

Clinical Study

A study on the psychological and emotional aspects in elderly- a clinical study

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ABSTRACT

Memory disturbance in elderly is generally considered as a sign of cognitive decline. The aim of the study is to find out whether there is any association between cognitive functions- Memory, Intelligence, Attention and Concentration with emotional factors like anxiety and anger in elderly to plan behavioral intervention. In this clinic-based study, 16 cases aged above 60 years were referred for neuropsychological assessment for memory disturbance, difficulty in concentration, forgetfulness, etc. (male 10, female 6). They were assessed on Wechsler Memory Scale, Bhatia's Battery of Performance test of Intelligence, Spielberger State-Trait Anxiety Scale and Anger Expression Scale. Personality factors like state anxiety, trait anxiety, overall anger expression, anger in and anger out were compared with the memory and IQ scores of individuals who had complaints of memory disturbances. Results showed that there is an association between emotional factors like state anxiety, trait anxiety and anger expression with memory disturbance. In almost all the patients, Memory Quotient was average and above, but these elderly people complaining of forgetfulness, memory disturbance, etc. All the patients have no memory disturbance on quantitative assessment but reported memory disturbances. These patients have high anxiety and emotional disturbances which seemed to have an impact on memory function, a subjective memory loss.

Keywords: Psychological Aspects, Emotional Aspects

Memory disturbance in elderly is generally considered as a sign of cognitive decline. Research on the intellectual abilities of older people does show some evidence of slowing of mental powers over the years, for example inability to assimilate new information, speed of learning, solving of problems, and retention of short-term memory (Schaie, K. Warner, 1990).

People often fear that aging will cause their intellect to disappear, giving way to cognitive impairment and irrationality. However, intellectual decline is not an inevitable consequence of aging.

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Research does not support the stereotypic notion of the elderly losing general cognitive functioning or that such loss, when it does occur, is necessarily disruptive. Older adults tend to learn more slowly and perform less well on tasks involving imagination and memorization than do younger adults, but what older adults may be lacking in terms of specific mental tasks, they make up for in wisdom, or expert and practical knowledge based on life experience.

Many older adults complain about not being able to remember things as well as they once could. Memory problems seem to be due to sensory storage problems in the short-term rather than long-term memory processes. That is, older adults tend to have much less difficulty recalling names and places from long ago than they do acquiring and recalling new information.

Practice and repetition may help minimize the decline of memory and other cognitive functions. Researchers have found that older adults can improve their scores on assorted tests of mental abilities with only a few hours of training. Working puzzles, having hobbies, learning to use a computer, and reading are a few examples of activities or approaches to learning that can make a difference in older adults' memory and cognitive functions.

Erik Erikson, who took a special interest in this final stage of life, concluded that the primary psychosocial task of late adulthood (65 and beyond) is to maintain ego integrity (holding on to one's sense of wholeness), while avoiding despair (fearing there is too little time to begin a new life course). Those who succeed at this final task also develop wisdom, which includes accepting without major regrets the life that one has lived, as well as the inescapability of death. However, even older adults who achieve a high degree of integrity may feel some despair at this stage as they contemplate their past. No one makes it through life without wondering if another path may have been happier and more productive.

One aspect of the conventional diagnostic criteria for Mild Cognitive Impairment that may contribute to false positive classifications is the inclusion of subjective memory complaints or concern as a feature of the diagnosis. The rationale behind considering subjective complaints is to capture the notion that there had been a change in an individual's cognitive performance, thus excluding individuals with long standing cognitive difficulties from a diagnosis of cognitive impairment (Peterson, 2004). However, the utility of the aspect of the criteria has been called into question by studies showing an inconsistent relationship between subjective memory complaints and objective memory performance in cognitive impairment (Buckley et al., 2013; Lenehan, Klekociuk, & Summers, 2012; Roberts, Clare, & Woods, 2009; Studer, Donati, Popp, & Von Gunten, 2013). There are multiple factors that could account for this weak relationship, including the possibility that cognitive complaints are more strongly related to emotional factors, personality features (Reid & MacLulich, 2006; Studer et al., 2013) or knowledge that one carries a risk for Alzheimer's disease than to actual cognitive ability (Lineweaver, Bondi, Galasko & Salmon, 2014)

