

# Cognitive Impairment and Its Impact on Quality of Life in Rural Indian Female after Stroke: A Cross Sectional Study Protocol

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## Abstract

**Introduction:** Stroke represented growing social, health care and economic problems. in 2005 vascular cognitive impairment a condition that can be found in 20-30% of stroke patient. Now in 2018-19 over 50 percent of stroke survivors have reported cognitive impairment 6 months after stroke and are associated with poorer quality of life which increase disability. Cognitive functions is identified as a top priority for stroke research. Cognitive impairment affects inadequate ability to focus on the job, recall, understand, prepare, use knowledge, initiate and stop the operation and solve problem. a stroke impaired cognitive function including focus, memory, vocabulary, executive function, perception and orientation of space. Because of abnormality in functional independence and other abnormalities in higher function, cognitive impairment may lead to affect independence. it increases the death ratio, abnormality. Stroke impacts wellbeing dramatically on health system resulting in high costs, and is also considered a global public health problem due to severe disabilities, functional deficiencies and reduced quality of life.

**Method:** The corrective study is assessing the cognitive impairment and the quality of life. The cognitive impairment will be measured with the use of the MoCA and QoL will be measured by stroke specific quality of life questionnaire. Female stroke patient with age in between 45-65 year who was diagnosed by the physician is included in the study.

**Discussion:** Stroke is a prevalent condition which affects most of the Indian population. Most studies are done on stroke including male and females both. Many studies have concentrated on cognitive disability after stroke and quality of life in males but no research is available in rural Indian females. The need for the research is therefore to establish the prevalence of cognitive disability in females and their effect on quality of life after stroke.

**Key Words:** Rural Indian females, Stroke, Cognitive impairment, Quality of life, MoCA, and SS-QoL scale.

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## Introduction

Stroke is a leading cause of death and disability in India<sup>1</sup>. It represented growing social, health care and economic problems. In 2005 vascular cognitive impairment a condition that can be found in 20-30% of stroke patient<sup>2</sup>. Now in 2018-19 Over 50 percent of stroke survivors have reported cognitive impairment 6 months after stroke and are associated with poorer

quality of life which increase disability<sup>1</sup>.

The cognitive impairment after stroke is disturbed in any cognitive domain after stroke, executive function, memory, language, visuo-spatial function, visual-construction ability or global cognitive function<sup>3</sup>. Hence, cognitive function is identified as a top priority for stroke research. Cognitive impairment affects inadequate ability to focus on the job, recall, understand, prepare, use knowledge, initiate and stop the operation and solve problem. A stroke impaired cognitive function including focus, memory, vocabulary, executive function, perception and orientation of space<sup>4</sup>. The word cognitive impairment post-stroke is used to describe both mild cognitive impairment and dementia that either occurs 3-6 months after stroke incident<sup>5</sup>. In addition, An approximate 16.9 million stroke cases occurred globally in 2010<sup>6</sup>.

We do not know how many patients with strokes display deterioration or worsening of their cognitive impairment over a period of several years, and we do not have clear prognostic clues to classify those more likely to deteriorate<sup>2</sup>. The estimates modified stroke prevalence range 84-262/100000 in rural areas, and 334-424/100000 in urban areas<sup>7</sup>.

The definition of post-stroke cognitive impairment usually refers to disorders that arise after neuro-radiological examination after symptomatic stroke with associated ischemic finding<sup>3</sup>. The post-stroke depression was found to be cognitive impairment related. It is believed to be linked mortality, reducing functional outcome and quality of life, and may be correlated with multiple factors and psychological mechanisms<sup>8</sup>. Cognitive deficits are a negative prognostic factor that affects behavior and personality<sup>9</sup>. The method such as Montreal Cognitive Assessment is commonly used clinically for examining cognitive disorder<sup>9</sup>. Because of abnormality in functional independence and other abnormalities in higher function, cognitive impairment may lead to affect independence. It increases the death ratio, abnormality<sup>6</sup>.

The physical, social and psychological effects of this disease are severe – approximately 90% of survivors have some kind of impairment<sup>10</sup>. Quality of life in relation to health refers to all types of quality of life affected by diseases<sup>11</sup>. Stroke impacts wellbeing

dramatically on health system resulting in high costs, and is also considered a global public health problem due to severe disabilities, functional deficiencies and reduced quality of life<sup>10</sup>.

### Need of The Study/ Rationale

Stroke is a prevalent condition which affects most of the Indian population. Most studies are done on stroke including male and females both. Many studies have concentrated on cognitive disability after stroke and quality of life in males but no research is available in rural Indian females. The need for the research is therefore to establish the prevalence of cognitive disability in females and their effect on quality of life after stroke.

