

## CHARACTERIZATION OF DEATHS OF YOUNG ADULT PATIENTS ADMITTED TO THE URGENCY AND EMERGENCY DEPARTMENT OF A PUBLIC HOSPITAL IN THE EXTREME SOUTH OF BAHIA



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### ABSTRACT

This article seeks to outline certain compositional transformations provided in the poem "Segue o teu destino", by Fernando Pessoa, pointing out the proficiency of the poetic changes materialized in the literary modality of the ode. To make these contours, the study adopts interlocutions between elements of the theories of the poetic genre and reflective segments of comparative literature, and seeks to highlight similarities and differences between literary texts and the developments arising from intertextual transformation. The following are the returns of the investigation: the fruitful transformation of a textual modality for the Portuguese language scenario; the sound arrangement in different confluences; the dissemination of poetic vectors in a new literary configuration; and the reordering of the philosophical interfaces of the ode.

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## INTRODUCTION

The population mortality profile is one of the most important components of the health diagnosis to be evaluated by the managers of the Unified Health System (SUS), with the aim of guiding the planning and organization activities of the health care network<sup>(1)</sup>. This diagnosis will reflect the real situation only if it is based on good quality information. In Brazil, an important source of data for this diagnosis is the Mortality Information System (SIM), implemented in 1975. Since then, this resource has strengthened its use and investments have been made to improve quality over time <sup>(2)</sup>.

The growth in deaths since 1980 has been mainly a reflection of industrial development, characterized by the expansion of new technologies. In addition, the growth and evolution of society; the increase in the circulation of vehicles, goods and people; as well as the modification of sociopolitical determinants in each region have boosted mortality from external causes, configuring them as a serious public health problem <sup>(3)</sup>.

In this context, the young population presents different mortality patterns. According to data from the Regional Health Observatory of the Pan American Health Organization (PAHO), in 2012, aggression was the main cause of death in the age group of 15 to 29 years in the Americas. In Brazil, in 2013, violence was also the main cause of death among young people. The highest proportions of violent deaths in males were recorded in the North (10.8%), Northeast (10.7%), and Central-West (10.1%) regions <sup>(4)</sup>.

In most member countries of the World Health Organization (WHO), a large part of deaths from external causes result from suicides or are related to civil conflicts. In Brazil, the high mortality related to violence is attributed to homicides in urban contexts, in which young men predominate as aggressors and victims, and social inequalities emerge among the main determinants of violent acts <sup>(4)</sup>.

Deaths caused by violent causes contribute to the overload of health services, the judicial system and social apparatuses, revealing the flaws in public policy mechanisms in the face of the intensification of this process. Therefore, it is inferred that the high mortality rate from external causes is the result of systematic failures, produced by the State, which affects various population groups. Therefore, studies are needed to analyze deaths from external causes in the country and the factors that influence this mortality, considering that Brazil is experiencing one of the highest increases in this indicator <sup>(5)</sup>.

Regarding the causes of death, non-communicable diseases (NCDs) and chronic non-communicable diseases (NCDs) can be mentioned, which have undergone changes in

relation to the most prevalent diseases, due to the phenomenon of epidemiological transition in Brazil. That said, according to Omran (1983), in the process of epidemiological transition, there is a change in the population's morbidity and mortality patterns, manifested through an increase in the number of chronic and degenerative diseases, in addition to the reduction of infectious diseases and conditions caused by human beings themselves (6).

Thus, it is worth mentioning that NCDs are a global health problem, especially in underdeveloped countries. In the country, they represent up to 72% of deaths and, despite the reduction, cardiovascular deaths, as well as cerebrovascular deaths, continue to be one of the main causes of death in the world. Hospitalization in the SUS and disability are more evident in adults of working age (7).

