

Stroke and in-hospital stay related problems faced by attendants in a public sector tertiary care hospital of Peshawar, Pakistan

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ABSTRACT

Introduction: Stroke is the third most common cause of death in most western populations after coronary-heart disease and cancer, and is thus the commonest life-threatening neurological disorder; the resulting disability is the most important single cause of severe disability among western people living in their own homes.

Objective: To determine the occurrence of different types of stroke and their complications in a public sector tertiary care hospital, and to document the problems faced by patients' attendants.

Materials & Methods: A cross-sectional descriptive study was conducted on 100 stroke patients from August to November 2017 at Hayatabad Medical Complex (HMC), Peshawar, irrespective of their age or gender. Structured questionnaires were used to collect data from the patients' attendants regarding the patient and the attendant. Data were collected through convenience sampling technique and analyzed by SPSS version 20 for descriptive statistics.

Results: Patients of ischemic stroke were 58% in comparison to 42% patients of hemorrhagic stroke. The major complication faced by patients is dysphagia and the least common complication is bed sores. The most common problem faced by attendants is tiredness and sleep problems while the least common is psychological stress.

Conclusion: The prevalence of ischemic and hemorrhagic stroke is 58% and 42% respectively. Dysphagia accounts as the major complication faced by 60 patients in our study. The least common complication faced by patients of stroke in our study are bed sores. This means that active care is being taken of the patients by the hospital staff. Attendants are known to face many problems when it comes to public sector hospitals, in our study two of the most common causes faced by attendants were tiredness and sleep problems, both accounting for 40% of all the problems faced. This could be due to problem with resting facility which accounted for 12% of the problems faced by attendants.

Keywords: Stroke; ischemic, hemorrhagic, attendant, hospital stay.

The authors declared no conflict of interest. All authors contributed substantially to the planning of research, data collection, data analysis, and write-up of the article, and agreed to be accountable for all aspects of the work.

INTRODUCTION

Stroke stands out as the third commonest cause of death in western populations, being foreshadowed only by coronary heart disease and cancer. As such, among neurological disorders, it becomes the commonest life-threatening condition in the west; not to mention that the subsequent disability is the single most common reason for severe disability among resident people. Hence, the burden of the disease on patients, their families, and the society at large is highly publicized in the developed world.

Stroke is less well documented in the developing world, and data are not retrievable due to language barriers or restricted data distribution. The Asia-Pacific Consensus Forum on Stroke Management predicts that "In the next 30 years the burden of stroke will grow most in developing countries rather than in developed countries."¹

Similarly, in the developing world, one of the major causes of ischemic stroke is extracranial atherosclerotic thromboembolism, compared to intracranial small vessel disease in the developing world. The atherogenic diet of developed nations may have a bearing on this difference.¹

The World Health Organization estimated that in 2002, stroke claimed 5.5 million lives, of whom about 20% were from South Asia.³ On a global scale, 70% of strokes are estimated to occur in developing countries, accounting for 87% of stroke-related deaths and Disability-Adjusted Life Years (DALY).³ The incidence of stroke in these countries has more than doubled over the last four decades, whereas during the same time period stroke incidence declined by 42% in high-income countries. On comparison, stroke occurs earlier (on average 15 years) in low- and middle-income countries and causes more deaths than the high-income countries.³

Based on WHO data, about 17.3 million people died from cardiovascular diseases in 2008 (30% of all global deaths); about 7.3 million were related to coronary heart disease and 6.2 million to stroke.⁴

Data from 192 World Health Organization (WHO) member countries (2004) showed that stroke-related DALY loss was 160/100,000 person-years in the Seychelles compared to 2,192/100,000 person-years in Mongolia. During the same period, figures from India revealed stroke-related DALY loss of 597.6 / 100,000 person-years.⁵

Following an acute stroke, patients may develop a wide range of medical complications which may be direct causes of death or hinder full recovery.^{6,7} Many medical complications in hospital may be non-neurological requiring intervention; these include the occurrence of pressure sores, urinary tract infection, chest infection, deep vein thrombosis, pulmonary embolism, fracture, painful shoulder, and pyrexial illness.^{2,6-8}

