

Assessment of Neurological Deficit among Cerebrovascular Accident Patient in Selected Hospital

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ABSTRACT

Stroke is the third leading cause of death worldwide. Those who survive are often left with disabilities that decrease quality of life and increase a need for institutional care. The aim of this study was to assess the neurological deficit and identify the problem of the Cerebrovascular accident patients.

Methods: A Descriptive research approach was used for the present study. The study comprised of 50 Cerebrovascular accident patients admitted in selected hospital. National Institute of Health Stroke Scale a standardized research tool was used for data collection. Non probability convenience sampling technique was used. Formal permission was obtained from concerned authority from selected Hospital for data collection.

Results: The results showed that most 82% of the Cerebrovascular accident patients were having moderate level stroke and 8% of Cerebrovascular accident patients were having severe level of stroke. Maximum 90% of CVA patients were having problem for Communication. 84% of CVA patients were having problem for movement and 84% of CVA patients were having problem for ADL's. There was not significant association found with selected demographic variable except age among Cerebrovascular accident patients.

Conclusion: The study result shows that 82% of the Cerebrovascular accident patients were having moderate level stroke and 8% of Cerebrovascular accident patients were having severe level of stroke. Maximum 90% of CVA patients were having problem for Communication. 84% of CVA patients were having problem for movement and 84% of CVA patients were having problem for ADL's. There is need for the education of patient as well as their caregivers on care of Cerebrovascular accident patients.

Keywords: Neurological Deficit, Cerebrovascular accident patients.

INTRODUCTION

Cerebrovascular disorders are an umbrella term that refers to any functional abnormality of the central nervous system (CNS) that occurs when the normal blood supply to the brain is disrupted. ^[1]

In the 1970s the World Health Organization defined stroke as a "neurological deficit of cerebrovascular cause that persists beyond 24 hours or is

interrupted by death within 24 hours", although the word "stroke" is centuries old. This definition was supposed to reflect the reversibility of tissue damage and was devised for the purpose, with the time frame of 24 hours being chosen arbitrarily. ^[2]

Cerebrovascular accident is the primary neurological problem in the world. Stroke is the third ranking cause of death, with an overall mortality rate of 18% to 37

% . There are approximately two million people surviving strokes that need assistance with activities of daily living. [3]

Globally, stroke is the second leading cause of death above the age of 60 years, and the fifth leading cause of death in people aged 15 to 59 years old. Every year, 15 million people worldwide suffer a stroke. Nearly six million die and another five million are left permanently disabled. Stroke is the second leading cause of disability, after dementia. Disability may include loss of vision and / or speech, paralysis and confusion. [3]

By 2015, India will report 1.6 million cases of stroke annually, at least one-third of whom will be disabled. Stroke is a major cause for loss of life, limbs and speech in India, with the Indian Council of Medical Research estimating that in 2004, there were 9.3 lakh cases of stroke and 6.4 lakh deaths due to stroke in India, most of the people being less than 45 years old. WHO estimates suggest that by 2050, 80% stroke cases in the world would occur in low and middle income countries mainly India and China. [4]

A study from India reported prevalence rates of 630 per 100,000 and 420 per 100,000 in Bombay based on a door to door survey of 14,000 subjects. [5]

Stroke is one of the leading causes of death and disability in India. The estimated adjusted prevalence rate of stroke range 84-262/100,000 in rural and 334-424/100,000 in urban areas. The incidence rate is 119-145/100,000 based on the recent population based studies. Stroke rehabilitation is not well developed in India due to lack of personnel. [6]

"In Pune alone, approximately 10,000 patients suffer from stroke each year. Traditionally, stroke is considered to be a disease of the elderly but now-a-days, witnessing stroke cases in the younger population as well. Stroke is the second leading cause of death after cancer in our country," [7]

"In India, 14 lakh people develop an acute ischemic stroke every year but very

few reach a neurologist on time. It has been observed that of the 3800 who are afflicted with acute ischemic stroke every day, only 380 or 10% reach on time (within 3 - 4.5 golden hour period)." [7]