After the pandemic period, the health scenario changed drastically, in order to encompass the different aspects involving COVID-19 and its clinical repercussions (8). Based on this, it is possible to establish a relationship between the prevalence of chronic diseases (systemic arterial hypertension, diabetes mellitus, asthma, nephropathies, obesity, immunodeficiency) and the prognosis of the aforementioned pathology, in order to denote the increase in morbidity and mortality of affected citizens (9).

In these circumstances, in addition to chronic diseases, one of the most frequent diseases in young adults is neoplasms. As an example of this etiological group, oral cavity neoplasia, which is estimated to have approximately 24 million new cases by 2030, with squamous cell carcinoma (SCC) being the most common histological type and which has a multifactorial etiology related to tobacco consumption, alcohol use, and exposure to biological agents (especially the human papillomavirus, associated or not with genetic susceptibility) (10).

In addition, according to the Pan American Health Organization (PAHO), it is common knowledge that approximately 10 to 24 years of age died in 2000 due to maternal complications (hypertensive syndrome of pregnancy, anemia, diabetes, gestational diabetes, hemorrhagic syndromes, miscarriages, premature rupture of membrane). However, the sensitivity of 92% chance of avoiding deaths from the aforementioned causes is noteworthy (11).

In this context, the motivation for the present study arises, whose objective is to categorize deaths of young adults (18 to 44 years), in addition to the epidemiological evaluation and classification of the deaths analyzed. The purpose includes the provision of epidemiological information about deaths in the region and within the age group analyzed,

allowing future approaches by local health services and possible population interventions. Thus, it becomes possible to modulate the mortality profile of young adults in the current social context.

## METHODOLOGY

The present research refers to a documentary, descriptive study, which was prepared by a team of eight medical students from a private institution and an advisor/professor from the same institution, which are part of a process of insertion, training and research through scientific initiation.

This study comprises a segment of the research project of the institutional program of scientific and technological initiation of the Pitágoras Faculty of Medicine of Eunápolis – BA, entitled **"Characterization of deaths of young adult patients admitted to the urgency and emergency of a Public Hospital in the Extreme South of Bahia"**.

To carry it out, a Public Hospital in the extreme south of Bahia was defined as the study scenario, in the format of a spontaneous sample, according to hospital demand. Sampling was performed in a non-probabilistic convenience manner, in which only patients who met the inclusion criteria were included in the sample. The inclusion criteria were: *Medical records of young adults (18 to 44 years old) who died at the defined hospital, located in the extreme south of Bahia, in the city of Eunápolis.*

Since the present study is a retrospective study, with data from the medical records of patients who have already died, in addition to being a regional and public hospital, many of those patients did not even have family members identified in the region. Thus, based on the Waiver Request Form, this study aims at the waiver of informed consent by patients and/or family members.

In addition, the present study follows the ethical aspects present in the resolution of the National Health Council (CNS) No. 466/12, in which it was approved by the Research Ethics Committee (CEP), and the Certificate of Presentation for Ethical Appreciation (CAAE): 78314524.7.0000.0190. In addition, all those involved in the project participated in the signing of secrecy and confidentiality, as well as free and informed consent and term authorization from the institutions involved such as the Pitágoras Faculty of Medicine of Eunápolis and municipal health managers and the Board of Directors of the Public Hospital of the Extreme South of Bahia.

Data collection was carried out by the researchers in charge, after adequate training by the advisor, and they were organized in virtual sites, categorizing them into in-hospital deaths, identifying each hospital sector and its respective date of occurrence according to its chronological order. The tabulated documents, after being selected, are restricted to access only to the research team.