Subjective memory complaints in the clinic setting may be relatively ubiquitous (i.e., the complaint is typically what generates the referral in the first place). Even in community settings, the prevalence of subjective memory complaints in older adult has ranged as high as 88% (Reid & Mac Lulich, 2006)

“Cognitive complaint” and “memory complaint” are often used interchangeably when applying the diagnostic criteria (Petersen, 2004; Peterson & Morris, 2005) so it is unclear

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whether one must consider memory complaints per se or whether perceived changes in other cognitive abilities fulfill this criterion. Complaints of subjective memory and cognitive disturbances by elderly and their caregivers are commonly seen in clinical setting. The caregivers also report emotional disturbances in them.

The aim of the study is to see whether there is any association between cognitive functions-memory, intelligence, attention and concentration with emotional factors like anxiety and anger in elderly.

METHODOLOGY

Objectives of the study

1. To study the cognitive functions in elderly people.
2. To study the emotional factors in elderly people
3. To compare the cognitive functions and emotional aspects in elderly people.

Hypotheses

1. There is a significant association between emotional factors and memory disturbance in elderly people.
2. There is a significant association between emotional factors and Intelligence in elderly people.

Research Design

The research design was exploratory in nature. It attempts to examine and compare the psychological and emotional aspects in elderly people.

Sample Design & Technique

16 cases consisting of 10-males and 6-females form the study sample. Their age range was 60-81 years. The patients were referred for neuropsychological assessment for their memory disturbance, difficulty in concentration, forgetfulness, etc. The sample was collected over a period of one year. Demographic variables such as age, gender, occupation, neuropsychological functions namely- intelligence, memory, attention, concentration, and personality factors such as anxiety and anger were analyzed.

Tools used for the study: (Neuropsychological assessment)

1. **Wechsler Memory Scale** is the most commonly used Comprehensive Memory Scale consisting of seven sub tests – Personal & current information, Orientation, Mental control, Logical memory, Digits Span, Visual reproduction and Associate learning. Memory Quotient (MQ) is derived as per the manual, which is comparable to Intelligence Quotient (IQ).
2. **Bhatia's Battery of Performance test of Intelligence** is an intelligence test standardized in Indian population both literate and illiterate. It measures both performance IQ and full-scale IQ.
3. **Bender Visual Motor Gestalt test** is a set of nine designs used to demonstrate the tendency of the perceptual system to organize visual stimuli. It measures visuomotor function.
4. **Digit Span test** is a sub test used in the Wechsler Intelligence scale comprised of two different tests, Digits forward (DF) and Digits backward (DB).
5. **Spielberger State-Trait Anxiety Scale** is a 4-point self rating scale consisting of 20 questions each. It measures two types of anxiety - state anxiety, or anxiety about an event, and trait anxiety, or anxiety level as a personal characteristic.

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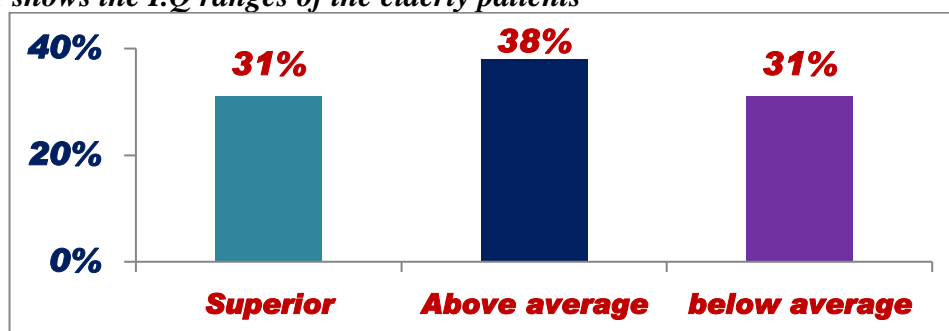
- Spielberger Anger Expression Scale** is a 4-point self rating scale consisting of 20 questions on a self-report basis. It provides objective and shortly scored measures of a person's experience, expression, and control of anger.
- Method of investigation:** A detailed case history was collected from the patient or the care givers of these elderly patients before the assessment. Each patient was assessed on the above Neuropsychological tests in two to three sessions. Each session lasted for approximately ninety minutes. Assessment was done in English and regional language (Tamil).