In one study,⁶ 75% patients experienced more than one medical complication during rehabilitation. Risk factors for medical complications included greater neurological deficit (Odds Ratio 4.10), hypoalbuminemia (Odds Ratio 1.71), and a history of hypertension (Odds Ratio 1.81). Transfer to an acute care facility was needed for 19% of patients due to a medical complication. Risk factors for transfers were elevated admission white blood cell counts (Odds Ratio 1.92); low admission hemoglobin levels (Odds Ratio 1.89); greater neurological deficit (OR, 2.46); and a history of cardiac arrhythmia (Odds Ratio 1.79).⁶

A multi-center study (Glasgow Royal Infirmary, Drumchapel Hospital, and Stirling Royal Infirmary) was conducted in the UK in 2000.⁷ Complications during hospital admission were recorded in 265 (85%) of stroke patients. Specific complications were as follows: neurological (recurrent stroke, 9%), (epileptic seizure, 3%); infections (urinary tract infection, 24%), (chest infection, 22%), (others, 19%); mobility related (falls, 25%), (falls with serious injury, 5%), (pressure sores, 21%); thromboembolism (deep venous thrombosis, 2%), (pulmonary embolism, 1%); pain (shoulder pain, 9%), (other pain, 34%); and psychological (depression, 16%), (anxiety, 14%), (emotionalism, 12%), and (confusion, 56%). The frequency of complications across all 3 hospital sites was related to patient dependency and duration after stroke.⁷

Emotional distress such as anxiety, frustration, and depression are common post-stroke problems. Clinically significant depression after stroke ranges from 26 to 60%. Common difficulties include overdependence on others, inflexible thinking, impatience, irritability, impulsivity, denial of problems, insensitivity to others, and poor social perception. Occasionally, suicidal ideation and paranoid delusions occur.⁹⁻¹²

In a study from Sweden,¹⁰ post-stroke major depression was 25% at the acute stage and 31% at 3 months; thereafter it remained as 16% at 1 year, 19% at 2 years, and had increased to 29% at 3 years. Immediate post-stroke major depression was most associated with left anterior brain lesion, dysphasia, and living alone. At 3 months, dependence for daily activities was the most important predictor. Presence of few social contacts out of the family contributed most to depression after 12 months, whereas at 3 years, cerebral atrophy also contributed. Most patients (60%) with early depression (up to 3 months) had recovered; those not recovered by this stage had a high risk of developing chronic depression.¹⁰

There are social consequences for stroke survivors, which need to be addressed by health and social care services, such as workplace rehabilitation, employment of assistants/helpers in those whose mental/physical function has been mildly/moderately/ severely impaired, requirement of financial assistance for those unable to afford long duration stay in hospitals as the long duration coupled with investigation and drugs fees causes a financial burden. Information on these important social issues should become the basis for further development of rehabilitation services.^{13,14}

Large scale epidemiological data from Pakistan are not available to determine the true incidence of stroke. Moreover, inadequate public knowledge & awareness, and relatively under-developed hospital services account for a relatively high annual incidence, based on an estimated 250 cases per 100,000 population or about 350,000 new cases every year.^{15,16}

MATERIALS & METHODS

This cross-sectional study was conducted in 4 months (August to November 2017) on 100 patients admitted with stroke to Hayatabad Medical Complex, Peshawar, Khyber Pakhtunkhwa, Pakistan, irrespective of their age or gender. Data were collected after approval was obtained from relevant hospital authorities. Structured questionnaires were used to collect data from the patients' attendants after informed consent regarding the patient and the attendant through convenience sampling. Data were analyzed by SPSS version 20 for descriptive statistics.

RESULTS

Figure 1 shows the occurrence of ischemic and hemorrhagic stroke in patients that presented to the in-patient department of the public sector tertiary care hospital of Peshawar, Khyber Pakhtunkhwa, Pakistan.

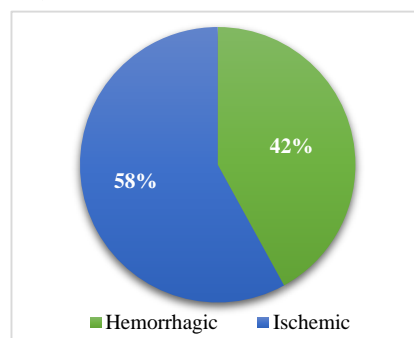


Figure 1: Distribution of different types of stroke in patients (n=100).

