Recognition Of Signs And Symptoms Of Stroke By University Students: An Integrative Review

O Reconhecimento Dos Sinais E Sintomas do Acidente Vascular Cerebral Por Universitários: Uma Revisão Integrativa

Reconocimiento De Signos Y Síntomas De Ictus Por Estudiantes Universitarios: Una Revisión Integradora

RESUMO

INTRODUÇÃO: O Acidente Vascular Cerebral (AVC) é uma condição clínica grave com alta morbimortalidade global e nacional, ultrapassando o infarto como principal causa de mortes. O número de óbitos no Brasil devido ao AVC tem aumentado progressivamente, com 50.133 casos até agosto de 2024. OBJETIVO: O presente estudo visa investigar o nível de conhecimento do público universitário sobre os sinais e sintomas do AVC MÉTODO: Trata-se de uma Revisão Integrativa de Literatura norteada pela seguinte questão: "O público universitário sabe reconhecer os sinais e sintomas do AVC?" RESULTADOS: Os estudos evidenciaram que os estudantes da área da saúde apresentaram melhor desempenho nos questionários, bem como um déficit no reconhecimento dos sinais e sintomas menos específicos do AVC. CONCLUSÃO: Identificou- se a necessidade da organização de estratégias educacionais para atingir o público leigo universitário a fim de conscientizar sobre a relevância do AVC para além dos profissionais de saúde.

DESCRITORES: Acidente vascular cerebral; sinais e sintomas; conhecimentos; Estudante

ABSTRACT

INTRODUCTION: Stroke is a serious clinical condition with high global and national morbidity and mortality, surpassing heart attack as the leading cause of death. The number of deaths in Brazil due to stroke has been progressively increasing, with 50,133 cases by August 2024. OBJECTIVE: This study aims to investigate the level of knowledge of university students about the signs and symptoms of stroke. METHOD: This is an Integrative Literature Review guided by the following question: "Do university students know how to recognize the signs and symptoms of stroke?". RESULTS: The studies showed that students in the health area performed better in the questionnaires, as well as a deficit in recognizing the less specific signs and symptoms of stroke. CONCLUSION: The need to organize educational strategies to reach the lay university public was identified in order to raise awareness about the relevance of stroke beyond health professionals.

DESCRIPTORS: Cerebrovascular accident; signs and symptoms; knowledge; Student

RESUMEN

INTRODUCCIÓN: El Accidente Vascular Cerebral (AVC) es una condición clínica grave con alta morbimortalidad tanto a nivel global como nacional, superando al infarto como principal causa de muerte. El número de muertes en Brasil debido al AVC ha aumentado progresivamente, alcanzando los 50.133 casos hasta agosto de 2024. OBJETIVO: El presente estudio tiene como objetivo investigar el nivel de conocimiento del público universitario sobre los signos y síntomas del AVC. MÉTODO: Se trata de una Revisión Integrativa de Literatura orientada por la siguiente pregunta: "¿El público universitario sabe reconocer los signos y síntomas del AVC?" RESULTADOS: Los estudios evidenciaron que los estudiantes del área de la salud presentaron un mejor desempeño en los cuestionarios, así como un déficit en el reconocimiento de los signos y síntomas menos específicos del AVC. CONCLUSIÓN: Se identificó la necesidad de organizar estrategias educativas para llegar al público universitario no especializado, con el fin de concienciar sobre la relevancia del AVC más allá de los profesionales de la salud.

DESCRIPTORES: Accidente vascular cerebral; signos y síntomas; conocimientos; Estudiante.

