

## Sepsis and AMI: knowledge of the population visiting parks and patient companions



*Sepse e IAM: conhecimento da população frequentadora de parques e acompanhantes de pacientes*

*Sepse y IAM: conocimiento de la población frecuentadora de parques y acompañantes de pacientes*

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### ABSTRACT

**Objective:** To identify the population's knowledge of the terms "sepsis" and "acute myocardial infarction" (AMI).

**Method:** Cross-sectional quantitative study. Data was collected through the application of a questionnaire to two groups of participants, as follows: individuals who visit parks in Porto Alegre, State of Rio Grande do Sul and companions of patients of a university hospital in Porto Alegre. Analysis of the results was performed by descriptive and inferential statistics.

**Results:** The sample consisted of 1,986 respondents: 1,455 parkgoers and 531 companions of patients admitted to the hospital. Regarding the knowledge of sepsis, only 19.1% of the respondents had already heard about the subject. However, compared to knowledge about AMI, it was found that 98.7% knew the term.

**Conclusions:** The study found that the scarce knowledge of the population about the term "sepsis" is related to the social level of the respondents, demonstrating poor access to information about health care.

**Keywords:** Sepsis. Health education. Knowledge. Population. Myocardial infarction.

### RESUMO

**Objetivo:** Identificar o conhecimento da população referente aos termos "sepse" e "infarto agudo do miocárdio" (IAM).

**Método:** Estudo transversal, quantitativo. Coleta de dados realizada com aplicação de um questionário, para dois grupamentos de participantes distintos: frequentadores de parques selecionados de Porto Alegre/RS e acompanhantes de pacientes internados em um hospital universitário de Porto Alegre/RS. A análise dos resultados foi realizada pela estatística descritiva e inferencial.

**Resultados:** A amostra constituiu-se de 1986 entrevistados, 1455 de parques e 531 acompanhantes de pacientes internados no hospital. Em relação ao conhecimento de sepse, apenas 19,1% dos entrevistados já tinham ouvido falar sobre o tema, já, em comparação ao conhecimento do IAM, 98,7% souberam responder sobre o termo.

**Conclusões:** Evidenciou-se que o déficit de conhecimento da população sobre o termo "sepse" está diretamente relacionado com o nível social dos entrevistados, demonstrando um déficit no acesso à informação no cuidado em saúde.

**Palavras-chave:** Sepse. Educação em saúde. Conhecimento. População. Infarto do miocárdio.

### RESUMEN

**Objetivo:** Identificar el conocimiento de la población referente al término "sepsis" e "infarto del miocardio" (IAM).

**Método:** Estudio transversal, cuantitativo. La recolección de datos realizada con aplicación de un cuestionario, para dos grupos de participantes distintos: frequentadores de parques seleccionados de Porto Alegre/RS y acompañantes de pacientes internados en un hospital universitario de Porto Alegre/RS. El análisis de los resultados fue realizado por la estadística descriptiva e inferencial.

**Resultados:** La muestra se constituye de 1986 entrevistados, 1455 de parques y 531 acompañantes de pacientes internados en el hospital. En cuanto al conocimiento de sepsis, sólo el 19,1% de los entrevistados ya había oído hablar sobre el tema, ya en comparación al conocimiento del IAM, el 98,7% supieron responder sobre el término.

**Conclusiones:** Se evidenció que el déficit de conocimiento de la población sobre el término "sepsis" está directamente relacionado con el nivel social de los entrevistados, demostrando un déficit en el acceso a la información en el cuidado en salud.

**Palabras clave:** Sepsis. Educación en salud. Conocimiento. Población. Infarto del miocardio.

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## INTRODUCTION

Sepsis is one of the most deadly diseases in the world. It is one of the few “democratic” diseases, as it affects both people who live in less and more developed areas. Approximately 20 to 30 million people are annually affected by the disease, with high mortality rates<sup>(1)</sup>. According to the national report of the Latin American Sepsis Institute (ILAS), the mortality rate of patients diagnosed with sepsis in Brazil is 29% in public and private hospitals<sup>(2)</sup>. A study conducted in southern Brazil found that the cost of sepsis treatment for hospitalized patients exceeds BRL 38,000<sup>(3)</sup>.

