



RESEARCH ARTICLE

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## KNOWLEDGE OF NURSES AND PHYSICIANS OF THE INTENSIVE CARE UNIT ABOUT SEPSIS

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### ABSTRACT

Sepsis can be defined by the presence of a life-threatening organic dysfunction secondary to the host's unregulated response to infection. This article aims to analyze the knowledge of nurses and physicians of the intensive care unit about sepsis. This is a descriptive study with a quantitative approach, carried out with seven nurses and five physicians of an adult intensive care unit. It was evidenced in the study the predominance of male professionals, aged between 25 and 35 years, who only had the undergraduate course. It was also noted that most of the interviewees were out of date on the new classification of sepsis and that simple prevention actions were cited by less than half of these professionals. For a long time there have been difficulties in characterizing a patient with severe infection. Septicemia, generalized infection or septic syndrome made it difficult to evaluate the efficacy of treatments because they were constantly confused or not clearly specified. From the results obtained, this study concluded that nurses and physicians had superficial knowledge about the new definitions of sepsis, its clinical manifestations and the preventive measures for it.

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## INTRODUCTION

Sepsis can be defined by the presence of a life-threatening organic dysfunction secondary to the host's dysregulated response to an infection, whether caused by bacteria, viruses, fungi or protozoa, and characterized by multiple manifestations (Instituto latino-americano de sepsis, 2015). Despite the indisputable advances in diagnosis and intensive monitoring of the patient, this inflammatory process can evolve into different gravity spectra, depending on the time of diagnosis and initiation of treatment, from sepsis, septic shock to multiple organ and system dysfunction (Ramalho Neto, 2015).

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Currently, sepsis is considered to be an important health problem and it is considered as one of the main causes of death in Intensive Care Units (ICUs). In Brazil, the mortality rate and lethality are worrisome, especially in public hospitals linked to the Unified Health System (SUS) (Instituto latino-americano de sepsis, 2015). Thus, it is necessary that the entire multidisciplinary team has full knowledge in the process of early identification of signs and symptoms of sepsis.

In addition, in order to have a good prognosis and, consequently, to minimize possible damages, it is also indispensable to provide immediate assistance (Melech, 2016). In this sense, the present study aimed to analyze the knowledge of nurses and physicians of the intensive care unit about sepsis.

## MATERIALS AND METHODS

This is a descriptive study with a quantitative approach, carried out in April 2018, in the adult ICU of the Regional Hospital of Cajazeiras, located in the upper Paraíba hinterland. The population consisted of 13 professionals, with seven nurses and six physicians. Of the total, one of these refused to participate, being the present sample with the final number of 12 participants (seven nurses and five physicians). All the nurses and physicians working in the ICU were included in the survey, and those who were on leave or leave during the period of data collection were excluded. For the collection of data, a letter of invitation was sent to the professionals, explaining the study and inviting them to participate in it. Next, an instrument with objective questions was divided into two parts, the first one related to sociodemographic characterization and the second to the information about the professionals' knowledge about sepsis. These were addressed individually and privately from April 2 to 20, 2018. All the variables of the research instrument were transformed into quantitative variables and the database was constructed in SPSS® (*Statistical Package for the Social Sciences - version 20.0*). Descriptive statistics were used for analysis. It is worth mentioning that the research was submitted to the analysis and opinion of the Research Ethics Committee (CEP) of the Center for the Training of Teachers of the Federal University of Campina Grande (CFP-UFPG), being approved with the number: 2,509,476. All of the items set forth in Resolution 466 of December 12, 2012, of the National Health Council, regulating research with human beings, especially regarding the explanation of the objectives, purpose and risks of the study, as well as the guarantee of anonymity and the right to withdraw from the investigation at any time without causing any harm. It should be noted that the data collection was done through an authorization formalized by the signing of the Informed Consent Term (TCLE), which consisted of two tracks, one for the researcher and one for the subjects of the study.

