

The prevalence of Sepsis in a public maternity hospital in the Eastern Amazon

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Abstract—This study aims to evaluate the prevalence of sepsis in a public maternity hospital in the Eastern Amazon. This is a descriptive, retrospective cross-sectional study with a quantitative approach, carried out with data from 135 medical records of patients affected by sepsis in a referral hospital, in 2021. The data were tabulated in the Statistics Program for Social Science for Windows (SPSS® 16.0) software. , SPSS Inc, Chicago, IL, USA) and the research complied with Resolution No. 466/12 of the National Health Council, which regulates research with human beings. The results show sepsis predominant in females (82.96%), aged 19 to 29 years (48.15%), coming from the capital Belém, from the obstetric clinic (62.22%), with a focus of pulmonary infection (37.78%), organ dysfunction characterized by Systolic Blood Pressure < 90 mmHg or MAP < 65 mmHg or BP drop > 40 mmHg (56.30%), with sepsis outcome (75%) and tachycardia symptom (88.15%). It is concluded that this study contributed to the knowledge of the sepsis profile, and consequently to the assessment of the need to implement new health practices.

I. INTRODUCTION

According to the European Society of Intensive Critical Care (ESICM) and the Society of Critical Care Medicine (SCCM), sepsis can be understood as the appearance of an organic dysfunction, which can cause damage to life, and can be characterized by the presence of signs of the body's systemic inflammatory response to the presence of infection. [1]

In addition, sepsis is considered one of the most common fatal diseases worldwide and affects all ages, ranking among the 10 leading causes of death. [2]

Thus, treating the patient with sepsis often requires specific and specialized care present in Intensive Care

Units (ICU), as it is a sector capable of offering the necessary technological and therapeutic resources and with greater technology. In addition, the presence of a trained multiprofessional team is of paramount importance, in order to identify early signs and suggestive symptoms, and subsequently offer adequate assistance. [1]

In Brazil, it is estimated that 600,000 new cases arise per year, and this is the country with the second highest mortality rate from sepsis in ICUs. Among the factors that contribute to this are: growth in the number of elderly people and immunosuppressed patients and the emergence of multidrug-resistant microorganisms.[1]

In addition, the Instituto Latino Americano de Sepsis (ILAS) developed the SPREAD study (Sepsis PREvalence Assessment Database), conducted in 227 Brazilian intensive care units (ICU) randomly selected to adequately represent the national scenario, pointed out that 30 % of the country's ICU beds are occupied by patients with sepsis or septic shock. Therefore, the lethality in these patients was 55%. This finding makes us realize the high cost of sepsis in our country, both from the point of view of lost lives and from the economic point of view. [3]

According to the Ministry of Health, through Datasus/tabnet, [4] 9,697 hospitalizations for septicemia were recorded in the Hospital Information System (SIH), in hospital morbidity from January 2018 to December 2020, in all hospitals. public and private hospitals in the State of Pará. And in the years 2018 and 2019, 1,046 deaths were recorded by the ICD10 A40 and A41, which correspond to streptococcal septicemia and other septicemias respectively. [1]

Furthermore, in a prevalence study carried out at the Adult Intensive Care Unit of the Hospital de Clínicas Gaspar Vianna, in the city of Belém-Pa, 200 cases of sepsis, severe sepsis or septic shock were analyzed in patients over 18 years of age admitted to that unit, in the period from January to December 2012, there was a prevalence of 44% of septic shock, 4% of severe sepsis and 18% of sepsis. [5]

The use of a clinical protocol is one of the strategies that has been widely used to obtain good results in the treatment of sepsis. These instruments have been gaining strength, as they contribute to the systematization of patient care, as well as reducing the variation of specialized care; promoting safe care for users and health professionals; in the empowerment of the multidisciplinary team within the decision-making process, whether simple or complex; in offering subsidies for the elaboration of care, epidemiological, process and result indicators; improving communication between members of the multidisciplinary team; and in the coordination of care. [6]

Therefore, through a clinical protocol for sepsis, which can also be activated for patients who are suspected of having sepsis, a higher level of efficiency in care can be obtained, thus impacting the survival of patients affected by the disease, in the same way. way, in the reduction of the length of hospital stay and in the rates of morbidity and mortality. [6]

With this, it is up to the clinical manager to propose to the multidisciplinary team the use of the protocol, as well as to offer training on each step of the protocol and to carry out the monitoring of the indicators of the work processes, which involve a whole network of professionals

in the care and diagnosis. Therefore, managing a protocol is of fundamental importance to evaluate clinical practice and ensure quality in patient care.