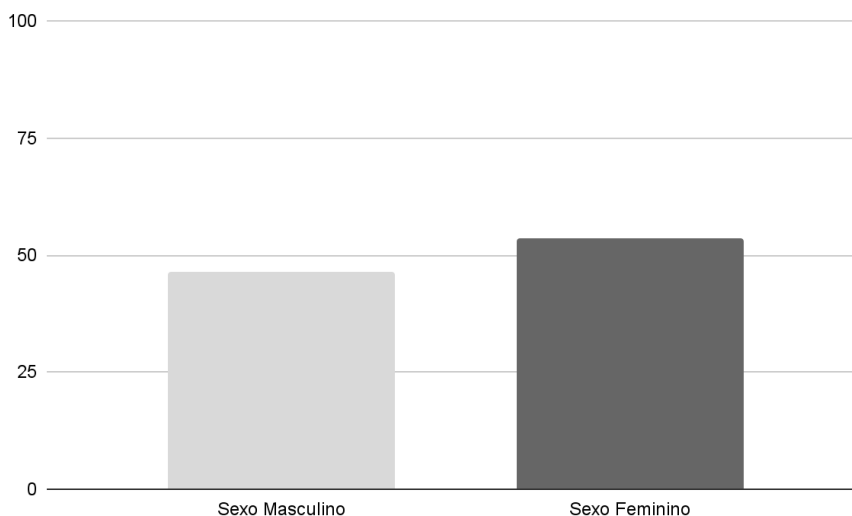
The research refers to the collection of data from the medical records filed in the SAME of the Regional Hospital of Eunápolis, from patients who died between January 2022 and June 2023, where these documents were analyzed and later the inclusion or exclusion for the aforementioned study, with those who are not young adults and/or date outside the period chosen for collection (January 2022 to June 2022) 2023). After the inclusion of the medical records of interest, a survey was carried out with the data contained in them, such as: identification in acronyms, date of birth, age, biological sex, previous diseases, date of hospitalization, days hospitalized, date of death, main complaint at admission, etiology of death found on the death certificate.

In the descriptive study, an approach focused on epidemiological and non-experimental analysis is adopted. The research aims to describe and characterize the deaths of young adult patients in a specific hospital, exploring variables such as age, gender, previous diseases, among others. The choice of a non-probability convenience sampling suggests that patients were selected based on specific criteria, while the descriptive analysis of the data highlights the observational nature of the study. Statistical significance was established with a confidence level of 95%, considering  $p < 0.05$ .

## RESULTS

According to the database collected related to the death rate in young adults (18 - 44 years), in the period from January 2022 to June 2023, 56 deaths were recorded. It was noted that 46.42% of patients were hospitalized in the 1st half of 2023, against 53.57% in 2022. Women were more affected than men, with a total of 53.6% (Figure 01).

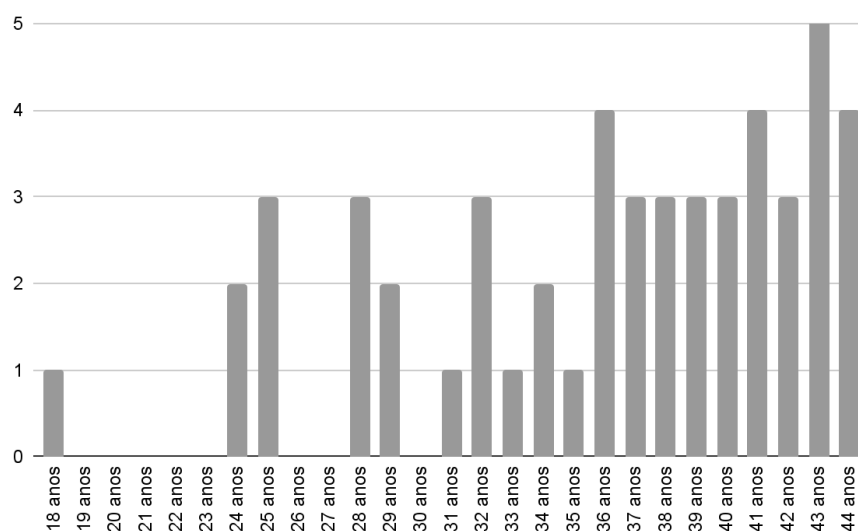
**Figure 01** - Number of patients (in %) in relation to gender.



