

Behavioral Changes and Cognitive Decline among Elderly

Shephali Dixit, U. V. Kiran*, Padmini Pandey

ABSTRACT

An individual's behavior is impacted by a complex interaction of factors such as cognitive impairment, physical and mental health, past habits, personality, and environment. The cognitive decline means that your brain does not work as well as it used to. This study aimed to examine behavioral problems and cognitive decline among the elderly. The research information was gathered using multistage random sampling from various locations of Lucknow city (U.P). A total of 100 elderly were selected for conducting the present study comprising elderly belonging to different ages and both gender. A general information sheet was developed to collect the general information of the respondents. A Revised Memory and Behavioral Checklist scale developed by Teri, 1992, was used to assess the behavioral problems among the elderly. Females were found to have severe cognitive decline and behavioral problems compared to male respondents. Cooperation from family members and counseling sessions may prove beneficial in improving the overall cognitive health of female respondents.

Keywords: Behavioral changes, Cognitive decline, Counseling, Elderly, Psychological well-being

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INTRODUCTION

A person's physiology and psychology change with age as a consequence of aging. It is an instinctive situation associated with the aggregation of several changes resulted in residents' exposure to variety of diseases (Singh *et al.*, 2017).^[1] Behavioral problems, frequently termed anxiety, as "an inappropriate verbal, vocal, or motor activity that is not the individual's needs or confusion as judged by an outside observer" (Cohen, 2000).^[2] Attention, learning, memory, language, visuospatial skills, and executive functions such as goal-setting, judgment, and decision-making are all cognitive skills. Cognitive impairment mostly identified in elderly population (Sharma *et al.*, 2013).^[3]

Depression, anxiety, insomnia, irritability, psychosis, wandering, elation, and agitation are symptoms of behavioral and psychological disorders (Vander *et al.*, 2012).^[4] An executive function that is known to decline with age is the cognition associated with the brain's prefrontal cortex, which controls purposeful, goal-directed behavior (Monisha *et al.*, 2020).^[5] Several cognitive changes were observed with aging, such as slowing of intelligence, learning power, and memorizing, impacting personality, and emotional development (Knight *et al.*, 1999).^[6] The study's main aim is to check the behavioral changes and cognitive decline in the elderly. The associated aim is to create awareness in society about the problems of the elderly and the support system to be created for them to make their lives comfortable.

MATERIALS AND METHODS

Ex post facto research design was used to conduct the study. The respondents were selected using the purposive random sampling technique. The sample for the study was elderly people aged between 65 and 80 years. Subjects were selected excluding severely sick and disabled or having neurological problems, mentally retarded, and with any primary sensory deficit. Various areas from Lucknow were selected to conduct the study. To achieve the objectives stated above, the following tools were used for the study.

Detailed socio-demographic data were collected using a socio-demographic scale that included age, gender, marital

Department of Human Development and Family Studies, School of Home Sciences, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, Uttar Pradesh, India.

Corresponding Author: Dr. U. V. Kiran, Department of Human Development and Family Studies, School of Home Sciences, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, Uttar Pradesh, India. E-mail: druvkiran@gmail.com

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status, education, occupation, income, family domicile, and the respondents' place and duration of stay.

The Revised Memory and Behavior Problems Checklist (Teri *et al.*, 1992)^[7] is a 24-item caregiver-report measure of observable behavioral problems among the elderly. RMBPC is recommended as a reliable and valid tool for assessing behavior problems in dementia patients. Interview schedules were used for data collection. Based on a pre-tested survey schedule, each location's respondents were interviewed. The collected data were coded, tabulated, and statistically analyzed with the help of SPSS version 20.0 software. Then, it was analyzed in terms of means, standard deviation, *t*-test, and analysis of variance.

