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Research Article

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General Public Awareness, Recognition, and Response to Stroke in Al Ahsa, Saudi Arabia

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ABSTRACT

Background: Stroke awareness and prevention are poorly addressed in the community despite their importance for controlling and preventing stroke. Treatment outcomes for stroke are strongly influenced by the time lined by seizure and start of treatment (often called the golden time). In strokes, acute paralysis can be reversed if predicted early and managed effectively.

Aim: This study aimed to investigate the general public recognition of stroke risk factors, dangerous signs, and their response to stroke.

Methods: This survey was conducted online between September 20 and December 20, 2023 in Al-Ahsa, Saudi Arabia. A convenience sampling of 400 adults over the age of 18 filled out the survey. Three main areas were examined in the survey: demographics, medical history, and knowledge regarding strokes and cardiovascular risk factors.

Results: The study enrolled 400 participants, of whom 72 percent were female. Hypertension was recognised as the first risk factor for stroke by more than one-third (35%) of the study subjects. Stroke risk factors were identified by the majority of respondents. The most common stroke manifestation, according to approximately one-third of participants, was speech and understanding difficulties.

Conclusion: There is a low level of health literacy among the Saudi population regarding stroke risk factors, symptoms, and consequences. To raise public awareness about strokes, we identified the need for more awareness campaigns.

Introduction

In terms of mortality, cardiovascular diseases (CVDs) are one of the leading causes. According to the WHO, 6.7 million of the 17.7 million deaths caused by CVDs in 2015 were caused by stroke. Most of these deaths occur in low- and middle-income countries [1]. By 2030, around 70% of all deaths worldwide will be caused by noncommunicable illnesses, with the burden falling disproportionately on nations with low and middle incomes. Strokes and heart failure are common consequences of cardiovascular disorders in low- and middle-income countries (LMIC) [2,3].

Neurological disorders are common. As a cause of mortality, stroke ranks second in seriousness. It affects the brain by cutting off the blood supply to a certain area and impairing its functions. This occurs suddenly and affects body parts controlled by the affected part of the brain. Stroke also cause dependency, and long-term disability in adults, proving to be very costly to patients, their families, health services, and the community in general [4,5].

Strokes are one of the major causes of mortality and impairment worldwide, including Saudi Arabia [6]. Strokes are on the rise in

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Saudi Arabia and are causing the death of high-risk individuals. It has been estimated that 29.8 strokes are reported each year in Saudi Arabia [7]. There is a correlation between community awareness of stroke and its incidence, according to several studies. Stroke knowledge is very low among those at maximum risk [4]. Additionally, many studies emphasize a lack of stroke awareness and knowledge in the Saudi population [7,8]. The Institute for Health Metrics and Evaluation reported that stroke was one of the top ten causes of death in Saudi Arabia in 2017 with a mortality rate of 6.4% [9]. Raising awareness and knowledge about stroke is crucial to prevention and management.

Due to the delays in presenting to the hospital, many patients do not get the right treatment because they have exceeded the effective treatment period. According to numerous studies, one of the key reasons for the delay is a lack of familiarity with stroke warning signs and risk factors (RFs) [10-12].

In order to provide fast services, it is necessary to be aware of the warning signs of stroke. Observations consistently show that knowledge of factors that increases risks and warning signs is inadequate among the community population, with the lowest levels in the age group with the highest stroke risk. To improve early recognition of stroke symptoms and to address treatment-seeking delays, it is vital to contribute evidence [13,14]

The purpose of this study is to identify general population awareness and knowledge about stroke (factors contributing to stroke, early signs, and interventions related to stroke).

Methods

Study design

A descriptive cross-sectional survey regarding stroke awareness was conducted online between September 20 and December 20, 2023 in Al-Ahsa, Saudi Arabia. The convenience sampling method was used during the collection of data.

Sampling and sample size

A convenience sampling of 400 adults over the age of 18 filled out the survey.

Ethical consideration

A Google form was used to collect the survey data. Forms were distributed via WhatsApp groups among participants. All responses to the survey were anonymous. Participants were asked to agree or reject participating in the study and to provide informed consent before participating.

