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RESEARCH ARTICLE

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## NURSE'S ACTIONS IN THE CARE OF PATIENTS WITH SEPTIC SHOCK IN THE UTI

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### ABSTRACT

**Introduction:** Sepsis occurs when chemicals released into the bloodstream to fight an infection trigger inflammation throughout the body. Objective: To analyze the actions of nurses in the care of patients with septic shock in the Intensive Care Unit. **Methodology:** This is an integrative literature review. Online indexes were used, such as Scientific and Technical Literature of Latin America and the Caribbean, Online System for Search and Analysis of Medical Literature and the Nursing and Virtual Health Database, in Portuguese and English languages, in the period from 2017 to 2020. Original articles available in full in Portuguese between January 2017 and January 2020 were included in the search. Repeated articles, monographs, master's dissertations, and literature reviews were excluded. The final sample selected was 12 articles according to the central theme. **Results:** It was evidenced that the nurses' main conducts in the care of patients with septic shock are: the administration of broad-spectrum antibiotics intravenously, combined with regular temperature measurement, correct hand hygiene and checking capillary blood glucose at least every 4 hours. **Conclusion:** The intensive care nurses' assistance to septic shock patients is complex, requiring from these professionals' agility, initiative and, mainly, adequate technical and scientific knowledge.

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## INTRODUCTION

Sepsis occurs when chemicals released into the bloodstream to fight an infection trigger inflammation throughout the body. This can cause a series of changes that damage various organ systems, causing them to fail and sometimes resulting in death. The association of sepsis with organ dysfunction characterizes severe sepsis. Severe sepsis and septic shock are associated with high mortality and high hospital costs (LELIS; AMARAL; OLIVEIRA, 2017). Approximately 15 to 17 million people worldwide are affected by sepsis in a year, with 5 million evolving to death. In Brazil, in 2018, 19,604 deaths were recorded for this grievance, corresponding to 54.5% of the lethality rate (SOUSA et al., 2020). Due to its high lethality rate (54.5%), sepsis is considered a public health problem of important relevance

for the health recovery of critically ill patients, as it represents the leading cause of death in Intensive Care Units (ICUs) in Brazil and worldwide. Sepsis occurs frequently in ICU patients due to the performance of several invasive procedures, the immunodepression of patients, leaving them even more susceptible to hospital infections (LELIS; AMARAL; OLIVEIRA, 2017). Although there are advances in diagnostic resources, such as intensive hemodynamic and metabolic monitoring associated with modern therapeutic resources, the lethality rate of sepsis still remains high in ICUs, generating a high cost for health authorities. Thus, early identification and treatment of the disease becomes a necessity for the prophylaxis of the manifestation of its most severe form, the septic shock (CORENSP, 2016). In this context, the nursing team works continuously in assistance and represents in most hospital institutions the highest percentage of workers, reaching up to 60%. These professionals act directly or indirectly in the care and assistance to these patients and

are more involved in the implementation and handling of vascular access. What increases the greater possibility of acting in the prophylaxis and control of related infections (GOULART et al., 2019). Deepening the knowledge about the actions of nurses in the care of patients with septic shock in the Intensive Care Unit was a curiosity of the author since the beginning of the specialization. After some readings it was verified that nursing care in the presence of septic shock makes a difference in the quality of life of patients in the ICU. Thus, the literature shows that septic shock increases the morbidity and mortality of patients admitted to hospitals, especially in the ICU, increasing the length of stay and the cost of treatment. This is due to noncompliance with hospital infection control standards and therapeutic failures (SANTANA; MARQUES; SPOLIDORO, 2017). Given this context, the study has the relevance of contributing to increase the knowledge of the necessary behaviors by nurses in the care of patients with septic shock in the ICU. Therefore, the objective of this study is to analyze the nurses' actions in caring for patients with septic shock in the Intensive Care Unit.