## RESULTS

As regards the sociodemographic characteristics of the professionals, the male audience was the majority (58.3%). Regarding the age group, it was found that professionals aged between 25 and 35 years were the majority (83.4%) and with regard to the ICU function, a large number were only in care (91.7%). It is also added that, with regard to the qualification of the research participants, despite the importance of professional qualification, 58.3% had only undergraduate studies, with no specialization titles *latu sensu* or *stricto sensu*. Regarding the knowledge of nurses and physicians of the ICU regarding the new operational classification of sepsis, it can be noted that, based on the data presented, there was a percentage of errors of 85.7% for nurses and 60% for physicians. Regarding the clinical manifestations of sepsis, tachycardia and fever were cited in 19% of the responses, followed by hypotension in 17% and tachypnea in 11%. The other signs and symptoms were little mentioned, although most are part of the classic clinical manifestations. They are oliguria and lowering of the level of consciousness in 8%, leukocytosis and respiratory discomfort in 4% and pallor, polyuria, bradycardia, coma and hypothermia all appearing in 2% of the questionnaires. Nurses and physicians were asked about the main actions for the prevention of sepsis. Rational use of antimicrobials was highest, with 19.4%, followed by

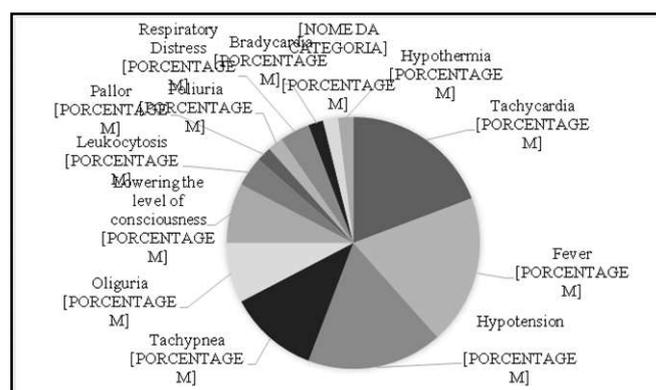
monitoring of vital signs (13.9%), hand washing (11.2%) and use of Individual Protection Equipment (EPI's) (5.05%). The other actions were cited in only 2.08% of the responses.

**Table 1. Sociodemographic characteristics of nurses and physicians of the ICU. Cajazeiras - PB, 2018**

	N	%
SEX		
Female	5	41,7
Male	7	58,3
AGE (YEARS)		
25 a 35	10	83,4
36 a 46	1	8,3
> 46	1	8,3
ROLE AT ICU		
Care delivery	11	91,7
Care delivery and management	1	8,3
DEGREE		
Bacharelors	7	58,3
Specialist	5	41,7

**Table 2. Knowledge of ICU nurses and physicians about the operational classification of Sepsis. Cajazeiras-PB, 2018**

Sepsis Operational Classification	Hits		Misses	
	N	%	N	%
Nurses	1	14,3	6	85,7
Physicians	2	40	3	60



**Diagram 1. Clinical manifestations of sepsis cited by nurses and physicians of the ICU. Cajazeiras-PB, 2018**

## DISCUSSION

As regards the sociodemographic characteristics of the professionals, the prevalence of the male audience is observed. This points to the tendency of masculinization in some areas of health, especially in nursing, which was once considered to be a predominantly feminine profession, since, by tradition and culture, women were already seen as natural caregivers. In medicine the scenario is different, since the male figure has always been prevalent, however, today there is already a greater balance between the two sexes. These data differ from results found in another study, where 85.1% of the professionals interviewed were female (Machado, 2013). It can be seen that, in relation to the age group, the majority of professionals were between 25 and 35 years of age. These data corroborate with research already done, where there was also a predominance of participants with middle age and only a small participation of the extreme ages, such as young and old. It is understood that in this age group are those professionals who still seek a professional qualification in the area of greatest interest, but who already have a great capacity to contribute productively with the health service (Garcia, 2013). Regarding