A stroke can have an effect on many body functions, including motor activity, bladder and bowel elimination, spatial, perceptual alterations, personality, affect, sensation, swallowing and communication. The functions affected are directly related to the artery involved and the area of the brain affected. [8]

Strokes are different so for some people the effects may be relatively minor and may not last long, while others may be left with more serious long term problems. there are some common physical problems that many people experience problems with movement and balance, vision, swallowing, controlling bladder and bowels, excessive tiredness, communication, memory and thinking, emotions and behavior. [9]

Stroke is a leading cause of chronic disability in adults and may leave its survivors with a variety of neurological deficits which may affect communication, vision, cognition, ambulation, perception, bowel and bladder control, and other activities of daily living. [10]

Stroke is the commonest cause of severe disability in the community. After discharge from hospital many patients will require continuing help with activities of daily living (ADL), such as moving, bathing, dressing and toileting. This help is often provided by informal caregivers. This burden of care, however, has an important effect on caregivers' well-being, with nearly half of caregivers reporting health problems and two-thirds a decline in social life, and there are high self-reported levels of strain. [11]

Cerebrovascular accident can result in profound disruption of life of the individual. The ability to perform Activities of Daily Living (ADL) may require many adaptive changes as well as assistance from the family members. Home management of the patient may be a challenging situation

for the care giver if they are ignorant about the care of the patient. Meeting the educational needs of the family care giver is essential to optimize the quality of life for both the patient and family. [12]

The types and degrees of disability that follow a stroke depend upon which area of the brain is damaged. Generally, stroke can cause five types of disabilities: paralysis or problems controlling movement; sensory disturbances including pain; problems using or understanding language; problems with thinking and memory; and emotional disturbances. [13]

Eating problems and nutritional status were studied in a consecutive series of patients who had had strokes. From this cohort, 32 subjects (mean age 73 years) with a hospital stay of 21 days or more are described. Eating problems were identified by direct participant observations of the patients' eating behavior, interviews on admission, inspections of the mouth, and discussions with the patients. Nutritional status was assessed by weight, triceps skinfold thickness (TSF), arm muscular circumference (AMC), plasma albumin, serum transferrin, and plasma prealbumin on admission and then weekly. Eating problems were identified in 27 patients. In a general linear hypothesis program, poor nutritional status 3 weeks after admission was found to be associated with (in decreasing order) low self-care performance, poor nutritional status on admission, male sex, intravenous energy-containing fluids, advanced age, paresis of the right arm, and eating problems. [14]

MATERIALS AND METHODS

A Descriptive research study approach was used for present study. The study comprises of 50 Cerebrovascular accident patients admitted in selected Hospitals by non-probability convenience sampling. Descriptive Research Approach was used for present research study. The fifty Cerebrovascular accident patients selected for the study those who are fulfilling inclusive criteria of the study.

National Institute of Health Stroke Scale a standardized research tool was used for data collection. The reliability of research tool is 0.92 which was reliable. The investigators introduce him and obtain consent from Cerebrovascular accident patients admitted in selected hospitals and who are willing to participate. Purpose and important of research study explain before collection of data. The Cerebrovascular accident patient assessed for neurological deficit.

The investigator conducted all the test mentioned in national Institute of Health Stroke Scale on Cerebrovascular accident patients and recorded the findings and responses of patients as guided in scale.

RESULTS

Analysis and interpretation is based on the objectives of the study. The analysis was done with the help of inferential and descriptive statistics. Frequency and percentage wise distribution of demographic variables of CVA patients such as age, gender and so on

Table 1: Percentage wise distribution of CVA patients according to their demographic characteristics. n=50