The incidence of sepsis is probably increasing as a result of population aging, with more comorbidities, in regions where early recognition of signs and symptoms is still difficult. The Sepsis Prevalence Assessment Database (SPREAD) study revealed that one third of ICU beds in Brazil are occupied by septic patients, which demonstrates the heavy burden of this disease in the country, in terms of financial resources, knowledge, human resources, including availability of hospital beds<sup>(4)</sup>. Sepsis survivors are at high risk for post-intensive care syndrome and one-sixth of patients discharged from hospital suffer from severe persistent physical disability or cognitive impairment<sup>(5)</sup>.

The Society of Critical Care Medicine and the European Society of Critical Care Medicine have currently promoted a new consensus and published the new definitions of sepsis known as Sepsis-3. The broad definition of sepsis in the new publication is as follows: “presence of a life-threatening organ dysfunction caused by an inappropriate body’s response to an infection.” The clinical diagnosis of organ dysfunction is based on the variation of two or more points in the Sequential Organ Failure Assessment (SOFA) score. The presence of systemic inflammatory response syndrome (SIRS) criteria is no longer necessary for the definition<sup>(6)</sup>.

The Surviving Sepsis Campaign and the ILAS perceived the simplification of the nomenclature as positive: it is no longer “severe sepsis”, but merely “sepsis”. It is believed that associating the term “sepsis” with a serious health condition will contribute to promote a better perception of sepsis among health professionals and lay audiences<sup>(7)</sup>. The major challenge is the early recognition of clinical signs and symptoms of sepsis and getting treatment at the earliest signs of the disease. Clinical examination is an important ally of health professionals, since, combined with laboratory tests, they confirm the severity of sepsis. Recognition and early treatment are essential for a good prognosis of the patient. Regarding care for patients with sepsis, anti-

biotic therapy and volume replacement should be performed as soon as possible<sup>(8)</sup>.

In view of the aforementioned, knowledge of the signs and symptoms of sepsis is a key aspect for the establishment of early diagnosis. It is also one of the factors that can contribute for professionals and the population in general to establish strategies for the cure or minimization of the damage produced by this condition.

A study carried out in Brazil in 2014 by ILAS, in partnership with the polling institute Datafolha, evaluated the level of knowledge of lay audiences regarding sepsis and compared it with knowledge about acute myocardial infarction (AMI). The results were alarming, as only few of them had heard of the term “sepsis”. Regarding AMI, most respondents had already heard about the disease<sup>(9)</sup>. According to the Brazilian Society of Cardiology, the prehospital component is responsible for delayed patient care, since approximately 20% of patients are admitted up to two hours after the onset of symptoms, mainly elderly women<sup>(10)</sup>.

Based on a study developed by ILAS in 2014 on the relevance of the sepsis theme, which is recognized by the World Health Organization as a global health priority, and because of the great impact of AMI on population mortality, the hypothesis defined for the study was that the lay, not-expert population has scarce knowledge about sepsis compared to AMI. In order to evaluate this hypothesis and contribute to the consolidation of strategies to raise awareness of the lay population to minimize this problem, the present study aimed to verify the population’s knowledge about the term “sepsis”, comparing it to knowledge about AMI.

## METHOD

Cross-sectional study with a quantitative approach, which is part of a larger project entitled “Severe Sepsis in the Hospital Context and Knowledge of Professionals and University students in the Healthcare area and Lay audiences”. The study population consisted of two groups: Group 1 - people who visit public parks in the city of Porto Alegre/RS, Brazil (Germânia, Marinha do Brasil, Moinhos de Vento and Redenção) and Group 2 - companions of patients admitted to hospital under Brazil’s public health system (Unified Health System - SUS), supplementary health services (health insurance plans), and private-pay in the various healthcare units (health insurance plan of a large university hospital in Porto Alegre, State of Rio Grande do Sul, Brazil). The sample of Group 1 consisted of 1,455 parkgoers, with a population base established as infinite and considering a prevalence of 50%, type I error ( $\alpha$ ) of 5% and maximum error margin of

3% (the minimum sample should be of 1,400 people). The sample of Group 2 consisted of 531 patients' companions, considering the total number of 531 hospital beds at the hospital, one companion per patient, a prevalence of 50%, type I (a) error of 5% and margin of maximum error of 1%, with corrections for finite populations (minimum sample should be of 474 companions). Data was collected from October to December 2016 and from January to April 2017.