## METHODOLOGY

This is an integrative literature review study. This method makes it possible to summarize published research and draw conclusions from the guiding question. A well-performed integrative review requires the same standards of rigor, clarity and replication used in primary studies and presents the following steps: elaboration of the review question; search and selection of primary studies; extraction of data from the studies; critical evaluation of the primary studies included in the review; synthesis of the review results and presentation of the method (MENDES; SILVEIRA; GALVÃO, 2019). The research question that directed the present study was: What are the nurses' actions in caring for patients with septic shock in the Intensive Care Unit (ICU)? It was built from the PICO research technique, where P (population), are the septic shock patients; I (interest), nurses' actions in caring for septic shock patients; and Co (context), Intensive Care Unit. The bibliographical survey was carried out through indexes present in the Virtual Health Library (VHL), such as Scientific and Technical Literature of Latin America and the Caribbean (LILACS), Online Medical Literature Analysis and Search System (MEDLINE) and the Nursing Database (BDENF), using the descriptors: Care. Nurses. Septic Shock, Intensive Care Unit according to Descriptors in Health Sciences (Decs) associated with the Boolean operator AND. Original articles available in full in Portuguese between January 2017 and January 2020 were included in the search. Repeated articles, monographs, master's dissertations, and literature reviews were excluded. In the search for articles according to the descriptors, 100 articles were found. After applying the inclusion and exclusion criteria, only 35 articles remained. The full text was read and only nine articles were part of the review. During data processing for the selection of articles, some characteristics of the studies were observed using a form adapted from Ferreira et al. (2016) containing article identification (authors, title, objectives, methodology, and journal). The data analysis and organization were performed in theoretical analytical categories that will command the specification of the themes: Mortality rates in patients with septic shock in the Intensive Care Unit (ICU) and

## RESULTS AND DISCUSSION

The results presented below, come from the sampling of the 12 articles. For a better understanding, they were distributed in Chart 1. Table 1 summarizes and systematizes the main works researched, as well as the data to answer the objectives proposed in this study, which were limited to analyzing the actions of nurses in caring for patients with septic shock in the Intensive Care Unit, which although it is part of the nurses' routine, there is still much to be implanted and implemented for this population, especially regarding the training of nurses working in ICUs. It was observed that, 2020, four publications were selected, 2019 and 2018 with two publications and in 2017 only one publication. Regarding the periodicals, the *Revista Brasileira de Enfermagem* had two articles selected, while the other periodicals had only one publication. Regarding the methodological aspects there was

a diversity, however, seven articles were field research and two, documentary research. The field research was characterized as qualitative. In general, the articles had the objectives of evaluating the knowledge, practices and perceptions of intensive care nurses regarding the initiation of antibiotics in patients with newly identified septic shock, as well as to know the performance of intensive care nurses in a General Intensive Care Unit regarding the care of septic patients.

**Mortality rates in septic shock patients in the Intensive Care Unit:** This category grouped authors who reported on mortality rates in septic shock patients in the Intensive Care Unit (ICU). In this sense, Mello; Erdmann; Magalhães, (2018) in their studies presented that 17% of ICU beds are occupied by septic patients and also reveals that 600 thousand Brazilians develop sepsis annually, showing that the incidence of mortality is 24.2%, for sepsis, 33.9%; for severe sepsis, 46.9%; and 52.2%, for septic shock, thus characterizing a high mortality rate, 30 deaths per thousand patients per day. Ramalho Neto et al., (2019) explain that in Intensive Care Units, patients have a greater predisposition to the development of chronic diseases, as well as the prolonged and debilitating hospitalization time, not to mention in bacterial resistance, which makes the patient's organism fragile, breaking the natural barriers of the organism and contributing to sepsis, which can evolve to septic shock. Collaborating with these findings Antunes; Giotto (2020) explain that septic shock is caused by the need for vasopressor to stabilize the mean arterial pressure above 65 mmHg after appropriate fluid infusion, associated with serum lactate level above 2 mmol/L. Thus, the studies performed by the authors showed that sepsis is responsible for 12% of ICU admissions, and more than 20% develop it during hospitalization, having great immediate and long-term effects on morbidity and mortality. The studies of Dias; Neiva; Silva (2020) showed that septic shock affects 20 to 30 million people every year, and of these, eight million have their lives taken, and every hour, around a thousand deaths can be counted worldwide. The problem reaches great dimensions with in-hospital mortality rates ranging from 30 to 60%. According to the authors analyzed it was evident that the mortality rate in patients with septic shock in the Intensive Care Unit (ICU) is high, which makes necessary effective conducts to be used in the care of patients with this infection should be broad, not limited only to technical procedures, but to the global assistance taking into account the pre-existing clinical factors and all the protocols recommended by the Ministry of Health.

**Nursing when facing septic shock in the Intensive Care Unit:** According to Roberts et al., (2017) what causes septic shock and the evolution to death is the wrong administration of antibiotics, being important the continued qualification of nursing professionals who work in the ICU. However, some factors contribute to nurses not administering antibiotics correctly such as: excessive workload, lack of knowledge about antibiotics, need to administer several medications, and patients without intravenous access. These findings collaborate with the studies conducted by Pedrosa; Oliveira; Machado (2018) in which the administration of broad-spectrum antibiotics intravenously should be performed after the collection of cultures within the first hour of diagnosis, because the delay in the time of administration of antibiotic therapy increases the risk of death. It is observed that, nursing care, coupled with training and specific knowledge about the protocol for patients with sepsis makes the difference between care in intensive care units, as reported by the two recent studies, one in 2017 and the other in 2018. In studies conducted by Moura et al., (2019) it was observed that in the care of septic patients in the ICU, that nurses act in the process of prevention, treatment and detection of the first signs and symptoms. The performance of the nursing team is important, especially in relation to initial care, in the prevention of the infectious process through awareness of the correct use of aseptic techniques in these patients. The findings of Sousa et al., (2020) confirm the previous studies and complement them by stating that the managed sepsis protocol includes among other procedures the administration of antibiotics in the first three hours, besides performing volume replacement and blood sample collection for serum lactate dosage.