### Aim and Objective

**Aim:** To assess the effect of Cognitive Impairment on quality of life in Rural Indian women after stroke.

#### Objective:

- 3) To find out the Cognitive Impairment in females after Stroke.
- 4) To find out the impact of cognitive impairment on the Quality Of Life of rural females after stroke.

### Material and Methodology

Ethical approval will be obtained from the Institutional ethical committee. 40 participants will be selected randomly specially females and assessed for cognitive impairment and quality of life after obtaining consent form.

#### Material-

- 4) Couch
- 5) Chair with hand support
- 6) Immobilizer belt
- 7) Table
- 8) Pen

#### Method:

The research project will be conducted in Ravi Nair College of physiotherapy with rural population. It is cross-sectional observational study. All female patients

who were diagnosed as having stroke and who fulfilled the inclusion and exclusion criteria included in the study.

The corrective study is assessing the cognitive impairment and the quality of life. The cognitive impairment will be measured with the use of the MoCA and QoL will be measured by stroke specific quality of life questionnaire.

Mixed etiologies subject is excluded from the study.

### **Instrumentation:**

MoCA, and SS-QoL scale is used as instrument.

The study selected because:

2. It is simple and convenient
3. Does not involve expensive technology or not too costly
4. It is time efficient to perform
5. Easy to understand
6. Reliability of MoCA is 0.75-0.96, and SS-QoL is 0.65-0.99

**STUDY DESIGN:** Observational study.

**STUDY SETTING:** Ravi Nair College of Physiotherapy, Sawangi(M), Wardha

### **PARTICIPANTS:**

#### **Inclusion and Exclusion Criteria:**

Inclusion criteria:

1. Female stroke patient
2. Age in between 45-65 year who was diagnosed by the physician is included in the study.

Exclusion criteria:

- 5) The patient having mixed – etiologies
- 6) Elderly female above 67 year
- 7) Any other psychological disorder is excluded from the study.

### **VARIABLES:**

1. MoCA Scale
2. SS-QoL Questionnaire.

### **Data Sources/ Measurement:**

Ethical clearance will be obtained from institutional ethical committee (IEC). Participant will be selected by simple random technique. Inclusion and exclusion criteria will be implemented assessment during the hospital stay or within 3 month of stroke. To assess the different aspect of cognitive functions each participant tested approximately 1 and ½ hours session.

MoCA is commonly used method for cognitive evaluation. Eventually the MoCA returns a judgment-based score. The first only requires verbal input and involves orientation, memory and attention assessment. The second portion assesses the naming skills to obey verbal and written orders, writes a sentence randomly and copies a complex polygon. Since the MoCA includes divisions there is no limit of sub-domains. Total total score is 30 and total administration time is around 10-15 min. A cutoff <24 is used to define cognitive impairment.

With the SS-QoL we assessed Life Value

We applied the stroke Specific quality of life scale this method to measure the Quality of Life. The SS-QoL is a particular instrument used to measure health-related quality of life among individuals suffering stroke. It holds 49 objects in 12 domains. Higher values suggest a better quality of life linked to health.

### **Data Analysis:**

Data analyses are carried out using concise and inferential statistics, using unpaired t-test research students. The program used in the study will be the SPSS 24.0 version, the graphpad prism 7.0 version and the degree of significance < 0.005 (p > 0.005 m) is considered.

### **STUDY SIZE: 40**

**STATISTICAL METHOD:** Simple Random Sampling

### **Result**

Upon completion of the study results, statistical analysis will be estimated.

The result could show the impact on cognitive impairment and quality of life of post stroke patients in rural Indian females. or

The result could not show the impact on cognitive impairment and quality of life of post stroke patients in rural Indian females.

## Discussion

Stroke is a prevalent condition which affects most of the Indian population. Most studies are done on stroke including male and females both. Many studies have concentrated on cognitive disability after stroke and quality of life in males but no research is available in rural Indian females. The need for the research is therefore to establish the prevalence of cognitive disability in females and their effect on quality of life after stroke.

### Limitations:

It might be difficult to get convince patient for being a part of this study.

### Implication:

Outcome of the study shall help the geriatric population to get aware about their condition and health the researcher to plan the treatment protocol.

### Generalizability:

study not yet done.

### Ethics and Dissemination:

The approval of the Committee on Institutional Ethics must be obtained prior to the start of the study. Patients must be treated with respect first. Upon meeting the requirements of inclusion and exclusion criteria, the patients are taken for review

**Source of Funding:** There will be no direct support for this research from public and private organization. The department of physiotherapy, at Datta Meghe institute of Medical Science, Deemed to be university will provide material needed for research.

### Conflict of Interest: Nil

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