Inclusion criteria were be in the park or hospital at the time of data collection, agreeing to participate in the study, signing the Informed Consent form (TCLE) and being aged  $\geq 18$  years. The exclusion criterion was residing outside the State of Rio Grande do Sul.

Data collection was done by the researchers and a trained team who contacted directly the participants in the parks and in the university hospital. Participants answered structured questions in the instrument. The study variables were sociodemographic (age, gender schooling, work and income); (1) whether he/she had heard of the term "sepsis" and the meaning of "sepsis"; and 2) if he/she answered that he/she knew sepsis, he/she was asked about the definition and manifestations of sepsis); knowledge about the terms "septicemia" and "generalized infection" and knowledge about AMI. The instrument consisted of objective questions requiring one correct answer based on a research developed in a previous study<sup>(9)</sup> and were not part of a validated instrument about knowledge of sepsis or AMI.

Data was analyzed with the Statistical Package for Social Sciences version 20.0 (SPSS Inc., Chicago, IL, USA, 2008) for Windows, and for statistical decision criteria the significance level of 5% was adopted. The Kolmogorov-Smirnov test was used for the analysis of data distribution of continuous variables. Categorical variables were evaluated by absolute and relative frequencies. Continuous variables were evaluated by mean and standard deviation or median and interquartile range, according to whether the data were normal or not. In the comparison of the categorical variables in the groups (sepsis or infarction), Pearson's Chi-Square test and Fisher's exact test (with Monte Carlo simulation) were used. When the comparison involved continuous variables, Student's t-test was used. To identify the effect of independent variables related to knowledge about sepsis, Odds Ratio was calculated, with a 95% confidence interval (95% CI), as an estimate of the effect measure.

The project was approved by the Research Ethics Committee of the institution, under CAAE Protocol no 44458215.9.0000.5336, and all the participants signed the Free Informed Consent Form in two copies, which included information about the research. The use of questions from a previous study titled "Lay audiences' knowledge about

sepsis in Brazil: a comparison with acute myocardial infarction"<sup>(9)</sup>, was authorized by ILAS.

## ■ RESULTS

The sample of this study was composed of 1,455 individuals who visit parks in Porto Alegre/RS and 531 companions of patients hospitalized in a university hospital in Porto Alegre/RS, totaling 1,986 respondents. Estimation of the probability (Odds Ratio) that the participants had knowledge about sepsis showed that women were 2,291 (95% CI: 1,774 – 2,958) times more likely to have knowledge about sepsis than men.

Evaluation of the impact of age range on the knowledge of sepsis showed that the participants aged 30-39 years old were 1,893 (95% CI: 1,128 - 2,213) times more likely to know sepsis compared to those under 19 years old. On the other hand, individuals aged 40-49 years were 1,720 (95% CI: 1.104 - 2.008) times more likely to know about sepsis compared to the younger age group.

In the estimation of the relationship between educational levels and knowledge of sepsis, it was found that the individuals with higher education were 5,368 (95% CI: 2,998 - 9,613) times more likely to have knowledge about sepsis compared to those who had completed only elementary school. Regarding the individuals who had completed postgraduate courses, they were 8,841 (95% CI: 4,475 - 16,440) times more likely to have knowledge about sepsis compared to the group with a lower educational level. It was also found that those participants who had completed high school were 2,863 (95% CI: 1,576 - 5,202) times more likely to have knowledge about sepsis than those who had only completed elementary school.