Therefore, it is extremely important to measure the prevalence, mortality of sepsis and the difficulties in complying with the processes of the sepsis protocol. In light of this concern, the following questions were asked: What is the prevalence of sepsis in a public maternity hospital in Pará? What are the risk factors that contribute to the evolution of sepsis?

In view of the above, this study aims to evaluate the prevalence of Sepsis in a public maternity hospital in the Eastern Amazon

II. METHOD

This article presents the results of a descriptive, retrospective cross-sectional research with a quantitative approach, carried out through data obtained from the medical records of patients affected by sepsis within the Santa Casa de Misericórdia do Pará Foundation (FSCMPA) in the year 2021.

The data collection, study and work process was submitted for approval by the Research Ethics Committee of the FSCMPA, requesting waiver of the Free and Informed Consent Term (ICF), due to the study design and data acquisition being based on information present in the Sepsis Management Protocol (PGS) of the FSCMPA, physical and electronic medical records, Emergency Care Bulletin (ECB) and Computerized Systems. However, a Declaration of Permission for the Use of Data from the aforementioned institution was requested.

It is worth mentioning that this study was based on Resolution No. 466/12 of the National Health Council, which regulates research with human beings and guides its development, and was approved with the opinion embodied in Number. 5,161,290 of the Research Ethics Committee of the FSCMPA.

As for the risks to the institution, the study presents risks related to the misuse of data from physical and electronic medical records, which may generate a risk of disclosing confidential data; risk to the safety of medical records; and the breach of confidentiality of the participants' identity, to avoid this breach, alpha numeric code was used with the letters SP followed by the number in ascending order in the analyzed files (SP1, SP2, SP3...).

In the study, cases of Managed Sepsis Protocol (PGS) of adults, opened in the period from January to December 2021, were analyzed. In this way, the investigation took place in a population of 208 cases of sepsis in adults notified in 2021, taking into account the Degree of

Confidence of 95% and a Margin of Error of 5%, the sample consisted of 135 medical records of patients diagnosed with sepsis admitted to the Inpatient Units of the Internal Medicine, Surgical Clinic and Tocogynecology of the FSCMPA, aged 18 years or older, of both gender, with a hospital admission form and a completed sepsis notification form, from January to December 2021.

However, medical records that were unavailable during the research period or that were incomplete, medical records of patients diagnosed with sepsis under 18 years of age, as well as patients without a diagnosis of sepsis, were excluded.

To obtain the data, a form was used, made from epidemiological variables: Gender, Age, Days of hospitalization, Type of patient (clinical, surgical, obstetric), Diagnosis of admission and discharge, presence of signs of SIRS, Sepsis and Septic Shock recorded in medical records and filled in sepsis notification form, and operational variables according to the FSCMPA protocol that corresponds to the package of measures adopted in the first hour of Sepsis treatment.

Data collection was carried out from January to March 2022. Furthermore, the quantification of the collected data

Table 01: Statistics of sociodemographic data of patients related to age group, sex, municipality and type of patient, FSCMPA, Pará, 2021.

