UNLOCKING THE MIND-BODY CONNECTION: COGNITIVE IMPAIRMENT AND FUNCTIONAL ABILITY AMONG ELDERLY RESIDENTS IN CHENNAI'S OLD AGE HOMES

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Abstract

This study examined the prevalence and relationship between cognitive impairment, disability, and mental health among elderly individuals in an urban setting in India. The sample included 198 respondents, primarily female, aged 65 to 90 years. The mean age of the participants was 77.4 ± 8.72 years. Educational attainment varied, with a notable proportion having low levels of education. Most participants belonged to high socio-economic status. A significant negative correlation ($r = -0.347$, $p < 0.01$) was found between Mini Mental Status Examination scores and the Disability Assessment Scale, indicating an association between declining cognitive status and increased functional disability. These findings underscore the importance of addressing cognitive impairment, disability, and mental health among the elderly. The study contributes valuable insights into the prevalence and relationships of these factors, calling for further research with larger cohorts for generalizability. This knowledge is crucial for predicting healthcare resource needs and guiding governmental policies to improve the quality of life for the growing elderly population in India.

INTRODUCTION

As the world's population ages, there is growing interest in the prevalence and significance of depressive symptoms and disorders in the elderly. Mental health is a fundamental need which contributes to the overall wellbeing. It needs to be recognized and treated to all human beings, including the greying population with the same urgency as physical health. In 2050, 80% of older people will be living in low- and middle-income countries. The pace of population ageing is much faster than in the past (WHO, 2023). It is important to focus on the cognition as impairment due to the mental health issues among elders. Not many studies are available on the effect of cognitive impairment on the quality of life, common mental health problems and disabilities in elderly population in India. At the community level the study hopefully creates a better understanding on the greying population among all the stake holders the policy makers.

Cognitive impairment adversely affects wellbeing and is a form of intellectual disability. Cognitive impairment is a strong predictor for chronic disease progression, and subsequent mortality. A number of reports have focused on cognitive impairment of community-dwelling elderly in well-defined cohorts, but only limited information is available for charitable and paid home facilities (Das, S.K., 2007). Many studies have not defined specifically, whether the aged home care was home based, charitable or fee paid in their cognitive screening studies. Understanding the cross-sectional prevalence of cognitive impairment in aged people living in

different residential settings will help to predict requirements for allocation of health services and resources. There have always been traditionally associated with dementia. There is a significant gap in the knowledge of the frequency and determinants of BPS in those cognitively preserved elderly with multiple health problems India is all set to see tripling of those over 60 years of age from 71 million in 2001 to 173 million in 2026. Therefore the study assesses BPS in a community dwelling elderly across medical, neurological and psychiatric diagnoses. That could help us in aid in early diagnosis and intervention that could lead to decreased morbidity and mortality. In addition the study tried to understanding the problem better at the community level. This will probably give an impetus to governmental policy making for elder care, thus improving their quality of life. Study assumed that there is a significant association between Cognition and Physical disability

METHODOLOGY

This is a cohort study of prevalence of BPS in an urban elderly population that has within it several nested case control studies that examine the relationship between BPS – Medical, neurological and psychiatric comorbidity, Cognitive decline, Quality of life and disability and Psychosocial factors including socio-economic status. The study used the data of health and wellness of the elders from the Institute of Neurological Sciences, Voluntary health Services Multispecialty Hospital and Research Institute, Chennai. The study proposal has been approved by the Institutional Ethical Research Committee of the VHS Hospital. Two important variables Cognition and Disability is measured with the use of following tools.

1. Cognition is assessed using Mini Mental status examination: Cognitive screening of elderly was performed using a pen- and paper-based MMSE evaluation. MMSE is a cognitive screening instrument, which is widely used for research and clinical community settings in India.

2. Disability is assessed using the WHO-DASS scale: World Health Organisation Disability Assessment Schedule (WHODAS): WHODAS 2.0 to access the level of disability among the elderly. The 12 items WHODAS scored on a 5-point Likert scale and assesses the difficulty experienced by the elderly in performing an activity.

The age group of all community living elderly (above 65 years) living with an Informant who has stayed with the patient for at least 3 months was used. During the data collection those who refuse to give consent for the study and those who were absence of a reliable informant were excluded. After obtaining written informed consent, consenting respondents were included in the study, 256 respondents were approached. Out of which 198 met the inclusion criteria and consented for the study. The study were used the data from the five consecutive years.

Table 1: Approached residents in old age homes.

Old Age Home	Number of residents approached	No of residents having consented for study
Vaniiesoldage home	110	109
Senior Citizen's Home	20	17
Anbagam	60	47
Nandhini	26	6
Mother Josephine	40	19
Total	256	198

Source: primary data

RESULTS AND DISCUSSION

A total of 198 respondents were included in the final analysis, with the majority of them being female. The age distribution of the participants ranged from 65 to 90 years, with a small subset of 10 respondents falling between the ages of 90 to 100 years. The mean age of the sample was calculated to be 77.4 ± 8.72 years (N = 198).

