

# Assessment of Cognitive Impairment Status among Elderly with a View to Implement a Need-Based Teaching Regarding Care of Elderly

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**Abstract:** ***Background:** Cognition is generally described as the process by which a person “knows the world” and interacts with it.<sup>1</sup> Cognitive impairment refers to problems people have with cognitive function such as thinking, reasoning, memory or attention<sup>2</sup>. Annually 5-15% of old age people have cognitive impairment to different forms of Dementia and Alzheimer’s disease. As per studies done in India and Taiwan, prevalence was found to be 22.2% and 18% respectively.<sup>3</sup> **Objectives of the study:** To assess the cognitive impairment status among elderly population in selected areas of Bezera, Kamrup (R), Assam, the association between cognitive impairment status and sociodemographic variables and implement a need-based teaching regarding care of elderly to care givers. **Materials and Methods:** A non-experimental quantitative research study was carried out among 115 elderly population of Bezera, Kamrup(R) Assam using non-probability consecutive sampling technique. Data was collected using standardized tool MMSE with semi-structured interview method. Data were analysed in term of descriptive and inferential statistics. **Results:** The study revealed that out of 115 participants 23.48% have mild cognitive impairment, 6.95% have moderate cognitive impairment and 69.57% of the respondents have no-cognitive impairment. The chi-square shows that there is significant association between cognitive impairment status with marital status and primary care givers. **Conclusion:** Based on the findings a need-based teaching regarding the care of the elderly to the care givers was given.*

**Keywords:** Assess, Cognitive impairment, Elderly population, Dementia, Caregivers, Assam

## 1. Introduction

“There is no scientific study more vital to man than the study to his own brain. Our entire view of universe depends on it”

-Francis Crick

Cognitive impairment refers to problems people have with cognitive function such as thinking, reasoning, memory or attention<sup>2</sup>. The frequency of cognitive impairment is increased after the age of 60 years. A neurologically degenerative disorder is the underlying cause in the majority of cases of significant cognitive decline.<sup>4</sup> Ageing generally means the aging of cells. Due to the continuous functioning, the cells, tissues and organs of our body degenerate. In the later part of life, we have to face many physical and mental problems. Hence old age is the result of physical and psychological fatigue caused by continuous functioning. Annually 5-15% of old age people have cognitive impairment to different forms of Dementia and Alzheimer’s disease. As per studies done in India and Taiwan, prevalence was found to be 22.2% and 18% respectively. The prevalence of cognitive impairment is high in rural areas if India compared to urban areas, whereas the studies in rural areas are very few compared to urban population.<sup>3</sup>

## 2. Problem Statement

Assessment of cognitive impairment status among elderly with a view to implement a need-based teaching regarding care of elderly.

## 3. Objectives

- To assess the cognitive impairment status among elderly population in selected areas of Bezera, Kamrup (R), Assam.
- To find out the association between cognitive impairment status and socio-demographic variables.
- To implement a need-based teaching regarding care of elderly to care givers.

## 4. Materials and Methods

This descriptive study was carried out among elderly population to assess the cognitive impairment status with a view to implement a need-based teaching regarding care of elderly to care givers in selected areas of Bezera, Kamrup(R) Guwahati, Assam from 11/11/22 to 16/11/22

**Study Design:** Non-Experimental research design i.e, cross-sectional Descriptive Research design.

**Study Location:** Bezera, Kamrup(R), Assam.

**Study Duration:** 11/11/22 to 16/11/22.

**Sample Size:** 115 elderly Population.

**Subject & Selection methods:** The study population was drawn from some selected areas of Bezera, Kamrup ( R),

Volume 13 Issue 1, January 2024

Fully Refereed | Open Access | Double Blind Peer Reviewed Journal

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Assam, by using non-probability consecutive sampling technique.

#### Inclusion criteria

- Elderly population aged 60 years and above.
- Elderly population present at the time of data collection.
- Both male and female elderly population.

#### Exclusion criteria

- Elderly population with known cases of cognitive impairment, mental retardation, psychiatric patient.
- Elderly population who are illiterate.

#### Tools for data collection:

- Self-structured questionnaire for socio-demographic variables of the participants viz. Age (in years), Gender, Educational Qualification, Occupation, Marital Status, Religion, Types of family, Living arrangement, Primary care givers.
- Mini-Mental status Examination to assess the Cognitive impairment status among elderly population. It consists of five components. The scores are obtained by (10= Orientation, 5= Attention and Calculation, 3= Registration, 3= Recall, 9= Language). The scores are interpreted as No cognitive impairment= 24-30, mild cognitive impairment= 19-23, moderate cognitive impairment= 10-18 and severe cognitive impairment= <9.