Age Group (Years)	N	(%)
19 -----29	65	48,15%
29 -----39	29	21,48%
39 -----49	11	8,15%
49 -----59	9	6,67%
59 -----69	12	8,89%
69 -----79	4	2,96%
79 -----89	5	3,70%
Gender	N	(%)
Female	112	82,96%
Male	23	17,04%
City	N	(%)
Belém	52	38,52%
Ananindeua	12	8,89%
Castanhal	4	2,96%
Maju	4	2,96%
Barcarena	4	2,96%
Capitão Poço	3	2,22%
Igarapé-Miri	3	2,22%
Anajás	3	2,22%

was documented in spreadsheets in Microsoft Excel® software, with descriptive analysis being performed with absolute and percentage frequency presentation for the variables present in this study, with the Statistics Program for Social Science for Windows software (SPSS® 16.0, SPSS Inc, Chicago, IL, USA).

The research may provide reflections and deepen the understanding on the subject, and may, thus, offer subsidies for the improvement of the view of health professionals in the promotion of comprehensive, humanized and qualified care.

III. RESULTS

In the present study, the prevalence of sepsis stood out in females, with 82.96% (n=112), aged between 19 and 29 years, with 48.15% (n=65), coming from the capital Belém, with 38.52% (n=52), however, when adding up all the other municipalities in the interior of the state, these constitute the majority, with emphasis on the municipality of the Ananindeua metropolitan region, with 8.89% (n=12), according to it is observed in Table 1:

Salinópolis	3	2,22%
Cachoeira Do Piriá	2	1,48%
Marituba	2	1,48%
Paragominas	2	1,48%
Santa Barbara	2	1,48%
Cametá	2	1,48%
São Caetano De Odivelas	2	1,48%
Capanema	2	1,48%
Abaetetuba	2	1,48%
Others	31	22,96%
Patient characteristic	N	(%)
Pregnant	40	29,63%
Puerperal	36	26,67%
Man	23	17,04%
Abortion	8	5,93%
Others	28	20,74%
Total	135	100%

Source: FSCMPA, 2021.

Regarding the classification by inpatient clinic, there was a predominance of the obstetric clinic with 62.22% (n=84) of the cases. Regarding the type of infection, the community type predominated with 73.33% (n=99). Regarding the type of infectious focus,

the pulmonary predominated with 37.78% (n=51), followed by the urinary tract, with 19.26% (n=26) (Table 2).

Table 02: Statistics of clinical data of patients related to the type of hospitalization, type of infection and infectious focus, FSCMPA, Pará, 2021.

Classification by inpatient clinic	N	(%)
Obstetric Clinic	84	62,22%
Medical clinic	48	35,56%
Surgical Clinic	3	2,22%
Type of infection	N	(%)
Community	99	73,33%
Acute respiratory infection (ARI)	36	26,67%
Infectious focus type	N	(%)
Pulmonary	51	37,78%
Urinary	26	19,26%
Acute Abdominal Infection	13	9,63%
Undefined Focus	9	6,67%
Other Infections (Puerperal)	8	5,93%
Surgical Wound Infection	7	5,19%
Skin and Soft Tissues	6	4,44%

Bloodstream infection Associated with Central Catheter	4	2,96%
Other Infections (endometritis)	3	2,22%
Other Infections (Infected abortion)	2	1,48%
Other Infections (missed abortion)	2	1,48%
Other Infections (chorioamnionitis)	2	1,48%
Other Infections (Pelvic Infection)	1	0,74%
Other Infections (Hospital Otitis Media)	1	0,74%
Total	135	100%

Fonte: FSCMPA, 2021.

Table 3 describes the statistics of the clinical data of the patients related to the type of organ dysfunction, in which there is a predominance of organ dysfunction characterized by Systolic Blood Pressure < 90 mmHg or MAP < 65 mmHg or fall in BP > 40 mmHg, with 56.30 %

(n=76). In second place, dysfunction 7, pO₂/FiO₂ ratio < 300 or recent or increased need for O₂ for saturation < 90%, with 52.59% (n=71). The other dysfunctions were present in a smaller amount.

Table 03: Statistics of clinical data of patients related to the type of organ dysfunction, FSCMPA, Pará, 2021.

