105 (84%)		
	Yes	21	5 (23,8%)	16 (76,2%)	0,383	0,61 (0,20 - 1,85)
Chronic Kidney Disease	No	134	24 (17,9%)	110 (82,1%)		
	Yes	12	1 (8,3%)	11 (91,7%)	0,413	2,4 (0,3 0-19,5)
On mechanical ventilation	No	23	6 (26,1%)	17 (73,9%)		
	Yes	122	18 (14,8%)	104 (85,2%)	0,186	2,04 (0,71 - 5,87)

Source: survey data (2025)

3.1.1 Age

Patients aged 18 to 49 years had the lowest proportion of deaths (55.6%), while those aged 70 years and over reached 98.2%.

For the age of 50–69 years, compared with those aged 18–49 years, the OR = 2.75 (95%CI: 0.93–8.13), with p = 0.067, suggests a trend toward a higher risk of death, although without statistical significance.

For age 70 years or older, compared with 18 to 49 years, the OR = 44.8 (95%CI: 5.04–398) and p<0.001 indicate a strong and statistically significant association, representing a much higher probability of death compared to younger people.

Similarly, the 50–69 age group has a more moderate but still wide range (0.93–8.13), suggesting that, although there is a trend toward higher risk, the accuracy of the estimate remains limited. When grouping the age groups into only two (18 to 49 years or 50 years or older), a significant association was found with the probability of death. Patients aged 50 years and over have a 5.22 times greater chance of death than for the age of 18 to 49 years).

3.1.2 Gender

The distribution of deaths is similar between men (80.3%) and women (85.7%), with no statistically significant difference (p = 0.384).

3.1.3 Presence of comorbidity

The presence of comorbidities does not demonstrate a significant association with the outcome (p = 0.459).

3.1.4 Systemic arterial hypertension

The proportion of deaths is similar between patients with and without hypertension (84.7% vs. 79.2%; p = 0.407). The OR = 1.46 (95%CI: 0.60–3.54) suggests a slightly higher risk, but without significance.

3.1.5 Diabetes mellitus

Diabetes is also not associated with the outcome (p = 0.624). The OR = 1.26 (95%CI: 0.50–3.15) shows no association.

3.1.6 Smoking

Smokers and nonsmokers had practically identical proportions of death (83.3% vs. 82.8%; p = 0.948).

3.1.7 Chronic Obstructive Pulmonary Disease (COPD)

Patients with COPD had a higher proportion of deaths (90.9%), but the difference was not statistically significant (p = 0.289).

3.1.8 Heart failure

Patients with heart failure had a lower proportion of deaths (76.2% vs. 84%), but this difference was not significant (p = 0.383). The OR = 0.61 (95%CI: 0.20–1.85) suggests a possible protective effect, probably explained by specific clinical characteristics of the sample or by the low number of cases in this category.

3.1.9 Chronic kidney disease (CKD)

Patients with CKD had a higher proportion of deaths (91.7%), but without significance (p = 0.413).

3.1.10 Mechanical ventilation

The use of mechanical ventilation is also not significantly associated with the outcome (p = 0.186). OR = 2.04 (95%CI: 0.71–5.87) suggests possible increased risk, but no statistical evidence.

Among all the variables analyzed, only age 70 years or older showed a statistically significant association with a higher risk of death. The other variables did not show evidence of association in the univariate analysis, although some showed a trend toward higher risk (such as CKD, COPD, and mechanical ventilation), but without statistical support due to the small sizes of the subgroups and the wide variability of the estimates.

3.2 EVALUATION OF FACTORS ASSOCIATED WITH THE OUTCOME: MULTIVARIATE ANALYSIS

Multivariate analysis was performed to verify whether age remains significantly associated with the outcome of death when adjusted for MV use.

Considering the multivariate model with age categorized into three age groups, the group from 18 to 49 years old was used as a reference. In the age group of 50 to 69 years, a value of p=0.051 was observed, with an odds ratio of 3.01 and a confidence interval of 95%, ranging from 1.00 to 9.06. Among individuals aged 70 years or older, p<0.001 was identified, with an odds ratio of 45.6 and a 95% confidence interval between 5.09 and 408.

When the use of mechanical ventilation was analyzed, the group that did not use ventilatory support was considered as a reference. For patients who used mechanical ventilation, p=0.214 was verified, with an odds ratio of 2.09 and a 95% confidence interval ranging from 0.65 to 6.71.

These data were obtained using a multivariate logistic regression model, using the Wald test, adopting p<0.05 as the significance level.

In the multivariate analysis, age remains strongly associated with the outcome of death even after adjusting for the use of mechanical ventilation. Patients aged 50 to 69 years tend to have a higher risk of death compared to the 18 to 49 age group ($p = 0.051$), while those aged 70 years or older maintain a significantly higher risk (OR = 45.6; $p < 0.001$). On the other hand, the use of mechanical ventilation is not independently associated with the outcome ($p = 0.214$).

4 DISCUSSION

The analysis of the clinical outcomes of the patients reveals a critical scenario in relation to the outcome of death. According to the results, 121 (82.9%) of the individuals progressed to this outcome, and only 25 (27.1%) were discharged. This data expresses an important significant value in relation to the severity of the diagnosis and the clinical condition of these patients. Although several clinical and epidemiological characteristics are not associated in isolation with the main outcome, the overall profile of the sample makes it clear that sepsis remains associated with a high degree of lethality, regardless of the variables analyzed in isolation.