RESULTS AND DISCUSSION

It is important to understand how cognition changes with age, given our growing elderly population and the importance of cognition in maintaining functional independence and effective communication with others. Measurable changes in cognition occur with normal aging. The most important changes are declines in cognitive tasks that require one to quickly process or transform information to make a decision, including measures of speed of processing, working memory, and executive cognitive function (Daniel, L. Murman,2015).

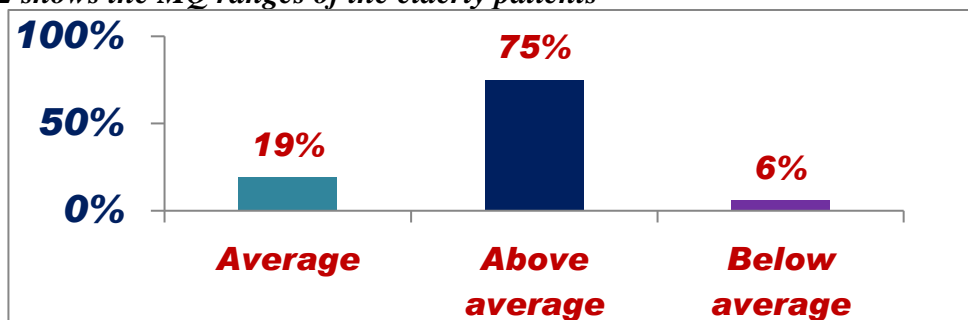
Similarly, a series of neuropsychological assessments were administered on the study sample and compared with their emotional aspects and the results were statistically analyzed. Statistical analysis was done using Statistical Package for the Social Sciences (SPSS), version 16.0, STATA version 10.0, and EPI INFO version 3.5.1. The results are as follows:

Figure 1 shows the I.Q ranges of the elderly patients



Analysis showed 31% of the elderly patients have superior intelligence, 38% above average and 31% below average intelligence. Majority of the elders in the study seem to have good intelligence.

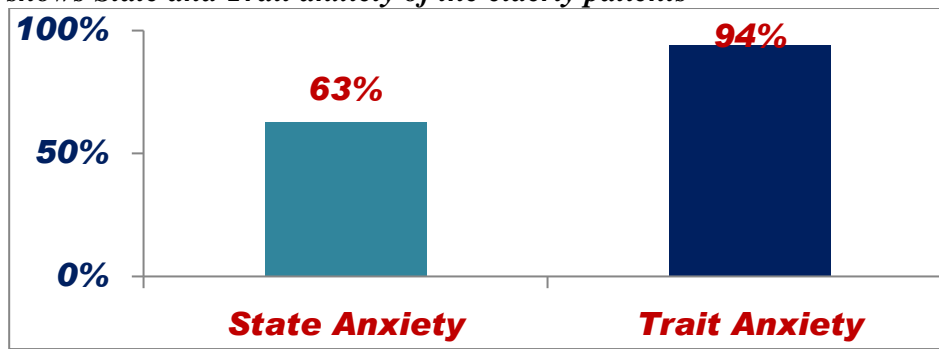
Figure 2 shows the MQ ranges of the elderly patients



19% have average and 75% above average and 6% below average memory function.

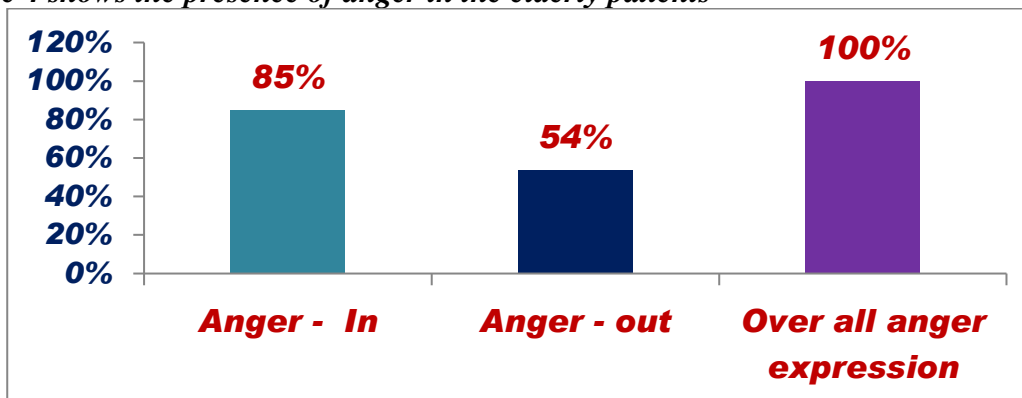
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Figure 3 shows State and Trait anxiety of the elderly patients



63% of the patients have high state anxiety, 94% have high trait anxiety.