**Source:** Authors (2024).

The predominant age group was 43 years, totaling 14.9% of the patients; 44 years old, adding up to 10.9% of the cases; 39 years old, representing 7.7% of the cases and 7.1% for the 36-year-olds (Figure 02).

**Figure 02** - Number of patient deaths in relation to age.



**Source:** Authors (2024).

In addition, it was observed that, among the comorbidities, 12.5% of the patients were considered healthy and in 16.1% of the cases the previous medical history was unknown (Chart 01). In addition, 28.5% were alcoholics and/or smokers, 17.8% had systemic arterial hypertension (SAH), 14.2% were diagnosed with neoplasia, 10.7% were

affected by *Diabetes Mellitus (DM)*, 5.6% by tuberculosis, 3.5% by chronic kidney disease (CKD), 3.5% by hepatic steatosis and 3.5% were people with HIV. Only 01 case was linked to the use of psychoactive substances. The remaining cases included psychiatric illness, blindness, trauma, cardiomyopathy, psychotropic substance use, systemic lupus erythematosus, chronic obstructive pulmonary disease, acute respiratory distress syndrome, internal jugular thrombosis, and cerebral palsy.

**Chart 01** - Basic comorbidity of patients who died.

Baseline comorbidity	Number of Patients
Alcoholism	16
Systemic Arterial Hypertension	10
Neoplasia	8
Diabetes Mellitus	6
Smoking	4
Tuberculosis	3
Chronic Kidney Disease	2
Hepatic Steatosis	2
Leprosy	2
HIV +	2
Psychiatric	2
Obesity	1
Cardiopathy	1
Systhematous erythematosus lúpus	1
Blindness from previous trauma	1
Use of Psychoactive Substances	1
Paralisia Cerebral	1
Lithiase Biliary	1
Chronic Obstructive Pulmonary Disease	1
Jugular Thrombose	1
Unknown	9
None/Deny	7

**Source:** Authors (2024).



Regarding the prevalence of the number of days of hospitalization, it was evident that 14.2% of the cases were hospitalized for 3 days, another 12.5% were hospitalized for 2 days and 12.5% for 1 day. In addition, 7.14% of the cases were hospitalized between 32 and 37 days. Based on the prevalence data observed at the hospital admission diagnosis, it can be seen that: diseases related to the respiratory and cardiovascular tract (such as tuberculosis, acute respiratory failure, pneumonia, acute respiratory distress syndrome, decompensated heart failure, unspecified bacterial pneumonia, and myocarditis) account for 30.3% of the cases. On the other hand, conditions related to pregnant women (labor, preeclampsia and cesarean delivery) result in 5.34% of death rates. Regarding complications related to the digestive tract (upper gastrointestinal hemorrhage, chronic liver disease, pyelonephritis, acute renal failure, sepsis with urinary focus and cholelithiasis), it can be stated that the statistics showed a sum of 12.47% of the occurrences. However, when considering other causes (AIDS, septic shock, psychotic episode, severe anemia, multiple trauma, tumor in the cervical region, hypertensive encephalopathy, hypovolemic shock, hypertensive crisis, metabolic disorder, acute lymphoblastic leukemia, ischemic stroke, dengue, non-infectious otitis externa, malnutrition, surgical wound infection, and multiple myeloma), it is possible to consider an important value of 35.62% of the total number of deaths cataloged.

In order to quantify deaths based on prevalence based on the etiology of the condition, after appropriate management by the medical team, the following data were noticeable: cardiogenic shocks (35.7%) and their complications, such as multiple organ failure and dysfunction, cardiorespiratory arrest, sepsis, brain death, and severe hypotension (totaling 21.39%). When taking into account other causes, such as acute respiratory failure, uteroplacental failure, uterine cancer, pneumonia, pneumocystosis, asystole, upper gastrointestinal hemorrhage, acute renal failure, bone marrow failure, and pancreatic head neoplasia, this value is 30.31%, with numbers ranging from 1.78% in its vast majority to 3.57% (Chart 02).