RESULTS AND DISCUSSION

Table 1 shows the demographic profile of the respondents. It is evident from the data that the significant proportion (42.01%) of the elderly was under 65–70 years, followed by 70–75 years with (36.0%), while only 22.0% of the respondents were from the 75 years and above age group. Another important demographic characteristic is gender. It is evident from the table that a significant proportion of the sample was found to be males (58%) while only (42%) of the respondents were females. It is also derived from Table 1 that the majority of the respondents (60.0%) were married, followed by widowers (22.0%) and the rest of 18.0% of the elderly women were widows.

Table 1: Demographic profile of the respondent

Item	Frequency (n=100)	Percentage
Age (in years) of the respondents		
65-70	42	42.0
70-75	36	36.0
75 and above	22	22.0
Total	100	100.0
Gender of the respondents		
Male	58	58
Female	42	42
Total	100	100.0
Marital status of the respondents		
Married	60	60.0
Widow	18	18.0
Widower	22	22.0
Total	100	100.0

Table 2: Behavioral changes among elderly

S. No.	Statements	Male (n=58)	Female (n=42)
1	Asking the same question over and over	30 (51.72)	22 (52.38)
2	Trouble remembering recent events (i.e., items in newspaper or tv)	20 (34.48)	16 (38.09)
3	Trouble remembering significant past events	20 (34.48)	14 (33.33)
4	Losing or misplacing things	32 (55.17)	24 (57.14)
5	Forgetting what day it is	20 (34.48)	18 (42.85)
6	Starting, but not finishing, things	16 (27.58)	22 (52.38)
7	Difficulty concentrating on a task	14 (24.13)	16 (38.09)
8	Destroying property	4 (6.89)	0 (0)
9	Doing things that embarrass you	18 (31.03)	22 (52.38)
10	Waking you or other family members up at night	16 (27.58)	18 (42.85)
11	Talking loudly and rapidly	32 (55.17)	20 (47.61)
12	Appears anxious or worried	28 (48.27)	18 (42.85)
13	Engaging in behavior that is potentially dangerous to self or others	6 (10.34)	2 (4.76)
14	Threats to hurt oneself	0 (0)	0 (0)
15	Threats to hurt others	12 (20.68)	8 (19.04)
16	Aggressive to others verbally	32 (55.17)	22 (52.38)
17	Appears sad or depressed	26 (44.82)	18 (42.85)
18	Expressing feelings of hopelessness or sadness about the future	24 (41.37)	28 (66.66)
19	Crying and tearfulness	16 (27.58)	18 (42.85)
20	Comments about the death of self or others	8 (13.79)	12 (28.57)
21	Talking about feeling lonely	22 (37.93)	16 (38.09)
22	Comments about feeling worthless or being a burden to others	14 (24.13)	14 (33.33)
23	Comments about feeling like a failure or about not having any worthwhile accomplishment in life	14 (24.13)	12 (28.57)
24	Arguing, irritability, and complaining	24 (41.37)	30 (71.42)

(Figures in parenthesis indicates percentages)

Figure 1 describes the distribution of respondents based on their place of stay. It shows that (74.0%) majority of the respondents stay with their families and 26.0% elderly stay with their spouses.

Table 3: Memory and behavioral problems across gender of the respondents

S. No.	Problems of Revised memory and behavior	Gender of the respondent		F-value	P-value
		Male	Female		
		Mean±S.D	Mean±S.D		
1.	Memory	4.31±2.79	5.00±3.46	0.779	0.440
2.	Depression	4.62±2.74	7.23±4.85	2.422	0.019
3.	Disruption	5.37±3.17	7.42±4.51	1.886	0.065