**Table 1. Description of the articles included in the integrative review according to title, author, year, journal, methodology and objective. (2017 a 2020). Teresina, 2021**

N	TITLE	AUTHORES	YEAR	JOURNAL	METHODOLOGY	OBJECTIVE
1	A survey of Criticalcare nurses' practicesand perceptions urround in gearly intravenous antibioticinitiation during septicshock.	Roberts et al.	2017	Intensive Crit Care Nurse	Qualitative Research	To evaluate the knowledge, practices and perceptions of intensive care nurses regarding the initiation of antibiotics in patients with newly identified septic shock.
2	Validation of care protocol for septic patients in the Intensive Care Unit	Pedrosa; Oliveira; Machado	2018	Revista Bras. Enfermagem	Methodological methodological validation study	To develop and evaluate a protocol for the care of nurses to septic patients in Intensive Care Units (ICU).
3	Sepsis care: evaluation of a mobile application in the nursing care of patients with sepsis	Mello; Erdmann; Magalhães,	2018	Cogitare Enfermagem	Descriptive And technologicalproduction study.	To evaluate a mobile application for the prevention, identification and nursing care of septic patients. septic patient.
4	Nursing care plan for patients admitted with sepsis in an Intensive Care Unit	Moura et al.,	2019	Revista Brasileira de Saúde Funcional	Qualitative, documentary study	To present a nursing care plan, according to the Basic Human Needs (BHN) theory and the North American Nursing Diagnosis Association (NANDA) Taxonomy II to patients admitted with sepsis in an Intensive Care Unit (ICU) of a private hospital in Salvador, Bahia.
5	Severely ill patient with sepsis: conceptions and attitudes of intensivists nurses	Ramalho Neto et al.,	2019	Enferm. Brasileira	Exploratory study with qualitative research.	To know the performance of intensivists nurses of an Intensive Care Unit (ICU) in Salvador, BA. Intensive Care Unit in the general intensive care of septic patients. septic patient.
6	The knowledge of nurses in the early detection of sepsis in critically ill patients.	Ramos et al.	2020	Braz. J. of Develop	Descriptive study with qualitative research	To analyze the knowledge and care provided by nurses to critically sepsis in the Intensive Care Unit (ICU)
7	Nurses' knowledge about sepsis and septic shock in a teaching hospital	Sousa et al.,	2020	Journal Health NPEPS	Cross-sectional, descriptive study.	To identify the knowledge of nurses about sepsis and septic shock and septic shock in a teaching hospital.
8	Sepsis in patients with traumatic brain injury in intensive care unit the main causes of mortality	Antunes; Giotto	2020	Revista de Iniciação Científica e Extensão	Qualitative, documentary study.	To analyze the main causes of mortality in patients who developed sepsis during their stay in an intensive care unit. intensive care unit.
9	Nursing care to patients with sepsis in an Intensive Care Unit	Dias; Neiva; Silva	2020	JBras Pneumologia	Exploratory study	To point out the importance and relevance of the nursing professional's role in the ICU.

However, a significant piece of information called much attention in this research by Sousa et al., (2020) the lack of knowledge by the nursing staff to differentiate sepsis and septic shock, which may compromise the recognition of organ dysfunction and lead to the loss of an opportune moment of intervention, a clinical window of treatment, allowing better evolution. The studies showed that nurses are concerned about developing positive and effective behaviors in the diagnosis of patients with sepsis and septic shock, however the need for standard protocols to follow the current guidelines and recommendations for the early recognition and treatment of septic shock is reaffirmed. In this context, it was observed that nursing care in the ICU is complex and requires constant training for professionals who work long hours, with demands of urgency, which requires constant attention and alertness, being one of the most stressful health professions.

## CONCLUSION

The present study showed the importance of knowing the nurse's actions in caring for septic shock patients in the Intensive Care Unit. Thus, some behaviors are effective to reduce mortality rates in septic shock patients, such as applying standard protocols, checking vital signs, administering antibiotics at the right time. Through this study it was also possible to observe that intensive care unit nurses' assistance to septic shock patients is complex, requiring from these professionals' agility, initiative, and mainly, adequate technical and scientific knowledge, which must be acquired in continuous training aiming always to decrease mortality rates. Thus, it is observed that there are several nursing activities in the intensive care unit.