SN	Demographic Variables	No. of Patients	Percentage
1.	Age(Years)		
	41-50	6	12
	51-60	18	36
	61-70	20	40
	71-80	6	12
2.	Gender		
	M	43	86
	F	7	14
3.	Education		
	Illiterate	26	52
	Primary	9	18
	Secondary	11	22
	Higher Secondary	4	8
	Graduation	00	00
	Post Graduation	00	00
4.	Occupation		
	Unemployed	17	34
	Daily Ages/ Farmer	16	32
	Private Service	13	26
	Business	4	08
5	Monthly Income		
	< 5000	2	04
	5000 – 10000	32	64
	10001 – 15000	11	22
	> 15000	5	10
6	Affected Side		
	Left	30	60
	Right	20	40

The above table 1 shows that 40% of sample belongs to 61-70 years of age and 36% belongs to 51-60 years of age. 86% samples were male. Most 52% of samples were illiterate. 34% samples were

unemployed and 32% of samples were farmers. 64% of sample belongs to 5000 – 10000 income group and most 60% of sample was having left affected side.

Table 2: Assess the neurological deficits of CVA patients. n=50

Category	Minimum score	Maximum score	Mean	Standard deviation	Mean percentage
Neurological Deficit	02	33	10.88	5.49	25.90

The above table 2 depicts that the mean score of neurological deficits among CVA patients is 10.88. The mean percentage score is 25.90. This indicates that most of the patients was having Moderate stroke.

Table 3: Assessment the severity of neurological deficits among CVA patients. n=50

Score	Stroke Severity	Frequency	Percentage
0	No Stroke Symptoms	0	00
1-4	Minor Stroke	3	6
5-15	Moderate Stroke	41	82
16-20	Moderate to Severe Stroke	4	8
21-42	Severe Stroke	2	4

The above table 3 depicts that the severity of neurological deficits among CVA patients. 82% of CVA patients having moderate stroke and 8% of CVA patients having moderate to severe stroke.

Table 4: Identify the Problems of CVA patients. n=50

SN	Problems	Frequency	Percentage
1	Activity of daily living	42	84
2	Movement	42	84
3	Communication	45	90
4	Incontinence	32	64
5	Thinking / cognition	43	86

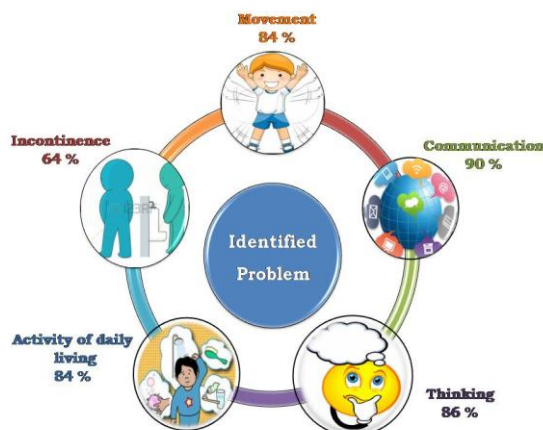


Figure: Identify the Problems of CVA patients

The above table 4 shows that the maximum 90% of CVA patients having problem for

Communication. 86 % of CVA patients having problem for Thinking / Cognition. 84 % of CVA patients having problem for movement and activity of daily living.

DISCUSSION

A patient with Cerebrovascular Accident having neurological deficit leads to required long term hospitalized or home care. In present study mean neurological deficit score was 10.88 and 82% of samples suffered from moderate level of Cerebrovascular Accident. Cerebrovascular accident patients having problems like Immobility, communication, Activity of Daily living and so on. For that adequate care required to recover and to prevent complication. Approximately 50% of hospitalized individuals have impaired mobility. Prolonged bed rest and immobilization inevitably lead to complications. [15]

Hence to recover the problems and to prevent the complication in Cerebrovascular accident patients caregivers play important role. So caregivers should be knowledgeable regarding care of Cerebrovascular accident patients.