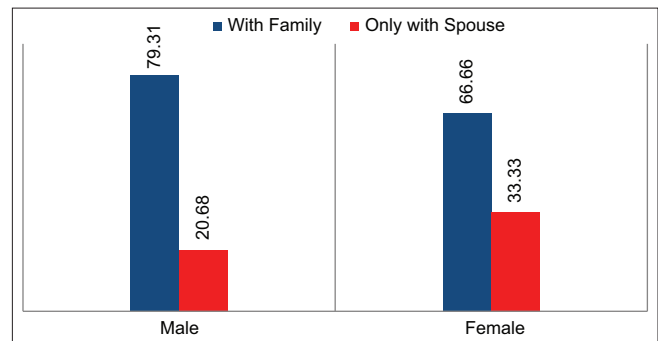


Figure 1: Distribution of respondents based on place of stay

From Table 2, it can be deduced that female respondents have a higher level of memory decline in comparison to male respondents. As per the data, male respondents were good to answer the same questions compared to female respondents. Females have more trouble remembering recent or past events than males, probably because females have more workload. Females also were found to misplacing things compared to males, which may be a reason to lose confidence. Difficulty in focusing and concentrating on any task was also found to be more in females than males. Concerning sadness (the word "sadness" is used in place of the word "depression" as the same is not diagnosed), the females were found to have reported sadness more in comparison to male respondents. It can also be observed from the data that female respondents are more anxious or worried. Due to pandemic COVID-19 males and females, both are facing a financial crisis, more workload, and physically not well, which may be the reasons for feelings of sadness, depression, and hopelessness about the future. Due to workload and burden, females feel lonely, worthless, and failures. Females were more depressed than males, and other disruption levels were also higher among females, that is, sometimes they destroy property and do things that embarrass themselves and their family members. As the result of higher stress and confidence eroding, they used to wake up at night, showing harsh behavior such as talking loudly rapidly, hurting others, being aggressive to others, and identifying arguing.

It can be observed from the above Table 3 that highly significant differences were found in the levels of depression and disruption among male and female respondents. The level of depression was found to be more in female respondents ($\mu = 7.23$) than the male respondents ($\mu = 4.62$). The level of disruption was also higher among the female elderly ($\mu = 7.42$) than the male elderly. Memory-related issues were also found to be more among female respondents than their counterparts.

Table 4 shows that there is no significant difference found in the level of memory, depression, and disruption. The level

Table 4: Memory and behavioral problems across the age of the respondent

S. No.	Problems of Revised memory and behavior	Age of the respondent			F-value	P-value
		65-70	70-75	Above75		
		Mean±S.D	Mean±S.D	Mean±S.D		
1.	Memory	4.29±2.795	4.89±2.76	4.73±4.174	0.826	0.192
2.	Depression	4.76±2.71	5.66±3.64	7.63±5.76	0.148	1.987
3.	Disruption	6.23±3.12	6.50±4.17	5.81±4.95	0.904	0.101

Table 5: Memory and behavioral problems across the place of stay of the respondent

S. No.	Problems of Revised memory and behavior	Place of stay of the respondent		F-value	P-value
		With family	Only with spouse		
		Mean±S.D	Mean±S.D		
1.	Memory	5.14±3.360	3.08±1.188	4.622	0.037
2.	Depression	5.29±2.90	6.92±6.03	1.648	0.205
3.	Disruption	6.00±3.72	6.92±4.40	0.537	0.467

of memory was found to be more in the 70–75 years age group ($\mu = 4.89$) than their equivalent age group. The level of depression was found to be more in the above 75 years age group ($\mu = 7.63$) in comparison to the 65–70 years and 70–75 years age group. The level of disruption was found to be more in the 70–75 years age group ($\mu = 6.50$) compared to the 65–70 years and above 75 years age group.

It shows from Table 5 that highly significant found in the level of memory ($P = 0.037$) at the 0.05 significant level among the place of stay. The level of memory was found to be more in the respondents living with their family ($\mu = 5.14$) than respondents living only with their spouse ($\mu = 3.08$). The level of depression and disruption was found more in respondents living only with their spouse ($\mu = 6.92$) than respondents living with family.

CONCLUSION

It can be concluded from the study that the elderly has behavioral problems and cognitive decline. Many factors could be attributed to cognitive decline and behavioral problems, including food habits, place of living, age, gender, etc. A substantial majority of the participants have to stay alone or without their spouse and family, leading to sadness, and high anxiety levels. This study

reveals higher cognitive decline and behavior problems among the elderly due to increasing age, gender, and place of stay.

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