In terms of educational background, 37.5 percent of the respondents had less than 5 years of education, while 31.1 percent had completed 5 to 10 years of education. A slightly higher percentage, 23.3 percent, had 11 to 12 years of education. The proportion of individuals with undergraduate and postgraduate degrees was relatively low, with only 3.9 percent representing each category within the study sample.

Socio-economic status (SES) was determined for each participant, and the distribution across the categories was as follows: 10.5 percent belonged to the low SES group, 38.9 percent belonged to the middle SES group, and the largest proportion of 48 percent belonged to the high SES group.

These findings provide an overview of the demographic characteristics of the study population, including their age, gender distribution, educational attainment, and socio-economic status. The results indicate a diverse sample in terms of age range, with a majority of female participants. The educational background predominantly consisted of individuals with less than 5 years or 5 to 10 years of education, while a smaller proportion had completed 11 to 12 years of education. The majority of the participants belonged to the high socio-economic status category. These findings lay the foundation for further analyses examining the association between these demographic factors and the variables of interest in the study.

Table 2: Demographic characteristics of respondents

S. No	Demographics	N=198
1	Mean Age(years)	77.4
2	Gender Male / Female	Female= 145 and 45 Male
3	Marital Status	86 % Married
4	Education	37.5 % > 5 years of education
5	Socio economic Status	38.9% middle socio-economic condition.

Source: computed

Within the framework of the International Classification of Functioning, Disability and Health (ICF), the study assessed various domains of functioning and disability among the respondents. In the understanding and communication domain, 68% of the participants exhibited mild disability, primarily due to auditory issues affecting their ability to comprehend and communicate effectively.

The domain, which focused on functional disability, revealed that 42% of the elderly participants experienced moderate disability. These individuals required assistance with walking and picking up objects, indicating limitations in their mobility and physical functioning.

Table 3: Statistical Interference

Particulars		Total Score of WHO Disability Assessment Scale
Mini Mental Status Examination	Pearson Correlation	-.347**
	Sig. (2-tailed)	.000
	N -198	1

Source: Computed

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The Getting around domain, which focused on functional disability, revealed that 42% of the elderly participants experienced moderate disability. These individuals required assistance with walking and picking up objects, indicating limitations in their mobility and physical functioning.

Regarding self-care activities, 39% of the respondents reported severe difficulty in independently performing tasks related to personal care. This finding suggests a significant impairment in their ability to carry out activities such as bathing, dressing, and grooming.

In terms of social functioning, 63% of the elderly participants faced moderate difficulty in getting along with their fellow inmates. This difficulty stemmed from various social factors, including caste and class differences, indicating the presence of social barriers and challenges within the residential care facility.

Furthermore, a significant negative correlation ($r = -0.347$, $p < 0.01$) was observed between the Mental Status Examination scores and the Disability Assessment Scale. This correlation implies that as cognitive status declines, functional disability tends to increase. It is important to note that approximately one-third of the population ($n = 63$) fell under the mild disability level according to the WHO-DAS.

Although these findings suggest a potential impact of functional disability on cognitive status, it is noteworthy that other studies have reported contradictory results. Therefore, further research on a larger-scale cohort is necessary to generalize these findings and gain a more comprehensive understanding of the relationship between functional disability and cognitive status.

DISCUSSION

The findings of this study shed light on several important aspects of mental health among older adults residing in a respite care facility. Notably, approximately one fourth of the respondents fell within the age range of 70-75 years, indicating a significant representation of this particular age group in our sample. As expected, aging is associated with cognitive decline and an increased susceptibility to mental health problems. The data further supported this notion, revealing that nearly 100% of respondents aged 70-89 years exhibited some level of mental health problem. Interestingly, the study highlighted the socio-economic composition of the population in the respite care facility. Half of the participants belonged to a higher socio-economic stratum, with an average mean age of 54 ($\pm$0.71). However, it is noteworthy that only 8 respondents out of our total sample had received 14 years of formal education. This suggests that despite their high socio-economic status, a limited level of education, particularly elementary education, may contribute to the higher prevalence of mental health problems observed in this population. It implies that there might be a complex interplay of socio-economic factors and educational attainment when it comes to mental health outcomes.

The study explored the relationship between cognitive functioning and disability among the participants. The analysis of which revealed a significant negative correlation ($r = -0.347$, $p < 0.01$) between scores on the Mini Mental Status Examination (MMSE) and the Disability Assessment Scale (WHO-DAS). Furthermore, nearly one third of the population (approximately 63 individuals) fell into the category of mild disability according to the WHO-DAS. These findings highlight a strong association between cognitive impairments and both the quality of life and physiological state of the participants. It suggests that cognitive decline not only affects daily functioning but also has implications for overall well-being and health status.

CONCLUSION

To conclude, the study provides valuable insights into the mental health profile of older adults residing in a respite care facility. The high prevalence of mental health problems among individuals aged 70-89 years emphasizes the impact of aging on cognitive decline and mental well-being. Furthermore, the complex relationship between socio-economic status, educational attainment, and mental health outcomes warrants further investigation. Finally, the strong correlation between cognitive impairments, quality of life, and physiological state underscores the importance of addressing cognitive health as part of holistic care for older adults in such settings.

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