Organic dysfunction 1	Arterial Blood Pressure < 90 mmHg or Mean Arterial Pressure < 65 mmHg or fall of AP > 40 mmHg	ABP < 90 mmHg ou MAP < 65 mmHg or fall of AP > 40 mmHg (%)
Presented	76	56,30%
Not Presented	59	43,70%
Organic dysfunction 2	Creatinine > 2.0mg/dL or diuresis less than 0,5mL/Kg/h in the last 2h	Creatinine > 2.0mg/dL or diuresis less than 0,5mL/Kg/h in the last 2h (%)
Presented	42	31,11%
Not Presented	93	68,89%
Organic dysfunction 3	Bilirubin > 2.0mg/dL	Bilirubin > 2.0mg/dL (%)
Presented	15	11,11%
Not Presented	120	88,89%
Organic dysfunction 4	platelet count < 100.000mm ³	platelet count < 100.000mm ³ (%)
Presented	13	9,63%
Not Presented	122	90,37%
Organic dysfunction 5	coagulopathy - INR > 1,5 or TTPA > 60 seconds	coagulopathy - INR > 1,5 or TTPA > 60 seconds (%)
Presented	10	7,41%
Not Presented	125	92,59%
Organic dysfunction 6	Lactato > 2.0 mMol/dL ou acima do Valor de Referência	Lactato > 2.0 mMol/dL ou acima do Valor de Referência (%)
Presented	57	42,22%
Not Presented	78	57,78%
Organic dysfunction 7	Relation pO ₂ /FiO ₂ < 300 or recent or increased need for O ₂ for saturation	Relation pO ₂ /FiO ₂ < 300 or recent or increased need for O ₂ for

	< 90%	saturation < 90% (%)
Presented	71	52,59%
Not Presented	64	47,41%
Organic dysfunction 8	Lowering the Level of Consciousness	Lowering the Level of Consciousness (%)
Presented	45	33,33%
Not Presented	90	66,67%
Total	135	100%

Fonte: FSCMPA, 2021.

As for the outcome, the majority evolved to sepsis (75%; n=102) to the detriment of septic shock, which occurred in 24.44% (n=33) of the cases. The length of stay in the ICU was short in general, between 0 and 15 days, with 87.41%, with a maximum period of 75 to 90

days (0.74%; n=1). Regarding evolution, most evolved to cure, with 64.44% (n=87). However, the percentage of deaths is considered high, which was 35.56% (n=48) (Table 4).

Table 04: Statistics of clinical data of patients related to length of stay in the ICU, outcome of the situation and death, FSCMPA, Pará, 2021.

Outcome	N	(%)
Septic shock	33	24,44%
Sepsis	102	75,56%
Length of Stay in the ICU (Days)	N.	(%)
0 ----- 15	118	87,41%
15 ----- 30	10	7,41%
30 ----- 45	2	1,48%
45 ----- 60	2	1,48%
60 ----- 75	2	1,48%
75 ----- 90	1	0,74%
Evolution	N	(%)
Death	48	35,56%
Alive	87	64,44%
Total	135	100%

Source: FSCMPA, 2021.

Regarding the classification of symptoms, there was a predominance of tachycardia, with 88.15% (n=119), followed by leukocytosis (85.19%; 115). Other symptoms were present in smaller amounts, but

with expressive numbers, such as hyperthermia/hypothermia (48.15%; 65) and Tachypnea (46.67%; 63) (Table 5).

Table 05: Statistics of Symptoms of patients related to Leukocytosis/Leukopenia, Hyperthermia/Hypothermia, Tachycardia and Tachypnea, FSCMPA, Pará, 2021.

Symptom type 1	N	(%)
Tachycardia	119	88,15%
No Symptom	16	11,85%
Symptom type 2	N	(%)
Leukocytosis / Leukopenia	115	85,19%
No Symptom	20	14,81%
Symptom type 3	N	(%)
Hyperthermia / Hypothermia	65	48,15%
No Symptom	70	51,85%
Symptom type 4	N	(%)
Tachypnea	63	46,67%
No Symptom	72	53,33%
Total	135	100%

Source: FSCMPA, 2021.