Study instruments

A comprehensive literature review was conducted before creating the questionnaire. In addition, it was modified from studies of a similar nature. A translation of the questionnaire was also made into Arabic, the native tongue of the respondents. Three experts validated the suggested questionnaire and approved it. To assess the questionnaire's simplicity and understanding, as well as its reliability, a pilot study involving 40 participants was conducted by the researchers.

Three main areas were examined in the survey: demographics, medical history, and knowledge regarding strokes and factors contributing to stroke. A variety of demographic questions were asked of participants. Additionally, they were asked about medical history. The participants were asked to identify modifiable factors contributing to stroke and their information sources. Furthermore, they were requested to describe the warning sign and consequences of stroke.

Results

Table 1: Demographic data (N=400)

Variable	Frequency	Percent %
Age (mean = 38.9, SD 10.9)		
18-35 years	116	29
36-50	197	49.25
≥ 50 years	87	21.75
Gender		
Male	112	28
Female	288	72
Marital Status		
Married	253	63.25
Single	104	26
Widowed	30	7.5
Divorced	13	3.25
Education Level		
Primary	62	15.5
Secondary	157	39.25
University and above	181	45.25
Monthly income		
Not enough	38	9.5
Enough	239	59.75
Enough and save	123	30.75
Employment condition		
Working	271	67.75
Not working	129	32.25
Medical history		
Hypertension	49	12.25
Diabetes	13	3.25
High cholesterol	10	2.5
Heart disease	48	12
Smoking	48	12

In Table 1, the sociodemographic and an overview of the participants' clinical profiles is provided. The study sample included 400 participants, with 28% of the participants being male compared to 72% being female. There was a wide range of ages among the participants, with an average age of 38.9 (SD ± 10.9)). In terms of marital status, approximately two-thirds of the study participants 253 (63.25%) are married. Regarding educational level, 181 (45.25%) of the sample had a university education or higher. In terms of monthly income, 239 (59.75%) of the sample stated it was enough to cover their living expenses and monthly living needs. Working participants accounted for 271 (67.5%). Among the study participants, 49 (12.25%) had been diagnosed with hypertension, and 12% were suffering from heart disease. There were 48 (12%) of participants who reported smoking.

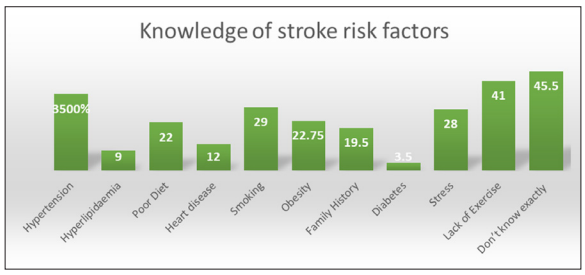

Figure 1: Knowledge of factors that contribute stroke among participants

Stroke knowledge varied among the sample A participant's knowledge of factors that contribute stroke was categorized as: don't know exactly 182 (45.5%), lack of exercise 164 (41%), hypertension 140 (35%), smoking 116 (29%).

Table 2: Knowledge of stroke warning signs among study participants

Variable	Frequency	Percent %
Warning signs		
B- Balance problem	80	20
E- eye, Vision problem	30	7.5
F- Face, weakness on one side	96	24
A- Arms, Numbness	104	26
S- Slurred speech- Inability to speak and understand others	124	31
Headache	112	28
Shortness of breath	48	12

Study participants' knowledge of stroke warning signs is illustrated in Table 2. There was a variation in knowledge of stroke warning signs among the sample. The first warning sign was a balance problem, which was known by close to one-quarter of the participants, 80 (20%). A total of 30 (7.5%) of the participants knew about the E-eye, Vision problem. One-quarter 96 (24%) of the participants were aware of the F-Face weakness on one side. Nearly a quarter of the participants 104 (26%) knew the A-Arms, Numbness sign. In terms of S- slurred speech or inability to speak and understand others, 124 (31% of the sample) believe it is a sign of stroke. Over one-quarter of 112 (28%) of the study sample believe that headaches are signs of strokes. A total of 48 (12%) people reported shortness of breath as a sign of a stroke.