As for the participants who reported having a paid job, they were 1,490 (95% CI: 1,156 - 1,922) times more likely to have knowledge about sepsis than those who said they did not work. In our analysis about the possible knowledge about sepsis considering different salary ranges in comparison with individuals who earned a maximum of one (1) minimum wage, it was found that those individuals who earned more than 15 minimum wages (OR: 14,854, 95% CI: 4,354 - 28,662), from 5 to 15 minimum wages (OR: 10,378, 95% CI: 3,221 - 21,912), and from 3 to 5 wages (OR: 7,733; 95% CI: 2,406 - 24,861) were the most likely to have knowledge about sepsis.

Table 1 shows data about the association of sociodemographic profile with knowledge of sepsis. It was found that 66.5% of health professionals knew the term "sepsis".

The findings related to the two groups of participants, as well as the collection sites and knowledge of AMI compared to knowledge of sepsis are presented in Table 2.

**Table 1-** Profile of parkgoers/patients' companions and association with knowledge about Sepsis. Porto Alegre/RS, Brazil, 2016-2017. n=1986

Variables	Total Sample (n=1,986)*		Knows about Sepsis†				p
			No (n=1,606)		Yes (n=380)		
	N	%	n	%	n	%	
<b>Gender</b>							
Male	764	38.5	673	41.9	91	23.9	<0.001‡
Female	1222	61.5	933	58.1	289	76.1	
<b>Age (years)</b>							
Mean ± SD (Amplitude)	37.4±14.8		37.4±15.2		37.3±13.1		0.944§
Median (Min.-Max.)	34.0 (18-89)		34.0 (18-89)		35.0 (18-75)		
<b>Age range</b>							
Up to 19 years	129	6.5	108	6.7	21	5.5	
20-29 years	649	32.7	541	33.7	108	28.4	
30-39 years	456	23.0	345	21.5	111	29.2	0.028‡
40-49 years	304	15.3	242	15.1	62	16.3	
50-59 years	245	12.3	201	12.5	44	11.6	
60 years or older	203	10.2	169	10.5	34	8.9	
<b>Education</b>							
Up to Elementary Education	240	12.1	227	14.1	13	3.4	
Secondary Education	717	36.1	616	38.4	101	26.6	<0.001‡
Higher Education	791	39.8	605	37.7	186	48.9	
Postgraduate studies	238	12.0	158	9.8	80	21.1	
<b>Works</b>							
No	628	31.6	533	33.2	95	25.0	0.002‡
Yes	1358	68.4	1073	66.8	285	75.0	
<b>Income in Minimum Wages (MW) ¶</b>							
Up to 1 MW	95	4.8	92	5.7	3	0.8	
1- 3 MW	570	28.7	486	30.3	84	22.1	
3-5 Mw	576	29.0	460	28.6	116	30.5	<0.001‡
5-15 SM	439	22.1	328	20.4	111	29.2	
More than 15 MW	95	4.8	64	4.0	31	8.2	
Does not know	95	4.8	83	5.2	12	3.2	
Refused to inform	116	5.8	93	5.8	23	6.1	
<b>Profession/Function</b>							
Health area	212	10.7	71	33.5	141	66.5	
Administrative area	250	12.6	221	88.4	29	11.6	
Teaching	103	5.2	79	76.7	24	23.3	
Student	218	11.0	170	78.0	48	22.0	<0.001‡
Retired	168	8.5	147	87.5	21	12.5	

Unemployed	104	5.2	97	93.3	7	6.7
Household tasks	121	6.1	103	85.1	18	14.9
Others	810	40.8	718	88.6	92	11.4

Source: Research data, 2016-2017.

\*Percentages obtained based on the total sample; † Percentages obtained on the basis of the total classification knows sepsis; ‡ Pearson Chi-square test; Student's t-test for independent groups assuming heterogeneity of variances; || Minimum Wage Effective in Brazil - May / 2017 - BRL 937,00<sup>(11)</sup>.