Figure 4 shows the presence of anger in the elderly patients



85% seemed to suppress anger and 54% express their anger. 100% have inappropriate expression of anger.

Table 1 shows the age of the elderly patients and their IQ scores

	N	Mean	Std. Deviation	Kruskal- Wallis test
≤ 60 years	3	125.00	8.66	χ ² =5.89 P=0.05*(S)
61 -70 years	9	115.78	11.70	
>70 years	4	104.25	7.89	
Total	16	114.63	12.104	

S= Significant * P<0.05 Significant

There is a significant association between age and intellectual function. As age increases there is a lowering of intelligence (P<0.05), but within the normal range i.e., I.Q 90 and above.

Table 2 shows the gender of the elderly patients and their IQ scores

Sex	N	Mean	Std. Deviation	Mann-Whitney test
Male	10	117.20	11.915	Z=1.10 p=0.27 (NS)
Female	6	110.33	12.193	

There is no significant association between the gender of the elderly patients and their I.Q scores.

Table 3 shows the working status of the elderly patients and its correlation with their IQ levels

	N	Mean	Std. Deviation	Kruskal- Wallis test
Working	8	122.50	11.33	$\chi^2=7.32$ P=0.02*(S)
Not working	7	106.14	6.89	
VRS	1	111.00	0.00	
Total	16	114.63	12.104	

There is a significant association between occupational status and IQ score ($P<0.05$). Keeping the elderly engaged in work seems to prevent cognitive lowering. May be the common adage “idle mind devil’s workshop” seem to have a meaning in it.

Table 4 shows the age of the elderly patients and their MQ scores

	N	Mean	Std. Deviation	Kruskal- Wallis test
≤ 60 years	3	138.67	11.67	$\chi^2=6.36$ P=0.04*(S)
61 -70 years	9	120.33	14.75	
>70 years	4	106.75	16.27	
Total	16	120.38	17.42	

There is a significant association between age and memory function. As the age increases there is a lowering of memory ($P<0.05$), but within the normal range i.e., M.Q 90 and above. Digit span test was used to assess Attention and Concentration of the elderly patients. 56% of patients have difficulty in attention and concentration, of which some of them have equal digits forward score and some of them have more backward score than forward. This kind of performance in the digit span test was suggestive of emotional disturbance.

An attempt has been made to study the association between subtests of memory scale and state and trait anxiety. Results showed that there is a significant association between emotional factors like state anxiety, trait anxiety and anger expression with memory disturbance. In the subtest- Logical memory, there is a significant association with state anxiety.

In almost all the patients, Memory Quotient was average and above, but these people complaining of forgetfulness, memory disturbance, which seemed to be subjective. These people also have high state –trait anxiety and inappropriate expression of anger which seemed to have bearing on the subjective memory complaints.

There is emerging evidence that healthy lifestyles may decrease the rate of cognitive decline seen with aging and help delay the onset of cognitive symptoms in the setting of age-associated diseases (Daniel, I. Murman, 2015).

CONCLUSIONS

Elderly people have no memory disturbance on quantitative assessment but reported memory disturbances. These patients have high anxiety and emotional disturbances which seemed to have an impact on memory function. Emotions and memory are the functions of temporal lobes. Hence, we presume that the subjective memory and cognitive disturbances in elderly are not age related but due to emotional factors – anxiety, anger.

Implications of the study

Psychological interventions like behavioural therapy, individual and family counselling, engaging elders in constructive tasks or activities may be helpful in order to keep the elderly people engaged and mindful about things. This in turn will have a positive effect on their physical and mental health.

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Conflict of Interest

The author declared no conflict of interest.

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