IV. DISCUSSION

The mean age identified in the present study was in disagreement with other studies, as this was carried out in a maternity hospital and which attends other clinics, it was higher in women of childbearing age.

In a study conducted in Minas Gerais, Brazil, the mean among participants was 63.3 years ($SD \pm 16.9$). [7] The occurrence of sepsis in this age group observed is associated with a higher risk of this population of having more serious diseases, which may be related to their innate and acquired immunity, which is altered. [8,9]

In this study, females predominated, because the research scenario's audience was greater among females, also disagreeing with other literatures, where males predominated, as in an investigation carried out in Minas Gerais, Brazil, in which males prevailed with 63.6%; and in São Paulo, where it was found that 62.25% of sepsis cases were among males. This greater involvement is believed to be due to hormonal differences between the sexes and the presence of higher levels of anti-inflammatory mediators in women. [10]

The higher prevalence in the capital, Belém, is explained by the fact that the study scenario is located in this municipality, and because it is a state reference hospital that meets high demand from other municipalities, mainly in the metropolitan region.

As for the characteristics of the patients, pregnant and postpartum women predominated, corroborating a similar

study that found a high rate of sepsis in women in the postpartum period (18.3%). [11]

The causes of sepsis in pregnant women can be obstetric or non-obstetric. The first group includes causes related to pregnancy (infected abortion, chorioamnionitis), childbirth (cesarean section or episiotomy wound infections, postpartum endometritis) or invasive procedures (post-cerclage infection). The second group includes especially urinary tract infections and pneumonia. Of these, the main focus of infection is the urinary tract, which is already a region more predisposing to infections due to physiological mechanical changes during pregnancy. [12]

Regarding the classification by inpatient clinic, the Obstetric Clinic predominated, also because it is a maternity hospital, but which serves other clinics.

Specifically in relation to pregnant women, the incidence and morbidity and mortality rates are lower, given that they represent a younger group with fewer comorbidities. The most common aetiology in this group is polymicrobial in origin. [13]

However, the number of studies that address the prevalence of sepsis is scarce, associated with this, there was no consensus until 1991 for terminology and, over these years, new definitions were assigned for sepsis, which makes it difficult to make correlations, considering the definition current. [9]

Regarding the primary foci of infection, the studies corroborate the most prevalent focus being the pulmonary,

as is the case of a study carried out in Recife-PE, Brazil, whose origin of sepsis was pulmonary in 79.3% of the cases, followed by gastrointestinal (14.8%) and urinary (13.6%).[9]

In another study, there was a pulmonary focus with 88.1% and the genitourinary focus with 46.3%, while the gastrointestinal focus was the least evident, with only 3.0%. [2]

In the general population, the presence of sepsis with a primary focus of pulmonary infection may be related to the fact that most of the population is composed of elderly people, who had some comorbidity, and thus present a higher risk of respiratory infection, due to an impaired immune response, as well as due to the higher frequency of Mechanical Ventilation use and prolonged ICU stay.[11]

In addition, the large number of infections at the pulmonary and abdominal sites is mainly related to the presence of the endogenous microbiota, characteristic of such regions that favors the infectious process.[11]

Urinary sepsis is considered a common urinary problem during pregnancy, and is characterized by the presence of infectious agents that colonize, invade and spread through the urinary tract. This infection occurs in 17 to 20% of pregnancies, [14] corroborating the present study.

Furthermore, urinary sepsis is an important factor of morbidity and mortality during the pregnancy-puerperal cycle, as pregnancy is a predisposing factor for the onset of this disease, which can cause serious complications to the future fetus, as well as to the pregnant woman herself.[14]

In general, pregnancy-related infection is the third leading cause of maternal death in the world and in the United States of America, with almost constant mortality since 1990. In developing countries, the incidence of puerperal sepsis is estimated between 0.1% and 10%, although there is a great disparity in the estimates due to the difference in diagnostic criteria between the study sources. [15]

In short, the pulmonary focus stands out as the site with the highest number of infectious processes, which reflects the fact that most of the population studied presented mechanical ventilation as the most frequent invasive procedure, in addition to respiratory dysfunction, which is evident the relationship between such risk factors for the worsening of the patients' condition. This was also proven in Brazilian studies, which showed the main sites of infection as the pulmonary and urinary [16]

Regarding the clinical data of the patients related to the type of organ dysfunction, arterial hypotension and low O₂

saturation predominated, which may be related to the predominant focus of infection being respiratory.