RECEIVED: 01/13/2025 **APPROVED:** 01/20/2025

Hoe to ctie this article: Rodrigues ACP, Corrêa HHSB, Abreu RS, Machado PRF, Oliveira JA, Fernandes VC, Soares TCS, Oliveira ES. Recognition Of Signs And Symptoms Of Stroke By University Students: An Integrative Review. Saúde Coletiva (Edição Brasileira) [Internet]. 2025 [acesso ano mês dia];15(92):14058-14063. Disponível em: DOI: 10.36489/saudecoletiva.2025v15i92p14058-14063

DOI: https://doi.org/10.36489/saudecoletiva.2025v15i92p14058-14063

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INTRODUCTION

Stroke, also known as cerebrovascular accident (CVA), occurs due to the abrupt, partial or total interruption of blood flow or by the extravasation of blood into the intracerebral space, ventricular system and subarachnoid space.

The decrease in blood perfusion in brain tissue causes regions of ischemia, progressively evolving into necrosis at the site, resulting in the irreversible loss of function of the affected site.

An analysis carried out by the Transparency Portal of the Civil Registry Center (CRC) found that the number of deaths in Brazil from 2019 to 2022 has increased progressively, with the last 115,090 cases. In July 2022 alone, stroke killed 8,758 Brazilians. In 2024, up to August, according to death certificate records, 50,133 Brazilians died from stroke. Overtaking heart attack as the leading cause of death in the country. [2] Approximately 70% of people affected by stroke do not return to work due to the after-effects and 50% become dependent on third-party care in their daily lives. [2]

These shocking data show the severity and level of neurological impairment that this clinical condition causes to the individual, reinforcing the need for national campaigns to spread information and raise awareness among the population about the importance of recognizing the signs and the need for rapid assistance. In order to prevent further harm to the victim, considering that the faster the signs and symptoms are identified and transferred to the reference hospital unit, the better the patient's prognosis.

Ischemic stroke (ISC) is the most prevalent, accounting for 85% of all cases, according to [1], it has variable causes, but the main one is due to the formation of atheroma plaques or atherosclerosis, resulting in reduced blood flow, leading to the formation of thrombi that will be responsible for the abrupt obstruction of blood flow.[3]

According to the protocol established through the Stroke Care Line, for the best estimate for the patient with stroke, start treatment with intravenous thrombolytic therapy within 4h and 30 min of the onset of symptoms. [4]

Given the above, it is undeniable that it is important for the population to have knowledge about the signs of stroke. Although there are numerous studies on the subject in the general population, there is a significant gap in the scientific literature specific to the university public.

Considering this, this study aims to verify whether the university public has sufficient knowledge to identify the signs and symptoms of stroke and what is the level of understanding about the disease.

METHODS

This is an Integrative Literature Review (ILR) study, a research method that synthesizes previous literature on a given topic,

DOI: https://doi.org/10.36489/saudecoletiva.2025v15i92p14058-14063

enabling the synthesis and analysis of scientific content produced on a given subject to be investigated. [5] The steps for obtaining the selected articles are described below.

The development of the guiding question of the research: "Do university students know how to recognize the signs and symptoms of stroke?" was done through the PICo strategy.

Thus, to direct this study, the PICo strategy was outlined as follows: P (population) university students, I (phenomenon of interest) to verify the knowledge of university students about stroke and Co (context) recognition of stroke, which was used as an eligibility criterion.