The age variable was the most robust predictor of unfavorable outcome. While young patients (18-49 years) had the lowest proportion of deaths (55.6%), individuals aged 70 years and over reached an alarming mortality rate of 98.2%. Even after multivariate adjustment, advanced age remained independently associated with death, with a 45.6 times higher chance for the elderly compared to the young. This data is supported by the literature, which associates aging with a higher prevalence of chronic diseases and functional frailty. One study analyzed the number of deaths from sepsis in different cities and observed that almost half of the deaths from the disease in 2017 occurred in older adults aged between 70 and 89 years (Santos et al., 2019). In another study, a group of participants over 60 years of age was the one that most evolved to death from sepsis, which can be correlated with the greater presence of chronic diseases, comorbidities, and functional impairments in this age group (Almeida et al., 2022).

Sepsis is one of the main causes of respiratory dysfunction in critically ill patients, often requiring ventilatory support. It is estimated that it is involved in about 70% of cases of acute respiratory distress syndrome (ARDS), reflecting its clinical relevance in the genesis of this complication. In this context, the presence of sepsis not only contributes to the development of ARDS, but also increases the patient's vulnerability to lung injuries associated with the use of mechanical ventilation, intensifying the severity of the clinical condition and the complexity of therapeutic management (Diniz Pereira et al., 2024).

Mechanical ventilation represents a factor closely associated with the worsening of septic status in patients admitted to ICUs, with a direct impact on the increased risk of unfavorable outcomes (Bittencourt et al., 2024). Although the use of mechanical ventilation (MV) showed a trend toward higher risk (OR = 2.04), there was no statistical significance in the sample analyzed (p = 0.186). However, the high prevalence of use of ventilatory support (84.1%) highlights sepsis as a central cause of respiratory failure, such as Acute Respiratory Distress Syndrome (ARDS). Patients undergoing mechanical ventilation had a death rate of 85.2%, while among those who did not use ventilatory support, mortality was 73.9%. In this scenario, the nurse's role in ensuring adequate oxygenation and ventilation, as well as in the management of ventilatory weaning and prevention of ventilator-associated pneumonia becomes, therefore, an essential pillar to try to reverse these indicators.

Another point of attention is the high incidence of antimicrobial resistance. It is noteworthy that of the 146 medical records analyzed, 65 showed resistance to at least one type of antimicrobial drug. Antimicrobial resistance is one of the biggest public health challenges and has a high impact on healthcare-associated infections (HAIs) (Fontenele; Costa, 2023). This fact represents a worrying statistic for the implementation of the sepsis protocol and treatment of the clinical condition, since early administration of appropriate antibiotics is determinant for survival and the presence of resistant pathogens imposes a therapeutic challenge that may explain, in part, the high lethality found in the unit studied (ILAS, 2023).

Finally, the profile of comorbidities identified — with a predominance of hypertension (67.1%) and diabetes (36.3%) — is in line with the evidence that the coexistence of chronic diseases increases the vulnerability of septic patients. Although the isolated comorbidities did not show a statistical association with death in this study, the fact that 88.4% of the sample had at least one previous condition reinforces that the ICU patient has a physiological reserve already compromised when facing the infectious insult (Santos et al., 2019). This prevalence pattern is in line with what has been recorded in the most recent scientific literature, which describes that most patients who developed sepsis have a previous history of chronic conditions, especially cardiovascular, metabolic, and respiratory diseases (David et al., 2025). Thus, it is observed that the profile identified in the present study follows the trend already described in the literature, showing that the coexistence of chronic diseases can increase clinical vulnerability and contribute to the unfavorable evolution of the patient's clinical condition.

The limitations of this study include the fact that data collection based exclusively on electronic medical records subjects the data to possible filling errors or low completeness,

which led to the exclusion of 11 medical records during selection. Due to the fact that data collection was carried out in a single hospital center, the results reflect a specific local reality, which may limit the generalization of the findings to other care contexts with different protocols and infrastructures. In addition, although the sepsis protocol allowed different categories of health professionals to open suspected cases, this practice was mostly medical, which may have influenced the volume of notifications available for analysis.

5 CONCLUSION

The results of the study show that sepsis is associated with a high degree of mortality regardless of the clinical characteristics analyzed in isolation. However, advanced age, especially in individuals aged 70 years or older, stands out as the main factor associated with the negative outcome. This fact highlights the degree of vulnerability of elderly patients hospitalized in intensive care units in the face of the disease studied.

Although comorbidities and other clinical variables are not associated in isolation with the main outcome, the characterization of the patients' profile can be highlighted. In this sense, the results showed that the presence of at least two comorbidities characterizes the clinical epidemiological profile of the medical records analyzed, reinforcing a profile already described in the scientific literature.

In view of the above, the need to conduct new studies on the subject is highlighted due to the importance of identifying the clinical outcome and analyzing the profile of patients diagnosed with sepsis, identifying possible gaps in the management of the disease, factors that influence its evolution, as well as favoring the development of improvement strategies and indicators, since the pathology is considered a serious public health problem associated with significant mortality rates in different countries. age groups.

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