



# CORRELATION BETWEEN COGNITIVE FUNCTION AND QUALITY OF LIFE AMONG ELDERLY PEOPLE LIVING IN RESIDENTIAL CARE HOMES

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**Abstract:** As the aging process occurs correspondingly decline of cognitive function also occurs. This affects the person's quality of life. In old age there are many factors that affect the quality of life such as physical, intellectual, social, and environmental factors, and cognitive impairment is one of the main factors. Considering the susceptibility of the elderly people and the limited studies on cognitive function and quality of life among elderly people living in residential care homes in India lead to the need of this study. This study aims to explore the correlation between cognitive function and quality of life among elderly people living in residential care homes, furthermore, exploring this relationship can help in identifying potential areas of support and intervention to improve the overall well-being of elderly people. A convenient sampling was used in this study. The data were collected offline using Montreal Cognitive Assessment (MoCA) and WHOQOL-BREF scale. There was a positive correlation ( $p < 0.05$ ) between MoCA scale scoring and WHOQOL-BREF scoring. This makes it clear that cognitive function is significantly and directly related to quality of life of elderly people living in residential care homes.

**Keywords:** Cognitive function, Quality of life, Elderly people, Residential care homes

## I.INTRODUCTION

### ELDERLY PEOPLE IN INDIA

As a normal part of life, aging is brought on by a steady decline in the metabolic activity of the organs and a reduction in the ability of cells to regenerate. The average lifespan of people has been rising around the globe. The length of one's life can be affected by a number of variables, including as genetics, lifestyle choices, a healthy diet, quitting smoking, and physical activity. Elderly people are more susceptible to physical and mental abnormalities, which can lead to a variety of health problems. <sup>[21]</sup>

The 20th century saw an extraordinary increase in human longevity, which contributed to the global phenomenon of population aging. In India, the number of people over 60 has more than tripled during the past 50 years. According to the study since 2011, there were 103.83 million elderly persons (60 years and older), and it is anticipated that this number will rise to 133.32 million by 2021, 178.59 million by 2031, 236.01 million by 2041, and 300.96 million by 2051. <sup>[23]</sup>

Old age can be roughly defined as time-altered changes in a person's biological, psychological, and physical skills, as well as its implications for the changes in that person's function in the economy and society that

follow. This suggests right away that there are a variety of problems that necessitate paying close attention to the elderly.<sup>[9]</sup>

## Cognitive function in elderly people

Deterioration in the cognitive function may be due to changes in the brain, such as difficulty remembering, and poor processing which are often due to forgetfulness. In elderly people, dementia or Alzheimer's disease is very common where deterioration in cognitive function found significantly. Therefore, the elderly people are considered to be a weak group with declining cognitive functions.<sup>[21]</sup> The cognitive impairment includes trouble remembering, a weakened capacity for decision-making, and delayed answers.<sup>[18]</sup>

Older people with cognitive retardation may experience dependency on daily activities. One way to solve this problem is to prevent further deterioration of cognitive function and maintain cognitive skills in the elderly people. There are many programs that can be done such as memory training, stress management, social therapy, behavioural therapy. Cognitive development should be taken into consideration in order to increase the quality of life of the elderly people.<sup>[21]</sup>

Cognitive impairment is now recognized as one of the hallmarks of an unhealth adult life. Research studies show that most of the elderly people in community have cognitive problems. Aging is associated with increased health issues that can lead to different disabilities. Older people may suffer from illness, disability, and functional impairment associated with cognitive problems that make them dependent on others for care and assistance in their daily lives.<sup>[1]</sup>

Many researchers think that Mild Cognitive Impairment (MCI) is a transition between aging and dementia. Early recognition and intervention of MCI can help to slowdown the progression of dementia.<sup>[14]</sup> Cognitive skill plays an important role in quality of life in elderly people as it contributes most of the skills to achieve independently.<sup>[21]</sup>