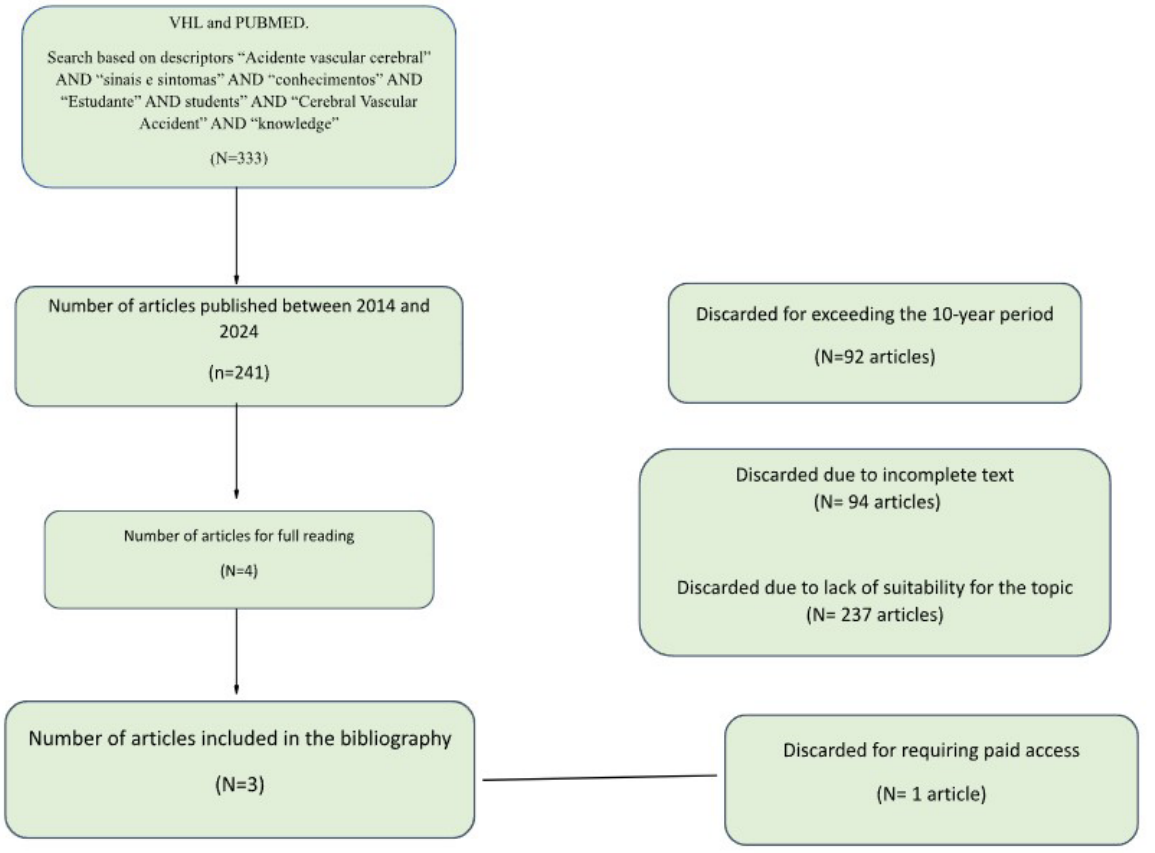
Acronym	Definition	Description
P	*Population*	*College students*
I	*Phenomenon of interest*	*Checking college students' knowledge about stroke*
Co	*Context*	*Recognizing stroke*

Next, a bibliographic search for scientific articles related to the topic was carried out and, for this, the following platforms were used: The Virtual Health Library (VHL), using the following Science and Health Descriptors (DeCS):"Acidente vascular cerebral" "sinais e sintomas" "conhecimentos" "Estudante", e PubMed Central (PMC) using "students" "Cerebral Vascular Accident" "knowledge". They were combined with the Boolean operator "AND"

Subsequently, when applying the descriptors to the databases, 333 listed articles were found, which were filtered according to specific criteria: Only studies published in the last ten years (2014 to 2024) and full text were considered. Of these, 92 were excluded for exceeding the established period and 93 were excluded for not having full text. Next, the titles and abstracts of the remaining articles were read, resulting in 4 articles. Of these, 1 was excluded for having paid access, resulting in 3 articles considered eligible for inclusion in the bibliographic review of this study. All selected studies were used as the basis for the research in question.

To clarify the steps, a flowchart was created to demonstrate how the cited bibliographic selection was made.

Figure 1 – Flowchart of article selection for integrative review. Rio de Janeiro, RJ, Brazil, 2024



DOI: https://doi.org/10.36489/saudecoletiva.2025v15i92p14058-14063

RESULTS

After reading the selected articles in full, it was possible to develop a table including: title, authors, year, journal, methodology and summary of results obtained in order to facilitate the collection of data from the studies.