the role played in the ICU, it is verified that, although the labor market requires professionals to contribute to the management, most nurses and physicians were working only in the assistance, as this requires a greater number of professionals. One of the main management problems in hospitals is the lack of communication between care professionals and those in administration, which often leads to conflicts between them and the fear of acting as managers (Farias, 2017). Regarding the qualification of the participants of the research, although the majority have only undergraduate courses, it is known that the search for qualification through specialization courses in the health area is increasing and that permanent education is essential for quality assistance. It should be effectively included in the routine of the health services, in order to ensure that professionals stay up-to-date and develop new knowledge and skills, thus maximizing the potential of care and services rendered (Costa, 2018). Regarding the difficulty of the nurses and physicians of the ICU in classifying sepsis, it is known that for a long time there were difficulties to characterize a patient with severe infection. Septicemia, generalized infection or septic syndrome made it difficult to evaluate the efficacy of treatments because they were constantly confused or not clearly specified. Due to the need for a standardization of concepts, two consensus conferences were held in 1992 and 2001 between the Society of Critical Care Medicine (SCCM) and the American College of Chest Physicians (ACCP), which established the definitions and the specificities of Systemic Inflammatory Response Syndrome (SIRS), sepsis, severe sepsis and septic shock (Viana, 2017). However, these same societies saw the need to publish, in 2016, new classifications for sepsis. Thus, the definitions of SIRS nomenclature and severe sepsis were excluded, with only sepsis and septic shock remaining (Seymour, 2016).

It is emphasized that knowing the symptoms of sepsis is the first step to the correct management and performance, being directly related to the patient's chances of cure. Therefore, it is the professional's job to have knowledge of this symptomatology so that patient care can be performed safely. Changes in sepsis will arise from cardiovascular dysfunctions, such as tachycardia, hypotension, peripheral edema, decreased peripheral perfusion, elevated cardiac enzymes and arrhythmias. Respiratory, such as dyspnoea, tachypnea, cyanosis and hypoxemia. Neurological, such as confusion, reduced level of consciousness, delirium and restlessness. Renal, such as oliguria and elevation of slag. Hematologic, such as thrombocytopenia, anemia, leukocytosis and leukopenia. Gastroenterological, such as gastroparesis, adynamic ileus, stress ulcers, digestive hemorrhages, diarrhea and abdominal distension. Endocrine and metabolic disorders such as hyperglycemia, hypertriglyceridemia and hypotension due to adrenal impairment (Instituto latino-americano de sepse, 2015). Thus, it is clear that the majority of professionals correctly recognized the signs and symptoms presented in cases of sepsis, however, there was also a lack of knowledge on the part of those who mentioned clinical changes that are not part of this pathological process, such as pallor, polyuria, and bradycardia. Regarding the actions that are crucial for the prevention of sepsis, it is known that the simple actions that were little mentioned by the research participants, such as hand washing and the use of PPE, are of great value both for the health of professionals and the patients, as they significantly reduce the possibility of contamination between the beds and confer protection against the pathogens to the servers. The rational use of antimicrobials also cited by professionals is an

indispensable action for the prevention of sepsis, since the large number of invasive procedures performed, coupled with the high use of antimicrobials, makes the environment conducive to the emergence of multiresistant pathogens (Santos, 2015). Actions for the prevention of sepsis should be carried out constantly by all the professionals who work in the ICUs, in order to avoid the appearance of new cases and contribute to the improvement of the clinical picture of the patients (Inacio, 2017). For this, it is necessary that both the professionals and managers to commit themselves and give due importance to these actions, which, for the most part, seem simple, but which are of paramount importance for the survival of inmates.

## Conclusion

It is identified in the present study that nurses and physicians have superficial knowledge about the new definitions of sepsis, which shows the need for a greater involvement of the Patient Safety Nucleus with these professionals, in order to promote training and educational actions with them. Along with these findings, most of the professionals recognize the main signs and symptoms manifested by patients during the sepsis, however, some still mentioned changes that are not presented by this disease, which makes it difficult to identify them quickly and, consequently, the improvement of the clinical picture of the patient. In addition, some simple preventive measures were poorly cited by the participants, which significantly increases the risk of developing infections in ICU patients. Therefore, there is a need for dissemination in relation to sepsis, since this is increasingly prevalent, especially in intensive therapy, developing new scientific productions in order to know the main factors that cause it and emphasizing the how important are the institutional interventions and preventive measures of the same. In addition, the importance of continuing education is emphasized, since it is necessary to keep the team in a constant educational process, in order to improve the knowledge of professionals and consequently improve the assistance provided to users.

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