#### Ethical consideration:

Permission was taken from Principal of Arya Nursing College. Permission was taken from the Head of the Village, Bezera, Kamrup, Assam. Confidentiality of all participants was taken into account. Informed consent was obtained from all the participants after explaining the purpose and details of the study. Anonymity of the participants was maintained by using Code no. instead of their own name.

#### Procedure of data collection:

After obtaining informed consent, self-structured questionnaire, modified standardized questionnaire on socio-demographic perfoma and Mini-Mental Status Examination was administered to the participants. The data was collected on 11/11/2022 to 16/11/2022.

#### Statistical Analysis:

Data were analysed by statistical measures based on the objectives of the study. Frequency and percentage to assess the cognitive impairment status among elderly population, Chi-square test to assess the association between the cognitive impairment status and socio-demographic variables among elderly population.

## 5. Results

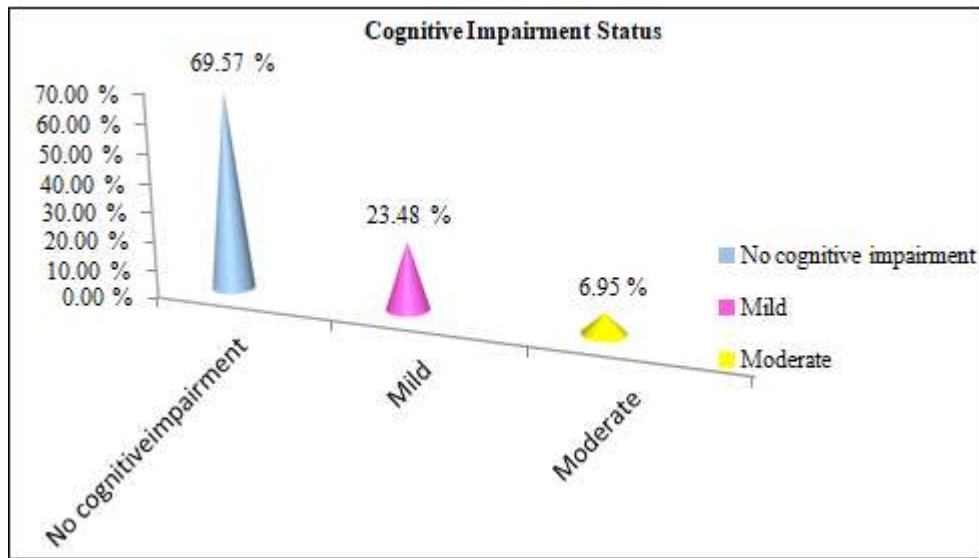
### Section I: Frequency and percentage distribution of socio-demographic variables.

**Table 1 (a):** Frequency and percentage distribution according to age, gender, educational qualification, occupation, marital status religion, types of family, living arrangement and primary care giver, **n=115**

S. NO	Demographic variables	Frequency (f)	Percentage (%)
1	<b>Age (in years)</b>		
	60-65 years	39	33.91
	66-70 years	33	28.7
	71-75 years	25	21.74
	76 years and above	18	15.65
2	<b>Gender</b>		
	Male	42	36.52
	Female	73	63.48
3	<b>Educational qualification</b>		
	Primary	86	74.78
	HLCS	11	9.56
	HS	9	7.83
	Graduate and above	9	7.83
4	<b>Occupation</b>		
	Employed	11	9.57
	Unemployed	87	75.65
	Retirement	17	14.78
5	<b>Marital status</b>		
	Married	96	83.48
	Divorced/separated	1	0.87
	Widow/widower	18	15.65
	Single/unmarried	0	0
6	<b>Religion</b>		
	Hindu	107	93.04
	Islam	8	6.96
7	<b>Types of family</b>		
	Nuclear family	69	60
	Joint family	46	40
8	<b>Living arrangement</b>		
	Alone	0	0
	With spouse only	4	3.48
	With children	83	72.18
	With siblings/relatives	28	24.34
9	<b>Primary care giver</b>		
	Husband	24	20.87
	Wife	39	33.91
	Son	23	20
	Daughter in-law	29	25.22

Table 1 (a) shows that majority 33.91% of participants were under the age group of 60-65 years, 63.48% were female, 74.78% were primary, 75.65% were unemployed, 83.48% were married, 93.04% were Hindu, 60% belong to nuclear family, 72.1% were living with children and 33.91% were taken care by their wife

### Section II: Frequency and Percentage Distribution of Cognitive Impairment among Elderly Population, n=115



The above cone diagram shows that 23.48% have mild cognitive impairment, 6.95% have moderate cognitive impairment, 69.57% of the participants have no cognitive impairment.