As for the outcome, sepsis predominated, corroborating other studies, as shown in a retrospective cohort study with 124 patients, in which 50% corresponded to sepsis; 18.5%, severe sepsis; and 31.5%, septic shock.[9] Although most of these studies bring the classification, they do not present a reason for the predominance of such classification. However, it is associated with severity, requiring time to be established after the diagnosis, and it is appropriate to do it at the end of the fourth day of the sepsis diagnosis, since the severity is usually defined in the first days and, therefore, way, in this period, there is greater precision.[9]

Disagreeing with these findings, other studies presented shock as the most incident outcome, as observed in an observational analytical study, which showed a prevalence of 44% of septic shock, 4% of severe sepsis and 18% of sepsis [9] and in the study by Zastrow that had severe sepsis in 15% and those with septic shock added up to 6%.[11]

Regarding the length of stay in the ICU, a relatively short time was found in this study, from 0 to 15 days. Furthermore, most studies showed a mean length of stay longer than that found in the present study, as observed in a study carried out in Santa Catarina, whose mean length of stay was 19.8 days (SD \pm 11.3). In Fortaleza, the length of stay in the ICU was, on average, 16.6 days. These shorter periods of ICU stay can occur in institutions with high demand for specialized beds, where, soon after the clinical picture has stabilized, many patients are discharged to the ward.[9]

Regarding the evolution of the patients, most of them were cured, but there is a high mortality. In the clinical outcome of Carvalho and Carvallho (2021), the vast majority of patients died [9], differing from other studies that showed a lower mortality rate. In a cohort carried out in 75 ICUs, the overall mortality in the septic group was 46.6% and in the sepsis, severe sepsis and septic shock subgroups it was 16.7%, 34.4% and 65.3%, respectively. In an analytical descriptive study in Rio Grande do Norte, Brazil, 30.2% died.[9]

In the vast majority of studies, age was related to the potential probability of death, but this result is largely due to other reasons, such as the presence of comorbidities, severity, as well as the differentiated therapeutic approach. Thus, it is clear that the clinical outcome is closely related to the early treatment offered to the patient.[9]

The mortality rate ranged from 16.0% in uninfected patients to 53.6% in those with hospital-acquired infection. Another data that corroborates the current study was the result demonstrated by Sousa et al. (2017) [16] which

presented the pulmonary site as the most prevalent, with a rate of 66.7%. [18]

As for Andrade (2018), with regard to mortality, of the 67 patients, only 11 (16.4%) survived, and 56 (83.6%) died, with 35 (62.5%) male and 21 (37.5%) female. [2]

Regarding the symptoms presented, tachycardia predominated in this study, followed by Leukocytosis/Leukopenia. A study from Rio Grande do Sul found similar data regarding tachycardia, with 82.3% and tachypnea (80%). [19]

Thus, it was found in the analyzed studies that the treatment of sepsis should be started as soon as possible, aiming to improve the prognosis and reduce the chances of mortality. Implementing a rapid response team in the identification and initial treatment of patients with sepsis increases the likelihood of survival. [20]

General tests, such as blood count, biochemistry, renal and hepatic function, electrolytes, coagulogram, arterial blood gas with lactate, glycemia and, above all, cultures, should be collected early, as they can help guide therapy and predict prognosis. As previously pointed out, patients with septic conditions tend to develop acidemia, mainly at the expense of anaerobic metabolism and consequent production of lactate. Thus, monitoring arterial lactate levels and its evolution during treatment are an important tool in monitoring the response to therapy and contribute to a better prediction of the prognosis. [20]

