


# Chapter 11

## Neuropsychological Functions and Optimism Levels in Stroke Patients: A Cross-Sectional Study

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### ABSTRACT

*Neuropsychological abnormalities, as well as behavioural and psychological characteristics, are being examined in patients in order to determine the prevalence of cognitive impairment and other neurovascular risk factors, including prior strokes. The green light has been given by the institution's human ethics committee for this investigation. In order to conduct the study, the researchers used experimental clinical research techniques. Seventy-five stroke patients ranging in age from 20-70 were the focus of this study. All patients in the hospital had daily clinical examinations and were able to identify the underlying causes of their strokes. The NIMHANS Neuropsychological Battery was administered to all patients between one and six months after the onset of their stroke symptoms.*

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## **INTRODUCTION**

Stroke is defined as “a syndrome of rapidly developing symptoms and signs of focal, and at times global, loss of cerebral function lasting more than 24 hours or leading to death with no apparent cause other than that of vascular origin” by World Health Organization. Ischemic and hemorrhagic are the two main classifications of stroke. When an artery is blocked leading to the starvation of brain for oxygen and nutrients it leads to ischemic states (Wang S, et al., 2003). Ischemic is the reason for around 85% in most cases while Hemorrhagic strokes are the cause for the rest of stroke events. It is also to be noted that they can be intracerebral or subarachnoid. According to (Donnan GA, et al., 2008) “When a blood vessel in the brain ruptures primarily as a result of hypertension, it results in an intracerebral stroke. Subarachnoid stroke is a spontaneous bleed within the subarachnoid space between the arachnoid membrane and pia mater, typically caused because abnormal weak arteries” (Donnan GA, et al., 2004); (Glosser G, Goodglass H. 1994). Ischemic and hemorrhagic strokes could result in impairment, disability, activity limitations and participation restriction (Ballard CG, et al., 2004); (Tatemichi TK, et al., 1994).

India is one of the biggest and most populated nations with a populace size of one billion individuals. Acute and chronic diseases have consistently been a reason to harm well-being leading to death. Acute diseases, particularly irresistible ailments, caused most of deaths in the early century. Following notable diseases were leads to more harmful such as polio, tuberculosis, cholera, plague, typhoid and smallpox, etc. “Over the decades, better public health measures including sanitary practices, good nutrition, sewage disposal, purified water, and good prenatal care as well as the introduction of antibiotics and vaccinations have mainly brought these diseases under control (Joshi, R., et.al, 2006).

Now the leading causes of death are chronic conditions such as cancer and cardiovascular diseases. In India, cardiovascular disease (CVD) is the leading cause of death” (Seth, T., et al., 1995). “The deaths due to CVD in India were 32% of all deaths in 2007 and are expected to rise from 1.17million in 1990 and 1.59 million in 2000 to 2.03 million in 2010. It has quickly become a major health issue and deaths due to CVD are expected to double during 1985-2015” (Ghaffar, A., et al., 2004) “Cardiovascular diseases also affect Indians at a younger age (in their 30s and 40s) than is typical in other countries. Among the various categories of cardiovascular diseases, the majority of deaths are due to myocardial infarction or heart attack. Heart attack remains a leading cause of death throughout the world. About 12.5 million of the estimated 32 million worldwide heart attacks are fatal. Moreover, 40 to 75% of all the victims die before reaching hospitals (Integrated Management of Cardiovascular Risk, WHO, 2002). It is alarming to note that as many as 200,000 to

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