Table 1 – Summary of studies selected through the bibliographic survey. Rio de Janeiro, Brazil, 2024

Title	Authoes	Year	Joumal	Method	Summary of results
Awareness of Risk Factors and Warning Signs of Stroke Among Nursing Students Results from Questionnaire	*Kankaya, H; Yeşilbalkan, Ö Usta*	*2019*	*Pubmed*	*Quantitative descriptive and cross-sectional study*	*Most students (84.4%) had a good level of awareness/ knowledge of preventive measures.*
.Awareness of stroke signs, symptoms, and risk factors among Jazan University students: An analytic cross-sectional study from Jazan, Saudi Arabia	*Khalafalla HE, Alfaifi BA, Alharbi RJ, Almarei SO, Kobal TA, Alsomaili HN, Drbshi SA, Sumayli SA, Kamili AA, Masmali AM*	*2022*	*Pubmed*	*Observational, analytical and cross-sectional study*	*It revealed a relatively good level of knowledge about stroke risk factors, symptoms, signs, and actions to be taken. However, there is a need for improvement, given the importance and urgency of the situation, and the expected benefits of early action.*
Evaluation of knowledge of risk factors and warning signs of stroke - An observational study among future health care professionals.	*Wajid Syed, Omaimah A Qadhi, Amal Barasheed , Ebtesam Al Zahrani , Mahmood Basil Um Al-Rawi*	*2023*	*Pubmed*	*Observational, analytical and cross-sectional study*	*The knowledge gap presented is mainly related to stroke risk factors and warning signs.*

Source: Author, 2024

DISCUSSION

After reading the selected articles in full, the data found in the three literatures were categorized, enabling analysis of the knowledge of the university public regarding stroke.

CATEGORY	RESULTS
Risk Factors	▪ *High blood pressure* ▪ *Heart disease* ▪ *Previous stroke*
Signs and symptoms	▪ *Hemiparesis* ▪ *Dysarthria*
Prevention	▪ *Blood pressure control* ▪ *Avoid stress*
Conduct	▪ *Calling an ambulance* ▪ *They didn't know what to do*
Source of information	▪ *Books* ▪ *Graduation*
Area of the undergraduate course	▪ *Better results came from health courses*

Category 1 - Risk factors

According to the classification of [6] risk factors are divided into modifiable, non-modifiable and potential. Hypertension is shown in all selected studies to be the most recognized modifiable factor. This finding is in line with [6] which highlights hypertension as one of the main modifiable risk factors for stroke.

History of stroke, heart disease and advanced age also achieved good rates. However, [7] After conducting research with 897 participants from a university in Jazan, Saudi Arabia, only 1/3 of those interviewed identified stress, sedentary lifestyle and alcoholism as risk factors. This demonstrates a considerable deficit of

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knowledge on the subject in general.

Category 2 - Signs and symptoms

It is known that stroke presents several forms of neurological manifestations, depending on the arterial branch affected. In this context, it was evident that university students identified the classic signs of stroke: unilateral weakness (hemiparesis), slurred speech or difficulty speaking. In the research conducted by [8] visual problems and severe headache were the least recognized symptoms.

Khalafalla [7] adds that 11.8% of the interviewees did not know any signs and symptoms and only 14% identified more than 3 manifestations. It adds that 54% of the interviewees think that all patients present the same manifestations. In addition, it was observed that health students obtained better performance.

On the other hand, [9] conducted an approach comparing the courses of the participants and observed that based on the most identified sign of their study, difficulty in speaking and understanding or slurred speech, pharmacy students represented the largest proportion with 85.7%, while the others were emergency medicine and nursing students with respectively 80.3 and 75.3%.