As sepsis is one of the leading causes of mortality in the world, with an estimated incidence of up to 19 million people per year, it is consequently a major public health problem. In general, it has high mortality in Brazil, reaching around 60% of cases, while the world average is around 30%. [21]

In view of the significant reduction in mortality from sepsis in countries such as New Zealand and Australia associated with improvements in early diagnosis and treatment [22], the need to establish adequate diagnostic criteria for sepsis in Brazilian ICUs is irrefutable. Since sepsis morbidity and mortality is mainly related to late treatment and diagnosis, [22] and Brazil has a very high sepsis lethality, it is extremely important to contribute to reducing this rate, establishing supported scientific evidence that will contribute to diagnosis. and early treatment and lower burden for the Unified Health System (SUS). [21]

V. CONCLUSION

From this study, it was possible to evaluate the prevalence of sepsis in a public maternity hospital of reference in the North region of Brazil, where a

predominance of the disease was observed in the female population, in the young adult age group, with length of stay in the hospital. relatively short ICU.

The evolution towards cure was also evidenced in most cases, however, the percentage of deaths is still high, which lacks decision-making by managers and health professionals who work in the hospital environment. home, especially in the ICU and Obstetrics sectors, as they have the highest rates of sepsis.

It is believed that the data generated by this research can be used to evaluate the evolution of the disease, expanding the knowledge about the possible factors that can lead the patient to death, as well as, for the evaluation of the need to implement new health practices.

In this way, there is a need for the multidisciplinary team that provides assistance in the critical care sector to always be attentive to the clinical manifestations of patients, so that the diagnosis of sepsis and the definition of the appropriate treatment be instituted as early as possible to reduce the high rates of morbidity and mortality associated with sepsis.

Sepsis is considered one of the four main causes of mortality during pregnancy and has been showing a progressive increase in its incidence. Despite the implementation of the sepsis protocol developed by the Instituto Latino Americano de Sepsis, aiming to increase the perception of this syndrome and the new advances in sepsis therapy, morbidity and mortality still register significant numbers.

Specific physiological alterations related to pregnancy contribute to a potential site of infection that is easily identified, as well as easier access to the infectious focus in the event of the need for surgical exploration. Taking these aspects into consideration, it is possible to make an early diagnosis and avoid the serious consequences of sepsis.

REFERENCES

- [1] Carvalho, M.; Carvalho, M. Prevalência de sepse em um centro de terapia intensiva de um hospital de ensino. *Enfermagem Foco*, v. 12, n.3, p. 582-7. 2021. Available: <http://revista.cofen.gov.br/index.php/enfermagem/article/view/4382>.
- [2] Andrade, D.C. Prevalência de sepse na unidade de tratamento intensivo e os fatores associados. *Revista Brasileira de Inovação Tecnológica em Saúde*, p. 11-11, 2018.
- [3] A Sepse se não tratar ela mata. (2019). ILAS - Instituto Latino-Americano de Sepse. Available: <https://www.ilas.org.br/o-que-e-sepse.php>. Acess: October 25, 2021.