Table 1 shows the common complications faced by patients, the commonest being Dysphagia, followed by Urinary Tract Infections, Dysarthria, Difficulty in Communication, Deep Vein Thrombosis (DVT), Limb contractures, and Bed Sores.

Table 1: Complications of Stroke Patients (n=100).

Complications of Stroke	Patients Suffering (n=%)
Dysphagia	60
Urinary Tract Infections	56
Dysarthria	53
Difficulty in Communication	53
Deep Vein Thrombosis (DVT)	49
Limb Contractures	47
Bed Sores	39

The problems faced by attendants in a public sector tertiary health care are depicted in Figure 2. The most common problems faced by the attendants were sleeplessness and tiredness, accounting for 20% each; this may be linked to 13% complaining of problems with their resting facilities. Another major problem that

attendants usually face is their personal lives are affected; in the current study, only 12% attendants faced the problem of their personal life being affected. 10% attendants opted for psychological stress as a problem which surprisingly is the least common problem.

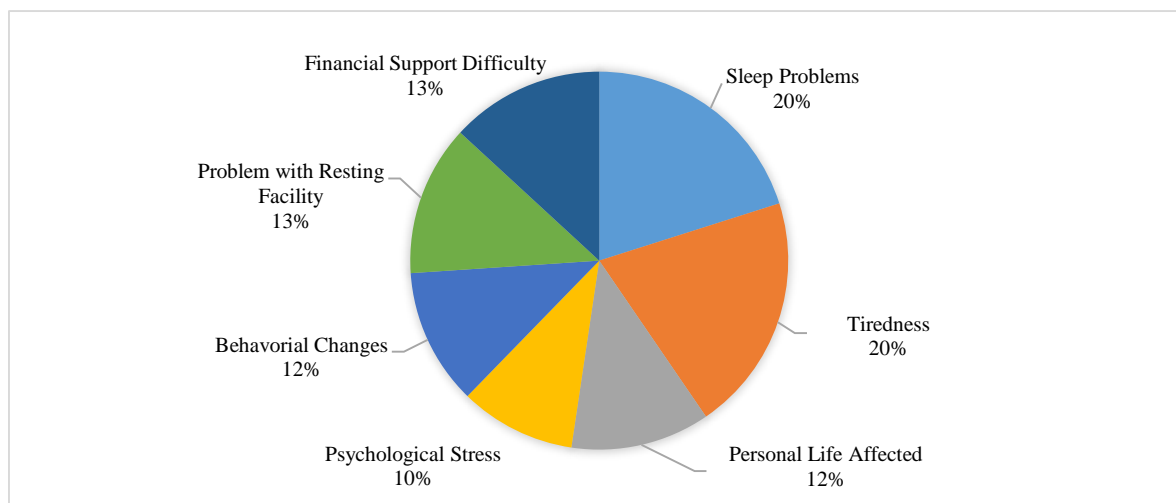


Figure 2: Problems faced by attendants of stroke patients.

DISCUSSION

According to this study, the occurrence of ischemic stroke accounted for 58% which is in fair agreement with a study conducted in Lady Reading Hospital, Peshawar, Khyber Pakhtunkhwa, Pakistan where 66% of their patients suffered from ischemic stroke.¹⁷ Hemorrhagic stroke in the present study accounted to 42% which is a bit higher than the 34% prevalence found in the above mentioned study. The study also showed variation in stroke occurrence during winter (58.6%) and summer (41.4%).

The common complications faced by patients in different types of stroke accessed in this study are urinary tract infections, bed sores, limb contractures, dysphagia, deep vein thrombosis (DVT), dysarthria and difficulty in communication. A study conducted in Jinnah Hospital, Lahore, correlates with the current findings showing that dysphasia, amnesia, facial weakness and hemiparesis were seen in different patients.¹⁸

Attendants of stroke patients faced the problem of sleeplessness that resulted in feelings of tiredness, psychological stress and behavioral changes that affected their personal lifestyles. There is a lack of studies on the problems faced by attendants of stroke patients in public sector tertiary health care hospitals; however a study on attendants of patients coming to Emergency Department in District Head Quarters Hospital in Rawalpindi¹⁹ states that attitude and behavior of healthcare providers were found to be satisfactory by the attendants; however, basic requirements in an emergency department were not available and needed to be addressed.