**Table 2** - Characterization of the participants of the study stratified by site of collection, region of residence and knowledge of AMI regarding knowledge about sepsis Porto Alegre/RS, Brazil, 2016-2017. n=1986

Variables	Total Sample (n=1,986)*		Knows about Sepsis <sup>†</sup>				p
			No (n=1,606)		Yes (n=380)		
	n	%	n	%	n	%	
<b>Collection site</b>							
Hospitals	531	26.7	423	26.3	108	28.4	0.410 <sup>‡</sup>
Parks	1455	73.3	1183	73.7	272	71.6	
<b>Stratified data collection sites</b>							
<b>Parks</b>							
Moinhos de Vento	444	22.4	374	31.6	70	25.7	
Germânia	560	28,2	423	35.8	137	50.4	<0.001 <sup>‡</sup>
Marinha do Brasil	175	8.8	157	13.3	18	6,6	
Redenção	276	13.9	229	19.4	47	17.3	
<b>University Hospital</b>							
Inpatient Unit (SUS)	167	31.5	142	33.6	25	23.1	
Inpatient Unit (SUS) and Health insurance plan	160	30.1	132	31.2	28	25.9	
Inpatient Unit, Health insurance plan	97	18.3	69	16.3	28	25.9	0.024 <sup>§</sup>
Inpatient Unit, Health insurance plan and Private pay	51	9.6	35	8.3	16	14.8	
Emergency unit	19	3.6	17	4.0	2	1.9	
Intensive care units	32	6.0	25	5.9	7	6.5	
Recovery Room	5	0.9	3	0.7	2	1.9	
<b>Classification of the cities</b>							
Porto Alegre	1,339	67.6	1067	66.6	272	72.0	
Metropolitan Region	480	24.2	404	25.2	76	20.1	0.198 <sup>‡</sup>
Inland	132	6.7	107	6.7	25	6.6	
Coast	29	1.5	24	1.5	5	1.3	
<b>Knowledge about Acute Myocardial Infarction</b>							
No	25	1.3	25	1.3	-	-	0.008 <sup>‡</sup>
Yes	1961	98.7	1581	98.7	380	100	

Source: Research data, 2016-2017.

\*Percentages obtained based on the total sample; † Percentages obtained on the basis of the total classification knows sepsis; ‡ Pearson Chi-square test; §: Fisher's exact test.

Concerning the estimate of the probability that the parkgoers who participated in the study had knowledge about sepsis, the only significant result indicated that those who visit Germânia park were 1,762 (95% CI: 1,115 - 2,644) times more likely to have knowledge about sepsis compared to those who visit Moinhos de Vento park. Moreover, it was found that those participants who visit Germânia park were also more likely to have knowledge about sepsis compared to those who visit Marinha do Brasil park (OR: 3.866, 95% CI: 1.374 - 9.318) and Redenção park (OR: 2.598; 95% CI: 1.374 - 7,877). That is, parkgoers who visit Germânia park were always more likely to have knowledge about sepsis compared to those who visit other parks selected for this study.

Regarding the estimate of the probability of knowledge about sepsis in different hospital areas, the results were as follows: the companions of patients admitted to the Inpatient Unit (health insurance plan) (OR: 1,588; 95% CI: 1,117 - 3,206) and companions of patients in the Inpatient Unit (health insurance plan and private pay) (OR: 1,783; IC95%: 1,122 - 4,335) were much more likely to have knowledge about sepsis than the other participants. This can be explained by the fact that the highest percentage of participants with postgraduate education (33.3% and 21.2%, respectively,  $p < 0.001$ ) were in these units compared to the other hospital units.

The present study also investigated whether 817 respondents who did not know the term "sepsis" had already heard about the terms "septicemia" and "generalized infection". Most of them, 701 (85.8%) did not know the term "septicemia", and there was no statistically significant difference between the participants who were parkgoers and the participants in the hospital units in this regard ( $p = 0.291$ ). As for "generalized infection", 735 (90.0%) knew this nomenclature. There was also no statistically significant difference between the two types of participants regarding this finding ( $p = 0.980$ ).

The study sample was also compared regarding knowledge of AMI, and the same variables analyzed for the knowledge of sepsis were used. For sociodemographic characterization, there was a statistically significant difference only regarding income ( $p = 0.015$ ): participants with higher income had greater knowledge about acute myocardial infarction compared to those with low income. The other variables did not show a statistically significant difference. When the professions/positions of the respondents were compared, it was found that all health professionals had already heard about AMI.