- [4] Sistemas de Informações Hospitalares do SUS (SIH/SUS): Interações por Septicemia segundo ano de processamento 2018 a 2020. (n.d.). MINISTÉRIO DA SAÚDE - Datasus. Available: <http://tabnet.datasus.gov.br/cgi/tabcgi.exe?sih/cnv/nrpa.def>. Acess: October 25, 2021.
- [5] Xavier, S., Andriolo, B., Carneiro, I., Andriolo, R. Prevalência de sepse em unidade de terapia intensiva da região norte do Brasil. *Braz. J. Surg. Clin. Res.-BJSCR*, 22(3), 07-12. 2018. Available: <http://www.mastereditora.com.br/bjscr>.
- [6] Silva, D. F. D., et al. Conhecimento de enfermeiros emergencistas acerca do protocolo clínico de sepse. *Rev. enferm. UFPE on line*, 1-14. 2021.
- [7] Aquino, R.L.; Inacio, A.C.; Diogo Filho, A., Araújo, L.B. Sepse em pacientes com lesão renal aguda severa. *Rev Enferm UFPE Online*. V.11, n.12, p.4845-53. 2017.
- [8] Barros, L.L.; Maia, C.S.; Monteiro, M.C. Fatores de risco associados ao agravamento de sepse em pacientes em Unidade de Terapia Intensiva. *Cad Saúde Colet.* v.24, n.4, p. 388-96.2016.
- [9] Carvalho, M.K.R.; Carvalho, M.R.D. Prevalência de sepse em um centro de terapia intensiva de um hospital de ensino. *Enfermagem em Foco*, v. 12, n. 3, 2021.
- [10] Moura, J.M.et al. Diagnóstico de sepse em pacientes após internação em unidade de terapia intensiva. *Arq Ciênc Saúde*. V.24, n.3, p.55-60.2017.
- [11] Zastrow, J.B.et al. Sepse em gestantes atendidas em um hospital público de Curitiba-PR. *Revista da Sociedade Brasileira de Clínica Médica*, v. 16, n. 4, p. 208-211, 2018.
- [12] Matos, K.L.A. et al. Sepse durante o período gestacional. *Revista Eletrônica Acervo Saúde*, v. 11, n. 17, p. e1166-e1166, 2019.
- [13] Cordioli, Ricardo Luiz et al. Sepse e gravidez: sabemos tratar?. *Revista Brasileira de Terapia Intensiva*, v. 25, p. 334-344, 2013.
- [14] Souza, Jéssica Pereira Lima de; Mendes, Daniella Ribeiro Guimarães. Prevalência de sepse urinária em gestantes da UBS/ESF do Cruzeiro do Sul. *Revista de Divulgação Científica Sena Aires*, v. 4, n. 1, p. 40-51, 2015.
- [15] Silva, Antonio Paulo Nunes et al. Sepse puerperal: Uma revisão integrativa. *Research, Society and Development*, v. 10, n. 8, p. e31710817374-e31710817374, 2021.
- [16] Barreto, M. C. F. et al. Sepse em um hospital universitário: estudo prospectivo para análise de custo da hospitalização de pacientes. *Revista da Escola de Enfermagem da USP*, v. 50, n. 2, 2016. Available: http://www.scielo.br/pdf/reeusp/v50n2/pt_0080-6234-reeusp-50-02-0302.pdf. Acess: 13 jun. 2022.
- [17] Sousa, A.F.L.; Layze, B.O.; Moura, M.E.B. Perfil epidemiológico das infecções hospitalares causadas por procedimentos invasivos em unidade de terapia intensiva. *Rev Prevenção Infecção e Saúde*.v.2, n.1, p.11-7.2017.
- [18] Reiner, Gabriela Longhi et al. Desfecho clínico e fatores associados ao óbito em pacientes com sepse internados em unidade de terapia intensiva. *Arquivos Catarinenses de Medicina*, v. 49, n. 1, p. 02-09, 2020.
- [19] Zanon, Fernando et al. Sepse na unidade de terapia intensiva: etiologias, fatores prognósticos e mortalidade. *Revista Brasileira de Terapia Intensiva*, v. 20, p. 128-134, 2008.
- [20] Pires, Henrique Fernandes de Moura et al. Sepse em unidade de terapia intensiva em um hospital público: estudo da prevalência, critérios diagnósticos, fatores de risco e mortalidade. *Brazilian Journal of Development*, v. 6, n. 7, p. 53755-53773, 2020.
- [21] Cruz, Leonardo Lopes; Macedo, Cícero Cruz. Perfil Epidemiológico da Sepse em Hospital de Referência no Interior do Ceará. *Revista de psicologia*, v. 10, n. 29, p. 71-99, 2016.
- [22] Besen, Bruno Adler Maccagnan Pinheiro, et al. Sepsis-3 definitions predict ICU mortality in a low- middle-income country. *Annals of Intensive Care*, v.6, n.1, p.107, 2016