

## THE BURDEN OF STROKE IN SUKKUR, PAKISTAN

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### HIGHLIGHTS

- Stroke is the subsequent driving reason for death and a significant reason for incapacity around the world.
- The goal of this cross-sectional survey was to provide an inquiry of the burden of stroke in Sukkur, Pakistan.
- The data showed that 307 patients (90.6%) were suffering from ischemic stroke followed by the (n=32, 9.4%) the hemorrhagic stroke i.e. 32 patients.
- The study finalized that, among the population of sukkur the ischemic stroke is more prevalent and puts more burden on the families than the hemorrhagic stroke.

### Abstract

#### Background:

Stroke is the subsequent driving reason for death and a significant reason for incapacity around the world. Its rate is expanding as the populace ages. Furthermore, more youngsters are impacted by stroke in low-income nations. Ischemic stroke is more incessant yet hemorrhagic stroke is answerable for additional passing and inability to

change life-years lost.

#### Objective:

To identify the burden of stroke on the population of sukkur, Pakistan.

#### Materials and Methods:

The goal of this cross-sectional survey was to provide an inquiry of the burden of stroke in Sukkur, Pakistan, on patients which are investigated at Department of Neurology, Ghulam Muhammad Mahar Medical College & Teaching Hospital Sukkur from November 2021 till February 2022. A total of 339 patients with symptoms of cerebrovascular diseases were evaluated.

#### Results:

The bulk of patients were in the 41–60 age bracket. Among all the patients 247 i.e. 72.9% were male, and rest were females. The data contained married and unmarried population and 326 i.e. 96.2% patients were married. Majority of the patients i.e. 130 (38.3%) were uneducated, out of all 113 patients were un-

employed and (n=210, 61.9%) had not any direct source of income. Among all the majority i.e. 219, (64.6%) were residing in the urban area of Sukkur, Pakistan. The data showed that 307 patients (90.6%) were suffering from ischemic stroke followed by the (n=32, 9.4%) the hemorrhagic stroke i.e. 32 patients.

### **Conclusion:**

The study finalized that, among the population of Sukkur the ischemic stroke is more prevalent and puts more burden on the families than the hemorrhagic stroke.

**Keywords:** Stroke, Burden, Sukkur, Pakistan.

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### **Introduction**

Stroke is the subsequent driving reason for death and a significant reason for handicaps around the world. Its rate is expanding because the populace ages. Furthermore, more youngsters are impacted by stroke in low-and center pay nations<sup>(1)</sup>. From the general well-being point of view, there is likewise a need to screen stroke trouble on a worldwide scale and look at trouble between changed nations and districts over the long run, including patterns and projections comparative with other significant illnesses<sup>(2,3)</sup>. To resolve these issues and fill the holes in sickness trouble gauges across all nations. Sukkur has both (urban & rural) areas with explicit way of life and diet, because of an enormous piece of unsaturated fats in food, which had prompted an expanded presence of major stroke risk factors such as hypertension, diabetes mellitus, heart diseases and hyperlipidemia<sup>(4-6)</sup>. The Bulk of the population were belonging to the lower class and lower middle that also resulted in prolonged

stress and a high proportion of the elderly population as additional stroke risk factors in Sukkur.

### **METHODOLOGY:**

A cross-sectional inquiry was used to collect the data from the Department of Neurology, Ghulam Muhammad Mahar Medical College & Teaching Hospital, Sukkur, Pakistan from November 2021 to February 2022. Throughout the survey period, a total of 361 patients were registered and among all, 339 agreed to participate in the study. The patients who had a confirmed diagnosis of cerebrovascular diseases (CVD), either gender (male & female), and are willing to participate were included, whereas not willing to participate were excluded. A self-constructed questionnaire was utilized to cumulate the data, which comprises demographic (age, gender, marital status, education, occupation, income, locality) and questions related to the disease are the type of stroke (hemorrhagic stroke /ischemic stroke). The questionnaire was filled out on the spot by asking questions from patients/guardians of patients. The patients with the confirmed diagnosis were analyzed and processed using statistical packages of social sciences (SPSS) version 23 and the methods of descriptive statistics; data were analyzed and presented in frequency and percentages for categorical variables. The study was sanctioned by the (Departmental) ethical review committee of the Department of Neurology, Ghulam Muhammad Mahar Medical College & Teaching Hospital Sukkur. Subsequently, after expressing and making sense of the subtleties of the overview the assent was taken from every patient/guardian of the patient. The patients were guaranteed that their collaboration was privileged, their data would stay confined, and they could stop the overview at whatever point they want.