There was no statistically significant association between knowledge or no knowledge about infarction ( $p >$

0.05) in the comparison between population types by collection site, as well as regarding the regions. Concerning the signs and symptoms of infarction, 1,778 (90.6%) participants also had proper knowledge about the manifestations of this illness ( $n = 1962$ ; 98.7%).

Regarding sepsis, 244 (64.2%) of the participants who knew the term were aware of the correct definition of sepsis ( $n = 380$ ; 19.1%). However, 104 (27.4%) participants defined sepsis as a blood infection, 30 (7.9%) were unable to answer, one (0.3%) believed sepsis was the name of a rock band, and one (0.3%), believed it was an exotic food.

## DISCUSSION

The total sample of the present study is composed of approximately 2,000 respondents who are parkgoers and companions of patients admitted to a university hospital in Porto Alegre, State of Rio Grande do Sul. The results of this study are similar to those of a study conducted in 134 Brazilian cities with 2,126 respondents, in which 93.4% had never heard of sepsis and 98% of the respondents had previous knowledge about myocardial infarction<sup>(9)</sup>.

Regarding knowledge of sepsis by characterization of the stratified sites, there was a statistically significant association for Germânia park, due to its privileged location in a prime residential area of Porto Alegre that concentrates a significant percentage of residents in positions with higher social status, which facilitates their access to information, and thus to knowledge about the referred topics. The current status of Germânia park emerged from a new model of urban expansion that contributed to the increase in population density and the increased value of the real estate property<sup>(11)</sup>.

Analysis of the results on the sociodemographic variables showed a predominance of female individuals (76.1%) among the participants who were aware of the term "sepsis". Regarding education and income, it was found that respondents who had a higher educational level and average and high incomes (from 3 to 5 minimum wages and aged over 15 were able to answer the questions related to knowledge of the theme. Thus, there is evidence that in the group of sociodemographic variables, income and educational level are the characteristics that most influence the respondents' ability to provide reliable answers about the knowledge of sepsis.

Regarding the occupations of the respondents, 212 were health professionals (physicians, nurses, nurse technicians, nurse assistants, among others). Of these, only 66.5% had heard of sepsis. As for AMI, 100% of the health professionals knew the term. In a study with a sample of



92 health professionals (physicians, nurses, nurse technicians and nurse assistants), it was found that the professionals had poor knowledge about the recognition of signs and symptoms related to the early identification of sepsis. When that team was asked about early treatment to septic patients, only 17.4% provided correct answers<sup>(12)</sup>. Another study, conducted in Brazil, showed that most nurses were unaware of the signs of sepsis such as recognition of hypotension in a previously hypertensive patient with sepsis and the identification of sepsis in a more specific population, such as in the elderly and immunosuppressed patients<sup>(13)</sup>.

Evaluation of the knowledge about sepsis of resident physicians of a university hospital revealed that the percentages of correct answers in clinical and laboratory parameters were unsatisfactory, especially in relation to the clinical parameters. Although almost all the residents interviewed (91%) reported having knowledge about the consensus on sepsis, the percentage of correct answers was unsatisfactory, especially regarding septic shock<sup>(14)</sup>.

Early detection is essential to fight sepsis. Therefore, being attentive to infectious processes, even if they appear to be of lesser severity, observing signs such as fever, general malaise, reduction of urinary volume, among others, can significantly reduce the probability of mortality of those affected by the condition<sup>(15)</sup>. If sepsis is diagnosed early and treatment starts within the first hour, survival rate is greater than 80%. When treatment begins after six hours, the probability of success is only 30%. Thus, it is crucial for the success of the treatment that the first symptoms are recognized, both by the general population and by health professionals, and that treatment is initiated whenever possible within the first hour – the so-called Golden Hour. In this case, the risk of death is reduced by half<sup>(15)</sup>.

Two inpatient units of the university hospital where the patients' companions were interviewed had a statistically significant association with regard to knowledge about sepsis, and both provided care to patients who had health insurance plans or who paid privately for the services. Analysis of this specific variable showed that most patients' companions interviewed had completed graduate courses, which may have corroborated such finding.