## Quality of life in elderly people

The criterion for evaluating a person's highest level of energy or force is their quality of life. The successful adaptability of a human with the current problems depends on this force and energy. The quality of life for elderly peoples can be impacted by a number of variables, including difficulties during the elderly period that result in a decline in cognitive functionality and self-reliance.<sup>[13]</sup>

Quality of life is influenced by physical, intellectual, social, and environmental factors.<sup>[21]</sup> Due to their diminished physical and mental capacities, older persons are more likely to develop several health conditions. These issues may affect elderly people's quality of life.<sup>[28]</sup>

The importance of life span and improving the quality of life are to be emphasised in elderly people.<sup>[21]</sup> The results of certain studies indicate that enhancing elderly people's social support and quality of life will raise their level of life satisfaction.<sup>[2]</sup>

## Elderly people in residential care homes

The reasons for elderly people for moving to a care home are many losses, many complex illnesses, burdens, poor work and social relationships. Compared to older people living at home, elderly people in care homes are often depressed and lack social support. Elders living in residential care homes are more likely to have a lower quality of life because of their worsening health, changing living conditions, strict daily schedules, and altered social interaction patterns.<sup>[3]</sup>

Because of their children's emotional neglect, verbal and even physical abuse, and general contempt, some elderly people are compelled to relocate into an old age home. But despite this, they mostly seem to prefer to be at home with their family, including their children and grandchildren.<sup>[26]</sup>

The influence of the elders' perceived autonomy was one of several factors that were found to be significantly related to the quality of life (QoL) of residential care home (RCH) elders; perceived autonomy referred to the choices and controls the RCH elders had over their residential living.<sup>[3]</sup>

The most frequent stressors connected to living in residential facilities are difficulty adjusting to the new environment and strict time schedules, declining functional ability, separation from family and community, social alienation, feeling helpless, and repeatedly witnessing death and illness in such settings.<sup>[27]</sup> To encourage a meaningful and fulfilling life for older individuals, it is important to take in account their holistic needs, including their social, emotional, financial, spiritual, and physical demands.<sup>[26]</sup>

## II. METHODOLOGY

### Research design:

A cross-sectional survey study design was conducted to correlate cognitive function and quality of life among elderly people living in residential care homes.

### Setting of the study:

The study was conducted in two residential care homes in Kollam district in Kerala.

### Sampling techniques:

Convenient sampling was used for the survey

### Sample population:

Elderly people living in residential care homes.

### Sample size:

Sample size (n) = 43

### Screening criteria:

#### Inclusion criteria:

- Individual with age 65 and above. <sup>[1]</sup>
- Individual in residential care home atleast for past 6 months. <sup>[24]</sup>
- Individual who are able to communicate properly.

#### Exclusive criteria:

- Individuals with pre-existing or diagnosed by the clinical evaluation; psychiatric conditions; use of psychotropic drugs. <sup>[17]</sup>
- Individuals with any neurological disorder and orthopaedic conditions. <sup>[12]</sup>

### Procedure

A convenient sampling was used in this study, which was conducted in an urban area in Kollam district in Kerala. The participants were explained about the purpose of the study. Participants who were willing to participate were selected according to the selection criteria. Then the written consent was obtained from the participants prior to the study. The participants were assured that all the information would be kept confidential and then collected their demographical data. The data were collected offline. Montreal Cognitive Assessment (MoCA) was administered for 43 elderly people who were selected according to the selection criteria for assessing the cognitive function. Later WHOQOL-BREF scale was used for assessing the quality of life of the elderly people. Then the participants were thanked for their cooperation in the study. Finally, the collected data was analyzed using SPSS software (SPSS Inc.; Chicago, IL) version 26.0 and interpreted.