**Table 02 - Cause of deaths.**

Cause of Death	Number of Patients
Cardiogenic Shock	14
Acute respiratory failure	10
Multiple Organ Failure	6

Septic Shock	6
Because	3
Uterus-placental insufficiency	2
Pneumonia	2
IML	2
Cardiorespiratory arrest	1
Uterine cancer	1
Pneumocistose	1
Assistolia	1
Brain death	1
High Digestive Hemorrhage	1
Acute Renal Failure	1
Severe hypotension	1
Bone Marrow Failure	1
Pancreatic Head Neoplasm	1
Unknown	1
<b>Total:</b>	<b>56</b>

**Source:** Authors (2024).

## DISCUSSION

The data presented in this study offer a comprehensive view of the mortality of young adults admitted to the urgency and emergency department of a public hospital in the extreme south of Bahia. The results provide a detailed overview of the demographic characteristics, causes of death, and comorbidities present in the patients, contributing to the understanding of the main determinants of mortality in this specific population.

Young adult mortality is a social, economic, and public health problem. Mortality from external causes is the leading cause of death for young adults in Brazil. An analysis of the contribution of external causes shows that the elimination of this component would lead to an increase of at least three years in men's life expectancy. In addition, they represent 38% of the years of life lost in Brazil at the beginning of the twenty-first century and, in relation to the group of young adults, about 70% of the total years of life lost. In addition to the lives lost, the high number of deaths generates a great burden for families and society <sup>(12)</sup>.

The factors associated with mortality in young adults can be grouped into personal and contextual attributes. Generally, studies on violence and mortality in this age group focus on the living conditions of their respective places of residence, which may be associated with a higher risk of mortality than on the conditions at home and on the individual himself. Such studies are based on aggregate data that measure the existence of mortality differentials by the characteristics of the places of residence, such as average income and infrastructure conditions. There is evidence of a strong negative correlation between youth homicide rates and the socioeconomic indicators of the districts, including the level of household income, indicating a disadvantage for places with worse social conditions <sup>(12)</sup>.

The data show that violence is a critical factor of mortality among young adults, with homicides being a predominant cause of death. This finding is relevant for the region of the extreme south of Bahia, where social inequalities are accentuated and contribute to an environment conducive to violence. The predominance of young men as victims and aggressors reinforces the need for specific strategies for this group, including violence prevention programs, education, and employment opportunities that can reduce social vulnerability <sup>(13)</sup>.

In addition, the study reveals the importance of NCDs as significant causes of mortality. Conditions such as SAH, DM, and neoplasms were common among the deaths analyzed. This pattern highlights the need for public health interventions focused on prevention and management, especially among young adults, in order to reduce premature mortality and improve quality of life <sup>(14)</sup>.

NCDs are an important public health problem, as they are the leading cause of death in the world, in addition to causing premature mortality, disabilities, loss of quality of life, overload on the health system, and contributing to increased spending on medical care and social security. According to the data obtained in the present study, most of the individuals who died had NCDs, such as SAH, DM and CKD <sup>(14)</sup>.

The increase in morbidity and mortality due to these diseases is related to the effects of the epidemiological, demographic, and nutritional transition, as well as to the growth of modifiable risk factors such as tobacco consumption, harmful use of alcoholic beverages, physical inactivity, and inadequate diet. In addition, the effects of economic crises and austerity measures, and other social determinants, in particular poverty, on the occurrence and distribution of NCDs and their risk factors are also added. As a consequence, worse

health indicators are observed in the socially more vulnerable population and higher prevalence of NCD risk factors in individuals with low education and income <sup>(14)</sup>.

In the study by Meller *et al.* <sup>(15)</sup> evaluated 52,443 individuals with CNCD. They observed that most participants were female (54%) and white (44.8%). They also showed that less than 10% of the sample was a smoker and about one fifth of the individuals reported alcohol abuse (18.8%). More than half of the individuals were overweight (52.6%). In addition, they found that the formal analysis of inequality shed light on the fact that having a low level of education increased the prevalence of adopting risk behaviors for NCDs, and health inequities were more significant when analyzed taking into account skin color, especially black skin.