## REFERENCES

- Antunes, E.; Giotto, A. C. Sepsis em pacientes com traumatismo crânio encefálico em unidade de terapia intensiva—as principais causas de mortalidade. *Revista de Iniciação Científica e Extensão, [S.l.]*, v. 3, n.1, p. 365–70, 2020.
- Cesario, E. O. et al. Técnicas de inteligência artificial para Reconhecimento de sepsis em ambientes hospitalares: Revisão integrativa. *Rev.gest. sist. saúde.*, São Paulo,v. 9, n.1, p.15-31, 2019.
- De Souza, J.A.V; Da Silva, P.L.N; Gonçalves, R.P.F. Perfil do conhecimento de enfermeiros assistenciais sobre ações de prevenção e controle das infecções hospitalares. *J Manag Prim Health Care* [Internet].16º de julho de 2020.
- Dias,C.S; Neiva, E. C; Silva, O. B. Assistência de enfermagem ao paciente com sepsis em uma unidade de tratamento intensivo.
- Goulart,L.Setal. Os enfermeiros estão atualizados para o manejo adequado do paciente com sepsis? *Esc Anna Nery*;v. 23,n. 3,p. 34-35,2019.
- Lelis, L. S; Amaral, M. S; Oliveira, F. M. As Ações de Enfermagem frente à sepsis, uma abordagem do paciente crítico: uma revisão da literatura. *Revista Científica Fac Mais*, v.10, n. 4,p. 45-55,dez.2017.
- Mello, G. R. D; Erdmann, A. L; Magalhães, A. L. P. Sepsis care: Avaliação de aplicativo móvel no cuidado de Enfermagem ao paciente com Sepsis. *Cogitare Enferm.*, v. 23, n.2, p. 67-84, 2018.
- Mendes, K. D. S ; Silveira, R. C. C. P; Galvão, C. M . Revisão integrativa: método de pesquisa para a incorporação de evidências na saúde em a enfermagem. *Texto contexto-enferm.* v.17, n.4,pp.758-764, 2019.
- Moura, L. V. C et al. Plano de cuidados de enfermagem a pacientes admitidos com sepsis em unidade de terapia intensiva. *Revista Brasileira de Saúde Funcional*, v.8,n. 1,p. 145, 5set.2019.
- Oliveira, D.S.T; Munaretto, M.G. M; Diagnóstico e intervenção de enfermagem para problemas de oxigenação em idosos com sepsis. *Revista de Enfermagem. UFPE on-line*, v.8, n.5, Recife,p.1284-89, 2017.
- Pedrosa, K. K. A; Oliveira, S. A; Machado, R. C. Validação de protocolo assistencial ao paciente séptico na Unidade de Terapia Intensiva. *Rev.Bras. Enferm.*; v.71, n. 3, p. 45-54, May-Jun, 2017.
- Ramalho Neto, J. M et al. Paciente grave com sepsis: concepções e atitudes de enfermeiros intensivistas. *Enfermagem Brasil*; v.18,n.5, p.650-657,2019.
- Ramos, F. M. F et al. O conhecimento do enfermeiro na detecção precoce da sepsis em pacientes críticos. *Braz. J. Of Develop.*, Curitiba, v. 6, n. 12, p.102690-102702dec. 2020.
- Roberts, R. J Et Al. A survey of critical care nurses' practices and perceptions surrounding early intravenous antibiotic initiation during septic shock. *Intensive Crit Care Nurse*; v. 41, n. 12, p. 90-97, 2017.
- Rocha, A. M.; Lima, C. C. F. Castillo, L. A. C. Atuação da Equipe de Enfermagem na Prevenção e Controle da Infecção Hospitalar na Unidade de Terapia Intensiva: um levantamento bibliográfico. *Revista Científica Educandi e Civitas*, v.1, n.2, abr.2019.
- Santana,R.P. N. S; Marques, S .C; Spolidoro, F.V. Atuação do enfermeiro no paciente séptico em uma unidade de terapia intensiva. *Revista Enfermagem em Evidência*, Bebedouro SP,v. 1,n.1, p.33-43,2017.
- Soares, A. J. C. Como eu trato a sepsis. *RevSauAer*;v.2,n.1, 21-6, mar.2019.
- Sousa, T. V et al. Conhecimento de enfermeiros sobre sepsis e choque séptico em um hospital escola. *Journal Health NPEPS.*; v. 5, n. 1, p. 132-146.jan-jun,2020.

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