**Results: Demographic characteristics**

Characteristics	Frequency (n)	Percentage (%)
<b>Age Group</b>		
06-20 years	06	1.8
21-40 years	34	10
41-60 years	194	57.2
60 and above years	105	31
<b>Gender</b>		
Male	247	72.9
Female	92	27.1
<b>Marital status</b>		
Married	326	96.2
Unmarried	13	3.8
<b>Education</b>		
Uneducated	130	38.3
Religious education	48	14.2
Primary education	83	24.5
Secondary school	51	15
Bachelor's	07	2.1
Higher education	20	5.9
<b>Occupation</b>		
Government servant	08	2.4
Private	60	17.7
Un employed	113	33.3
Self employed	67	19.8
House wife	91	26.8
<b>Income</b>		
No income	210	61.9
Won't disclose	43	12.7
10,000 to 20,000	31	9.1
20,000 to 30,000	55	16.2
<b>Locality</b>		
Urban	219	64.6
Rural	120	35.4

Demographic characteristics are described below in Table 1, which shows that the Bulk (n=194, 57.5%) belongs to the age group between 41-60 years and (n=247, 72.6%) were male. In the domain of marital status we found that Bulk (n=326, 96.2%) were married, in education (n=130, 38.3%) were un-educated, and in occupation (n=113, 33.3%) were unemployed. While in the domain of income Bulk (n=210,

61.69%) had no direct source of income, and (n=219, 64.6%) were permanent residents of the urban area of Sukkur, Sindh, Pakistan.

**Cerebrovascular Disease Diagnoses in Patients**

Disease Characteristics are described in Table 2, which shows that the majority (n=307, 90.6%) of the population were suffering from ischemic stroke followed by (n=32, 9.4%) hemorrhagic stroke.

Characteristics	Frequency (n)	Percentage (%)
Hemorrhagic stroke	32	9.4
ischemic stroke	307	90.6

**Discussion**

The current study revealed that ischemic stroke puts a huge burden on the population of Sukkur when compared to the hemorrhagic stroke. The examples of the fundamental classifications of sicknesses have moved impressively during the most recent couple of years. The worldwide weight illness (GBD) project and different examinations have shown an ascent in non-communicable diseases (NCD), such as stroke, heart disease, cancer, diabetes mellitus, and chronic obstructive pulmonary disease<sup>(7, 8)</sup>. The latest GBD gauges showed that during the last two and half years, the stroke survivors and individuals with occurrence of stroke have expanded half to 100 percent, in this way demonstrating that as of now utilized stroke counteraction methodologies are not adequately compelling and require a serious correction<sup>(7, 9, 10)</sup>. The significant ramifications of every one of these problems for worldwide wellbeing warrant their acknowledgment as independent infections that ought to be represented independently, as opposed to installed under an umbrella term that is frequently not surely known. A vital aspect for decreasing the worldwide weight of stroke is recharged accentuation on stroke counteraction.

Though every one of the NCDs require explicit administration and treatment when they happen, the avoidance of NCDs share numerous normal highlights on the grounds that the principal risk factors are for the most part comparative. For stroke, other major risk factors include hypertension, which is two times as significant for stroke concerning coronary illness; and atrial fibrillation, which expansions in significance with increasing age.<sup>(6)</sup>

The errand to lead the execution and checking of the UN statement was given to the WHO, who gave the WHO Global Action Plan that incorporated a bunch of worldwide focuses for a way of life risk variables and well-being framework upgrades to accomplish the general objective of a 25% decrease in untimely NCD mortality constantly 2025.<sup>(11)</sup> Stroke prevention should not be treated as a separate, unrelated issue but rather as an integral part of current efforts to address the main NCD risk factors.<sup>(6, 12)</sup> Stroke avoidance will only be fully effective if it joins forces with various pushes for NCDs counteraction. For stroke and other types of cardiovascular illness, the significant standards in anticipation are similar. However, it is important to take into account the various epidemiological measures of stroke.<sup>(10)</sup> The main essential well-being objective for stroke is a decrease in stroke frequency counteraction is in every case better compared to fix. Not with standing, the requirement for successful treatments in the intense stage, as well as recovery and long-haul follow-up endeavors to forestall stroke repeat and further develop utilitarian results ought to be perceived as significant measures to considerably diminish the weight of stroke in individuals who have created or endure stroke.<sup>(13)</sup> As 33% of all strokes happen in people who have had a past cerebrovascular occasion,<sup>(12,14)</sup> satisfactory consideration ought to be paid to optional stroke

counteraction. It has been assessed that with viable activities on the normal way of life factors, to some degree half, everything being equal, might be forestalled<sup>(15,16)</sup>.

### Conclusion

Globally, the burden of stroke has expanded significantly throughout recent a long time due to growing populace numbers and maturing as well as the expanded pervasiveness of modifiable stroke risk factors, particularly in low-and center pay nations. The number of patients who will require care by clinicians with aptitude in neurological circumstances will keep on filling in the next few decades.

### Conflicts of interest

The authors declare no conflicts of interest.

### Ethics approval

This study was conducted upon ethical consideration approval that was received from Ethical Committee of Ghulam Muhammad Mahar Medical College, Shaheed Mohtarma Benazir Bhutto Medical University, Larkana, Pakistan.

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