CONCLUSION

Though stroke patients face fairly similar complications during their hospital stay, their attendants also face many undocumented problems in public sector hospitals, of which sleeplessness and tiredness are in the forefront, perhaps related to lack of comfortable resting facilities provided to them.

REFERENCES

- Poungvarin N. Stroke in the developing world. *Lancet* 1998;352(suppl III):19-22.
- Bae Hm Yoon D, Lee J, Kim B. In-hospital medical complication and long term mortality after ischemic stroke. *Stroke*. 2005 Nov;36(11):2441-5
- Johnson W, Oyere Onuma O, Owolabi M, Sachdev S. Stroke: a global response is needed. (Editorial). *Bulletin of the World Health Organization*. 2016;94:634-634A.
- World Health Organization. Cardiovascular disease. About cardiovascular diseases. [Website]. Accessed June 20, 2018. Available from: https://www.who.int/cardiovascular_diseases/about_cvd/en/#:~:text=CVDs%20are%20the%20number%20one,million%20were%20due%20to%20stroke.
- Banerjee TP, Das SK. Fifty years of stroke researches in India. *Ann Indian Acad Neurol*. 2016 Jan-Mar;19(1): 1-8.
- Roth EJ, Lovell L, Harvey RL, Heinemann AW, Semik P, Diaz S. Incidence of and risk factors for medical complications during stroke rehabilitation. *Stroke*. 2001 Feb;32(2):523-9.
- Langhorne P, Stott DJ, Robertson L, MacDonald J, Jones L, McAlpine C, et al. Medical complications after stroke. A multicenter study. *Stroke*. 2000 Jun;31(6):1223-9.
- Ingeman A, Andersen G, Hundborg HH, Svendsen ML, Johnsen S. Processes of care and medical complications in patients with stroke. *Stroke*. 2011 Jan;42(1):167-72.
- Binder LM. Emotional Problems after stroke. *Stroke*. 1984 Jan-Feb;15(1):174-7.
- Astrom M, Adolfsson R, Asplund K. Major depression in stroke patients. A 3-year longitudinal study. *Stroke*. 1993 Jul;24(7):976-82.
- Stroke Association. Emotional changes after stroke. Factsheet 36 version 02 published June 2011, updated April 2012.

- [Accessed June 19, 2018]. Available from: <https://www.stroke.org.uk/sites/default/files/Emotional%20changes%20after%20stroke.pdf>.
12. Kim JS. Post-stroke mood and emotional disturbances: pharmacological therapy based on mechanisms. *J Stroke*. 2016 Sep; 18(3):244-55.
 13. Daniel K, Wolfe CDA, Busch MA, McKeivitt C. What are the social consequences of stroke for working-aged adults? A systematic review. *Stroke*. 2009 Jun;40(6):e431-40.
 14. Perna R, Temple J. Rehabilitation Outcomes: Ischemic versus Hemorrhagic Strokes. *Behav Neurol*. 2015;2015:891651.
 15. Khealani BA, Hameed B, Mapari UU. Stroke in Pakistan. *J Pak Med Assoc*. 2008 Jul;58(7):400-3.
 16. Nomani AZ, Nabi S, Badshah M, Ahmad S. Review of acute ischaemic stroke in Pakistan: progress in management and future perspectives. *Stroke and Vascular Neurology* 2017;2
 17. Ziauddin IN, Shah IA, Ali Z, Rehman H, Mehmood K. Seasonal variation in stroke in a teaching hospital of Khyber Pakhtunkhwa. *J Postgrad Med Inst*. 2015;29(3):193-8.
 18. Qureshi MA, Jamshaid TD, Siddiqui AM. Stroke - A study of clinical patterns and risk factors. *Ann King Edward Med Uni*. 2003 Apr-Jun;9(2):98-100.
 19. Sultan A, Riaz R, Hameed S, Sabir SA, Tehseen I, Bilal A, Hayat M. Patient satisfaction in emergency department of District Head Quarters Hospital Rawalpindi. *Rawal Med J*. 2010 Jan-Jun;35(1):85-90.
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