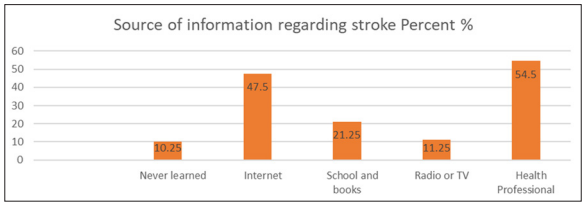

Figure 2: Source of information about stroke

In figure 2, participants' ways of learning about stroke are illustrated. About half of them 190 (47.5%) acquired their knowledge online. Nearly one quarter of the participants 85 (21.25%) gained their knowledge through the school and books. The Radio and TV were the sources of knowledge for 45 (11.25%) of the participants. A majority of the participants 218 (54.5%) had acquired the knowledge through health professional.

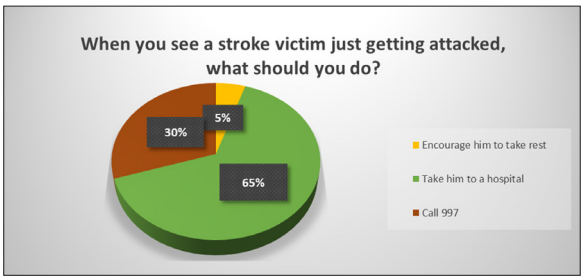

Figure 3: Participants' Response in Case of stroke attack

Participants' Response in Case of Stroke Attack is shown in figure 3. A small percentage of participants said they would encourage him to rest 20 (5%). Taking him to a hospital gained the majority of respondents, 260 (65%). There were 120 (30%) participants who answered call 997.

Discussion

A lack of health literacy has been demonstrated in previous studies among the Saudi population, as well as inadequate knowledge of health information. The aim of the present study was to measure the level of awareness of stroke among adults in Al-Ahsa city. Similarly, other researchers who work with communities have obtained similar results regarding awareness about stroke [12,14,15].

Lack of knowledge may demonstrate a lack of awareness of stroke-related warning signs and how to respond in a potential stroke incident. It is possible that patients in such a situation would delay looking for medical help and reach at the hospital late, which could have significant consequences regarding their final prognosis, including dependency and disability [14]. A number of studies conducted in the same population showed low levels of awareness of diseases and the need for public education on these health issues [16,17].

There was a slight decrease in the proportion of participants who correctly identified stroke signs of threats in this study when compared to previous studies [12,18]. One of the alert signs was recognized by more than half of the participants in Hickey's study (inaudible speech). In Yoon S's study, trouble of vision was found to be the commonly recognized warning sign [19,20].

Participants in this study have less knowledge of risk factors than those in previous studies, as evidenced by lower percentages of correct answers [21-24].

Among other researchers, high blood pressure and smoking are the two most commonly identified risk factors [6,12,16]. In previous studies conducted in Saudi Arabia, more than 75% of participants identified hypertension as a leading cause of stroke [25,26]. Another study showed that more than 80% of participants identified physical inactivity as the most common risk factor for stroke [6].

In the present study, approximately two-thirds of participants said they would take a stroke patient directly to the hospital.

It's in line with the results of a study conducted in Saudi Arabia in 2011, in which 87% of participants recognized they needed medical attention immediately [27]. Many participants in other countries, including Oman, Lebanon, and Jordan, knew that a stroke should be treated in a hospital emergency room as soon as possible [24,28,29].

Finaly, to increase client satisfaction, healthcare quality and therapeutic interventions need to be constantly improved [30]. As part of improving community awareness, healthcare providers should provide more health education and health coaching. Coaching relationships are successful when clients and community members are readily available and communicate continuously to raise the awareness [31].

Conclusion

Saudi population health literacy about factors that contribute stroke, symptoms, and consequences is generally low. In our study, we identified the need for more awareness campaigns to raise public awareness about strokes. The findings of this study need to be supported by additional broader samples of the Saudi population.

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