CONCLUSION

The study aims that to assess the neurological deficit in CVA patients and identify the problems of CVA patients. The study comprises 50 Cerebrovascular accident patients. Non probability convenient sampling technique was used for present study. National Institute of Health Stroke Scale a standardized research tool was used for data collection. The results show that the most 82% of the Cerebrovascular accident patients having

moderate level stroke and 8% of Cerebrovascular accident patients was having severe level of stroke. Maximum 90% of CVA patients have problem for Communication. Maximum 86 % of CVA patients have problem for Thinking / Cognition. Mostly 84% of CVA patients have problem for movement and Activity of Daily Living. There is not significant association between neurological deficit among Cerebrovascular accident patient and demographic variables except age. There is need for the education of patient as well as their caregivers on care of Cerebrovascular accident patients.

REFERENCES

1. SuzanneCS, BrendaGB, Brunner & Siddhartha, Textbook of Medical Surgical Nursing, Lippincott Williams & Wilkins publisher, Philadelphia, 2004, 10th edition Page no 1880.
2. Wikipedia contributors, Stroke, Wikipedia, the free encyclopedia, last modified on 24 November 2016, at 04:44, <https://en.wikipedia.org/wiki/Stroke>
3. World Heart Federation, Stroke, Geneva, Switzerland, 2016. Available from: <http://www.world-heart-federation.org/cardiovascular-health/stroke/>
4. Kounteya Sinha, 'India will report 1.6 million stroke cases a year by 2015', The Times of India, Mar 21, 2010, 03.45 AM, Available from: <http://timesofindia.indiatimes.com/india/India-will-report-1-6-million-stroke-cases-a-year-by-2015/articleshow/5707274.cms>
5. Thomas Truelsen, Stephen Begg, Colin Mathers, The global burden of cerebrovascular disease, Non-communicable Diseases and Mental Health Cluster, WHO Geneva (CCS/NMH), Available from: http://www.who.int/healthinfo/statistics/bod_cerebrovascular_diseases_stroke.pdf?ua=1
6. Jeyaraj Durai Pandian and Paulin Sudhan, Stroke Epidemiology and Stroke Care Services in India, J Stroke. Sep 2013; 15(3): 128–134. Published online Sep 27, 2013. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3859004/>
7. Umesh Isalkar, Pune reports 10,000 stroke cases every year, The Times of India, Pune, TNN | Oct 11, 2015, 07.31 PM. Available from: <http://timesofindia.indiatimes.com/city/pune/Pune-reports-10000-stroke-cases-every-year/articleshow/49312628.cms>
8. Black JM, Hawks JH. Medical-Surgical Nursing: Clinical Management for Positive Outcomes. Vol 2: 8th ed. Philadelphia: Elsevier Publications; 2009. p. 1843.
9. Stroke association, Common problems after stroke, reviewed: April 2016 Available from: <https://www.stroke.org.uk/what-stroke/what-problems-do-people-have-after-stroke>
10. McBride. Post discharge nursing intervention for stroke survivors and their families. Journal of advanced nursing; 47(2): 192-200.
11. A Forster, J Dickerson, J Young, A cluster randomised controlled trial and economic evaluation of a structured training programme for caregivers of inpatients after stroke: the TRACS trial, Health Technology Assessment, 2013 VOL. 17 NO. 46
12. Lewis SL, Hetkemper MM, Dirkson SR, Bron PGO, Bucher L. Medical Surgical Nursing; Assessment and management of clinical Problems. 7th ed. Philadelphia: Elsevier Publications; 2009. p. 1502-10.
13. Know stroke, Post Stroke rehabilitation, National Institute of Health, Publication No. 14,1846 September 2014 Available from: <https://stroke.nih.gov/materials/rehabilitation.htm>
14. Axelsson K, Asplund K, Norberg A and Eriksson S, Eating problems and nutritional status during hospital stay of patients with severe stroke., Journal of the American Dietetic Association, Sweden. 89(8):1092-1096 Available from: <http://europepmc.org/abstract/med/2760369>
15. Fathia A. Mersal, Caregivers' Knowledge and Practice Regarding

Prevention of Immobilization
Complications in El-demerdash
Hospital Cairo Egypt., Mersal, 2014:
Vol 2(3) 78, American Journal of

Research Communication.
http://www.usa-journals.com/wp-content/uploads/2014/03/Mersal_Vol23.pdf

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