The respondents who did not know the term "sepsis" were asked if they had heard of septicemia and generalized infection. It was found that the vast majority did not know the term "septicemia", but knew the nomenclature "generalized infection". For several years, the plurality of definitions used to characterize the patient with severe infection has made it difficult to obtain more accurate knowledge about the condition. Previously used nomenclatures, such

as septicemia, septic syndrome or generalized infection led to inconvenient definitions both from the point of view of care and from the point of view of research<sup>(16)</sup>.

Most cases of sepsis (about 70-80%) are acquired in the community, which makes emergency services the main targets for primary care to improve early recognition and management<sup>(17)</sup>. Thus, it is necessary to improve the knowledge of the population for the rapid identification of symptoms and signs, as well as the demand for evaluation in the health services. However, this requires health professionals properly trained to deliver care to this population, to identify the signs of sepsis as soon as possible and deliver immediate and appropriate treatment.

Rates of fatal sepsis cases are declining in developed countries, and this reduction is attributed to national or regional screening and quality improvement programs, with focus on early identification and immediate treatment of sepsis. Although early recognition and improved management of acute sepsis episodes are important steps in reducing death and disability, a substantial reduction in the burden of sepsis-related diseases requires a broad action throughout the entire health system<sup>(17)</sup>.

Statistically significant age and income-related variables were detected in the analysis of the knowledge of AMI according to the sociodemographic characterization. The participants who did not know about AMI had a lower mean age compared to those who had heard about the term. On the other hand, regarding income, the group of participants who reported not knowing AMI earned one to three minimum wages, and as for the participants who reported knowledge of AMI, they earned more than three and up to 15 minimum wages. A study in Beijing found that very elderly people with health insurance coverage, higher education level, high family income and previous experience with heart disease had greater knowledge about the symptoms of heart attack<sup>(18)</sup>.

Concerning the signs and symptoms of AMI, 90.6% of the participants who knew the term "infarction" also had adequate knowledge about AMI manifestations. A study with 52 participants who had AMI conducted in São Paulo showed that 100% of the respondents recognized that they had some of the classic symptoms of AMI, which are chest pain radiating to the arm, sweating and pain in the epigastric region<sup>(19)</sup>.

Regarding sepsis, among the participants who knew the term, 64.2% knew the correct definition of sepsis. However, 27.4% of the participants defined sepsis as a blood infection; 7.9% were unable to answer; one believed it was a rock band, and one believed it was an exotic food. According to the results of a survey conducted by ILAS

in partnership with the polling institute Datafolha, 40.4% of the respondents said the word “sepsis” meant a body’s response to an infection; 26.5% defined sepsis as a blood-stream infection; 22.3% did not know the correct answer; 4.2% believed that sepsis was a rock band and 6.6%, none of the options<sup>(9)</sup>.

The limitations of the study were the lack of articles on the subject that use the same approach, which could allow a diagnosis of the knowledge of sepsis in Brazil, and the use of questions related to knowledge about sepsis and AMI that were not validated in an earlier study. The replication of this study in other states is suggested to support the construction of guidelines or even the implementation of public policies related to this condition.

## CONCLUSIONS

The analyzes carried out in this study revealed that the lack of knowledge of the population about the term “sepsis” is directly related to the social status of the individuals interviewed, indicating lack of access to information about this disease and health care. In contrast, the nomenclature “generalized infection” is still widely reported to refer to a serious infectious condition, and the term “acute myocardial infarction” was known by most of the participants included in the sample, indicating greater access to information on this illness.

It is believed that the present study and its findings can contribute to the implementation of actions that stimulate the dissemination of educational campaigns about this disease, ensuring greater coverage and awareness, especially of lay audiences. Since sepsis concerns a clinical picture in which diagnosis and intervention actions should occur as soon as possible, family members, patients and health professionals should all be well and properly informed about sepsis, so that a strong coordinated action could be implemented with the objective of minimizing the occurrence of disorders associated with the late identification of sepsis.

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