**Section III: Association between Cognitive Impairment Status with Selected Socio-Demographic Variables.**

**Table 3.1:** Association of cognitive impairment status with selected socio-demographic variables

Variables	Cognitive Impairment Status					$\chi^2$ value	df	p value	Remarks
	No	Mild	Moderate	Severe	Total				
<b>Age (in years)</b>									
60-65 years	31	7	1	0	39	10.06	9	16.92	NS
66-70 years	21	10	2	0	33				
71-75 years	17	7	1	0	25				
76 years above	11	3	4	0	18				
Total	80	27	8	0	115				
<b>Gender</b>									
Male	33	8	1	0	42	3.31	3	7.82	NS
Female	47	19	7	0	73				
Total	80	27	8	0	115				
<b>Educational Qualification`</b>									
Primary	53	25	8	0	87	10.87	9	16.92	NS
HSLC	10	1	0	0	11				
HS	9	0	0	0	9				
Graduate and above	8	1	0	0	9				
Total	80	27	8	0	115				
<b>Occupation</b>									
Employed	11	0	0	0	11	10.8	6	12.59	NS
Unemployed	54	25	8	0	87				
Retirement	15	2	0	0	17				
Total	80	27	8	0	115				
<b>Marital Status</b>									
Married	74	18	4	0	100	19.71	9	16.92	S
Divorced/separated	0	1	0	0	1				
Widow/widower	6	8	4	0	18				
Single/unmarried	0	0	0	0	0				
Total	80	27	8	0	115				
<b>Religion</b>									
Hindu	78	22	7	0	107	1.9	12	21.03	NS
Islam	4	3	1	0	8				
Christian	0	0	0	0	0				
Buddhism	0	0	0	0	0				
Others	0	0	0	0	0				
Total	82	25	8	0	115				
<b>Types of Family</b>									
Nuclear Family	48	17	4	0	69	0.41	6	12.59	NS
Joint Family	32	10	4	0	46				
Extended Family	0	0	0	0	0				
Total	80	27	8	0	115				

Living Arrangement									
Living alone	0	0	0	0	0	5.13	9	16.92	NS
Living with spouse only	4	0	0	0	4				
Living with children	53	23	7	0	83				
Living with siblings/relatives	23	4	1	0	28				
Total	80	27	8	0	115				
Primary caregiver									
Husband	18	6	0	0	24	21.54	12	21.03	S
Wives	34	4	1	0	39				
Sons	9	10	4	0	23				
Daughter in-law	18	6	4	0	29				
Others	0	0	0	0	0				
Total	80	26	9	0	115				

- NS= Not Significant
- S= Significant

## 6. Discussion

The study findings are supported by a study conducted by **Saikia M A et. al. (2020)** to assess the prevalence and risk factor of mild cognitive impairment among the elderly of Guwahati city, Assam. Result showed that mild cognitive impairment is 24.2%. The above results concluded that there is a need for need based teaching regarding cognitive impairment by giving health teaching or health talk.<sup>8</sup>

The study findings are supported by a study conducted by **Lei Feng et.al (2014)** to assess the marital status and cognitive impairment among Community. The prevalence of cognitive impairment was 12.2%. The association between marital status and cognitive impairment was much stronger in men compared with women and was indeed statistically significant only for men.<sup>6</sup>

The study findings are supported by a study conducted by **Matt Paradise et al. (2015)** to assess the care-givers burden in mild cognitive impairment. It has been found out that 36% of MCI caregivers reported clinically significant levels of burden. Participants behavioural problems contribute most to the burden and possibly cognition also having a significant association.<sup>7</sup>

The study findings are contrasted by a study conducted by **Rakesh M. Patel et al (2018)** were they have found that on multivariate analysis, age more than 60 years and illiteracy had significant positive association.<sup>7</sup>

## 7. Conclusion

The study conducted on elderly population in selected areas of Bezera, Kamrup, Assam, revealed that 23.48% have a mild cognitive impairment, and 6.95% have a moderate cognitive impairment, 69.57% have no cognitive impairment. The chi-square shows there are two significant associations between cognitive impairment status and socio-demographic variables i.e., marital status and primary caregivers. Based on the findings a need-based teaching regarding the care of the elderly to the care givers was given.

## 8. Recommendations

Based on the findings the following recommendations are made:

- The findings of the present study serve as a basis for the students and professionals to conduct further study on cognitive impairment.
- A comparative co relational study can be designed on cognitive impairment among elderly population in urban and rural areas.

## 9. Implications of the study

The findings of the study have several implications in the field of nursing practice, nursing education and nursing research.

### Nursing Practice

- Encourage the nurses to participate in health awareness program for management on cognitive impairment.
- Develop a partnership with health care provider and other resources to ensure the best practices and prevention of cognitive impairment.

### Nursing Education

- Awareness program, seminar, workshop can be conducted regarding management on cognitive impairment and care giver in the community setting.
- It is very important to have a curriculum that emphasis on the management of cognitive impairment.

### Nursing Research

- The nurse should take initiation to conduct further research regarding the cognitive impairment and its management.
- Further study can reconstruct on a larger population to compare, correlate and generate the findings.

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