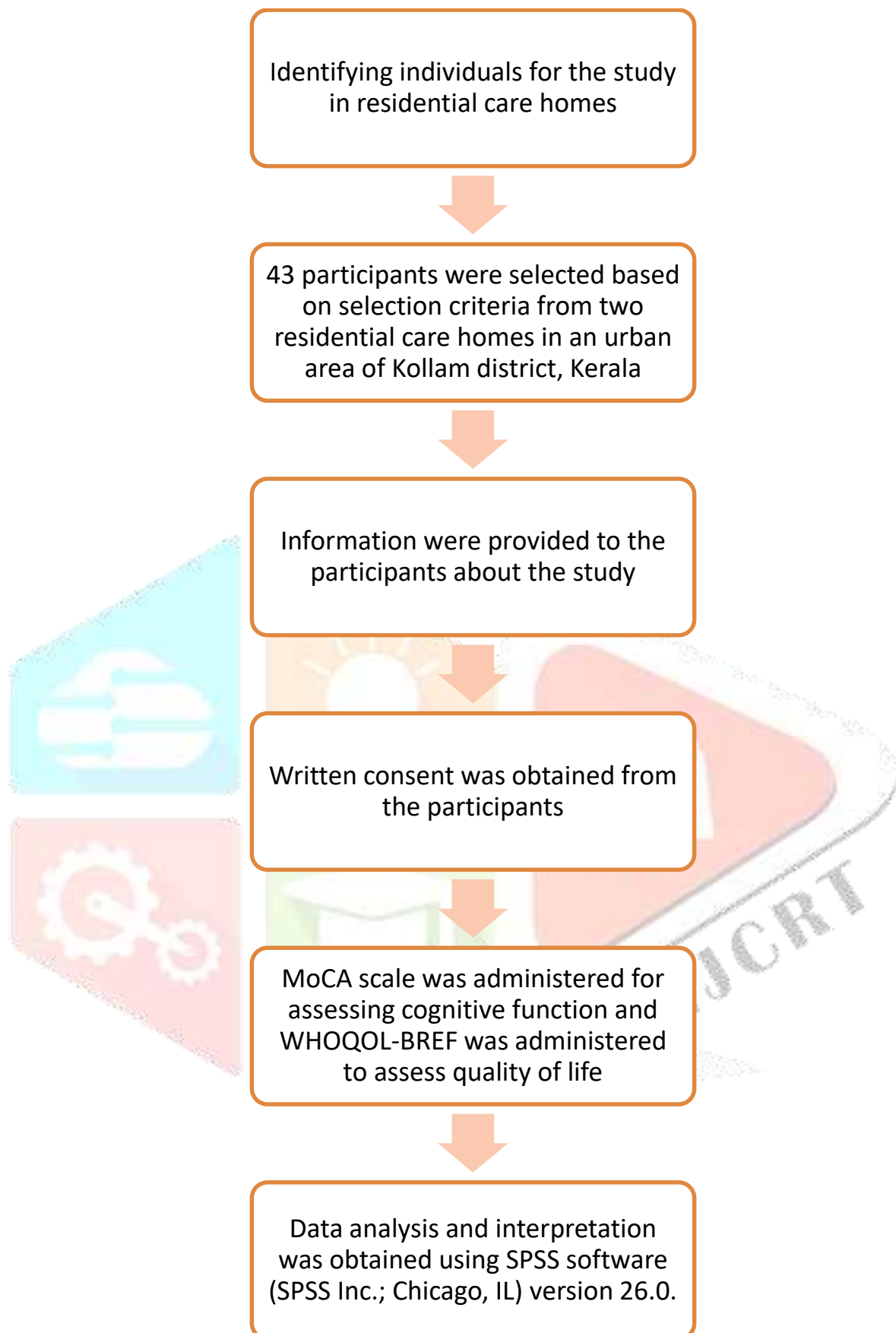


Fig.1: schematic representation of research design

### III. RESULT

The aim of this study was to explore the correlation between cognitive function and quality of life among elderly people living in residential care homes. The previous chapter laid out the methodology employed for the current study. This present chapter looks into the analysis of the results obtained.

#### Descriptive statistics of cognitive function and quality of life:

Table 1: Cumulative score of MoCA scale

	Range	Mean	S.D.
MoCA scale scoring	8 to 25	18.2	4.0

Table 1 shows the range of the scores collected using MoCA scale and the mean and standard deviation in MoCA scale scoring. Mean of MoCA scale scoring is 18.2 and standard deviation is 4.0. The score ranges from 8 to 25.