Thinking about causes such as AIDS, the results correlate well with the findings of articles that show a high prevalence in young male adults <sup>(18)</sup>. According to Tavares *et al.* <sup>(16)</sup> The most affected gender was females between 15 and 49 years of age, showing a disagreement between the results and other literature, but all of them agree on the decrease in mortality over the years.

In addition, the COVID-19 pandemic has had a substantial impact on global and regional mortality. In the context of this study, it is evident that the pandemic exacerbated existing health conditions, increasing mortality from chronic diseases and complications associated with SARS-CoV-2 infection. This scenario underlines the importance of strengthening the health system's response capacity to health crises and ensuring continuity of care for patients with chronic conditions during public health emergencies <sup>(17)</sup>.

The analysis of the data indicates that socioeconomic vulnerability is a crucial determinant of mortality among young adults. Problems such as domestic violence, scarce access to education and quality health services, as well as social inequalities emerge as factors that increase the risk of mortality. This finding emphasizes the need for intersectoral policies that address the social determinants of health, promoting equity and improving the living conditions of the population <sup>(18)</sup>.

As demographic inequality, being more evident in the North and Northeast regions of Brazil, the study by Meller *et al.* <sup>(15)</sup> pointed out that the younger population, especially in these locations, is more prone to worse eating habits and higher alcohol consumption, but they practice more physical activity. An article with data from the 2013 National Health Survey (PNS) suggested that characteristics such as male gender, young people, black skin color, low socioeconomic power, and poor perception of health are associated with risk

behaviors, such as low consumption of fruits, vegetables, and greens, physical inactivity, smoking, and alcohol consumption <sup>(15)</sup>. In comparison with the findings of the present study, the data obtained can be ratified, except for the issue of gender predominance.

An important cause of death in the young adult population is suicide. In a survey carried out in Brazil, a progressive increase in deaths by suicide in the general population was observed in all regions between 1996 and 2019. Among the Brazilian regions, a growing trend of suicide was found in the North, Northeast and Southeast. The difference between the others can occur as a result of different socioeconomic, cultural and environmental characteristics and conditions. However, in all regions, the age group with the highest proportion of deaths was 20 to 29 years ( <sup>19</sup>). The present study did not include suicide among the etiologies of death, since patients admitted to the intensive care unit were evaluated.

Understanding the magnitude of mortality among young adults, its distribution in space and its relationship with social and economic characteristics at different levels (family, household and location) is of great importance to deepen the discussion on this theme <sup>(12)</sup>. The results of this study point to the need for robust and integrated public policies that address the multiple factors that contribute to young adult mortality. Violence prevention measures, education and employment programs for young people, and health promotion initiatives are essential to reduce mortality. In addition, strengthening health systems for better management of NCDs and an efficient response to health crises are crucial to improve the health of this population.

Therefore, this study provides a comprehensive analysis of the deaths of young adult patients in the extreme south of Bahia, highlighting the complexity and multiple determinants of mortality in this population. Understanding the factors that contribute to deaths is essential for the development of effective interventions aimed at reducing mortality and promoting the health and well-being of young Brazilians. The implementation of evidence-based public policies is essential to address the identified challenges and improve health outcomes in this region.

## CONCLUSION

The mortality trend demonstrated in this study points to the importance of death certificates for the evaluation of the mortality rate in the municipality, emphasizing the need to implement appropriate measures to improve the accuracy of information on the causes of

death. This involves the thorough analysis of these deaths, the training of hospital health professionals in the accurate completion of death certificates, making them aware of the relevance of this document as a tool for generating reliable health statistics, which can support the creation of actions and programs for the prevention and treatment of diseases and problems susceptible to intervention.

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