Therefore, it is clear that there is a difference in knowledge between the courses of the university students regarding the disease. Regarding the spectrum of signs and symptoms, the results demonstrate a deficit in the less specific symptoms of stroke.

Category 3 - Prevention

Stroke prevention plays a fundamental role in reducing the incidence of this disease in society. Therefore, the research carried out by [8] , revealed positive results among final-year nursing students in relation to preventive measures, with emphasis on controlling blood pressure, avoiding stressful situations and regular medical appointments (96.5%). However, less clarity was observed regarding regular use of medications (79.8%) and maintaining ideal weight (86.1%).

Although studies of [7-9] have contributed significantly to the understanding of the topic, they did not include this specific category in their questionnaires. Thus creating a gap that prevents a more in-depth analysis of the level of knowledge of students in relation to stroke.

Category 4 - Conduct

A variation in the results was observed between the studies analyzed. According to [8, 9] the predominant response was "call an ambulance", with an incidence of 95% and 70% respectively. The study of [7] revealed a contrary trend, where the majority chose to go directly to the hospital. It is important to highlight that in this same survey 23.9% of the participants did not know how to indicate the appropriate conduct in emergencies.

According to the Manual of Routines for Care in Cerebrovascular Accidents, in case of suspected stroke, it is essential to immediately call the Mobile Emergency Service (SAMU-192), which will refer the patient to the nearest Reference Hospital.[10]

Category 5 – Source of information

In the study conducted by [8], It was found that 80% of the participants had good knowledge about stroke. In addition, 68% stated that they had been informed about stroke previously, through sources such as books, university, internet and because they had family members with the comorbidity.

[9] Highlights that 55% of the sources reported by participants were acquired during their undergraduate studies and 36% through lectures. Thus, these data highlight the importance of promoting student engagement in academic events and the search for relevant literature in order to access knowledge through reliable sources. [7] did not provide specific data on the origin of the information, which makes a direct comparison between the two studies impossible.

Category 6 - Undergraduate course area

[7] Highlight that there was a significant difference between health and non-health specialties in their knowledge about the action to be taken when there was a suspicion of stroke. In addition, he highlights that students who had previous experience with stroke, through family members or through readings and discussions, obtained better rates on the subject

[8] Conducted their research with nursing students as their specific target audience, achieving remarkable performance, reaching more than 80% in assessments classified as good knowledge level.

Complementing the discussion, [9] conducted a comparative analysis between pharmacy, nursing and emergency medicine students. There was a significant association between the scores and the years of study of the students. This investigation suggests that there is a direct relationship between the duration of the course and the level of knowledge acquired, as a determining factor for the construction of knowledge. Therefore, unanimously among the articles analyzed, it was revealed that the best performance among students was observed in the health area.

CONCLUSION

DOI: https://doi.org/10.36489/saudecoletiva.2025v15i92p14058-14063

We conclude that the articles analyzed aimed to assess the level of knowledge of university students regarding stroke. In summary, significant gaps were revealed in the understanding of risk factors and specific signs and symptoms of stroke. In addition, students in the health field performed better than others, and previous experience with the disease was shown to significantly influence the level of knowledge on the subject.

These data highlight the need to overcome educational barriers and promote greater awareness about stroke. In this context, health professionals, especially nurses, play a fundamental role as health educators.

Considering the high incidence of stroke in Brazil, it is imperative to promote health education in universities, focusing on the lay public, reaching out beyond health professionals. The goal is to disseminate accurate and accessible information on signs and symptoms, prevention, treatment and impacts of stroke, raising awareness among the population about the disease that leads to mortality statistics in Brazil.

However, this study found limitations due to the lack of previous research with the university public on knowledge of stroke. This gap hinders a more in-depth and comparative analysis on the subject. In addition, the Brazilian scenario lacks similar studies, highlighting the need for nursing to contribute to scientific research in order to contribute to the creation of a reliable database, inform effective public policies and educational strategies to improve awareness and knowledge of university students about stroke.

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