Table 2: Cumulative score of WHOQOL-BREF

	Range	Mean	S.D.
WHOQOL BREF scoring	52 to 91	71.6	9.2

Table 2 shows the range of the scores collected using WHOQOL-BREF scale and mean and standard deviation in WHOQOL-BREF scale scoring. Mean of WHOQOL-BREF scale scoring is 71.6 and standard deviation is 9.2. The scoring ranges from 52 to 91.

Figure 1: Graphical representation of the mean and standard deviation of the MoCA scale scoring and WHOQOL-BREF scale scoring.

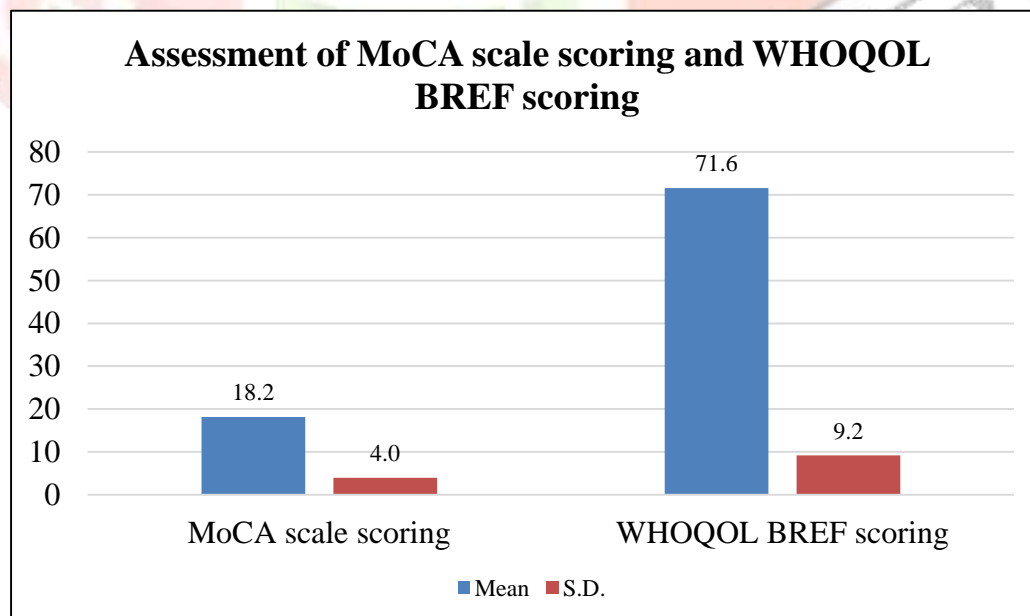


Table 3: Relation between MoCA scale scoring and WHOQOL BREF scoring

	Pearson correlation "r"	p value
MoCA scale scoring and WHOQOL BREF scoring	0.408	0.007*

(\* Significant)

The Pearson correlation "r" was used to find the relation between MoCA scale scoring and WHOQOL BREF scoring. There was a positive correlation ( $p < 0.05$ ) between MoCA scale scoring and WHOQOL BREF scoring.

Figure 2:

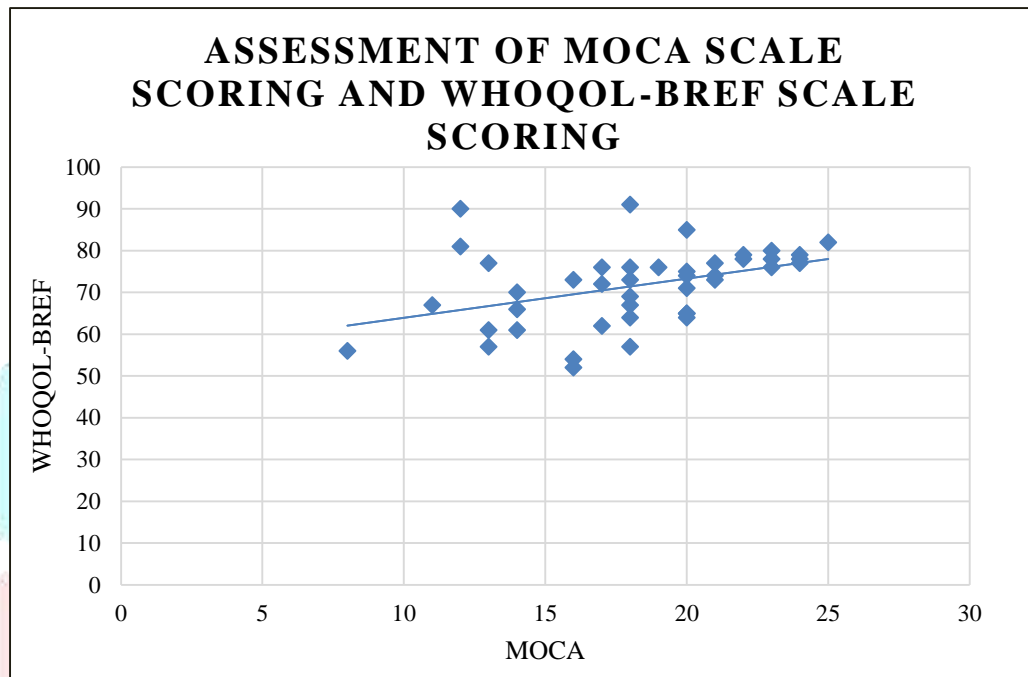


Figure 2 shows the graphical representation of the relationship between WHOQOL-BREF scoring and MoCA scale scoring.

#### IV. DISCUSSION

This chapter discuss about the results of the study interpreted from the statistical analysis. This study was conducted to find the correlation between cognitive function and quality of life among elderly people living in residential care homes.

Table 3 and figure 2 showed the correlation between the MoCA scale scoring and WHOQOL-BREF scale scoring where the Pearson correlation "r" is 0.408 and p value is 0.007. This explains that there was a positive correlation ( $p < 0.05$ ) between MoCA scale scoring and WHOQOL-BREF scoring which satisfies the hypothesis of this study. This makes it clear that cognitive function is significantly and directly related to quality of life of elderly people living in residential care homes in support with previous studies.<sup>[21]</sup>

In a supporting study it says that the second highest level of impairment in the disorders was found to be cognitive impairment. Residents of old age homes were shown to have a higher frequency of physical and mental health issues. The cause may be due to a major increase in psychological pressures, minimal family support, a lack of facilities and medical care (physical and mental), the constrained atmosphere of old age homes, financial restraints, etc. Residents of care homes were shown to frequently suffer from mental problems.<sup>[20]</sup>

In another study it shows that Health-related QOL is impacted by cognitive impairment regardless of age, gender, education level, chronic illness, or type of housing. Discovered great correlation between cognitive decline and QOL in elderly people. The physical and psychological aspects of QOL were found to be impaired in those with cognitive impairment.<sup>[16]</sup>

Beyza Akdag et al projected that elderly people who reside in residential care homes are more likely to experience cognitive deficits. Age and mental health were observed to affect elderly people's cognitive function. [1] High levels of education, social engagement, and employment are said to assist maintain cognitive function in elderly people.[5]

## V. CONCLUSION

Cognitive vitality is very important to quality of life and survival in elderly people. The importance of life span and improving the quality of life are to be emphasised in elderly people. The elderly population needs specific care services to maintain a high standard of living and good mental health. The findings of statistical analysis of this study indicate that there is significant and direct relation between cognitive function and quality of life among elderly people living in residential care homes.

## VI. LIMITATIONS

This study was conducted on a small sample size from small sample of residential care homes which can affect the generalisation.

## VII. RECOMMENDATIONS

- The study can be done in a large population.
- Data may be collected from different contexts.
- Further studies can focus on Interventions for improving cognitive function and quality of life in elderly people.

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