NEURO-PSYCHOLOGY OF DEMENTIA AND OLD AGE: A COMPARATIVE STUDY OF MEMORY FUNCTIONING, VISUO-MOTOR PERCEPTION AND VISUO-SPATIAL CONSTRUCTIVE ABILITY

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Background: Dementia is characterized by symptoms manifested as weakened sensibility, understanding and will, with impaired recent memory, attention, reasoning and abstraction ability, severe enough to reduce a person's ability to perform everyday activities. Dementia can affect individuals in a number of ways, and progression of the disease depends upon the impact of the disease itself and the person's personality and state of health. Dementia might be primary or secondary to other disorders. In India, there is an overall prevalence rate of 0.84% for all dementias in the population aged 55 years and older and an overall prevalence rate of 1.36% among the 65 aged and older (Chandra et. al., 1998). In 2010, 3.7 million people aged over 60 years were estimated to have dementia (ARDSI, 2010).

Method:

Sample: The sample consisted of 60 individuals of age range 60-75 years, males and females of dementia group (N=30) obtained from local government hospitals & their normal counterparts (N=30). Normal control group was selected by ruling out presence of any psychopathology by using General Health Questionnaire 28 (Goldberg and Miller, 1979)

Tools Used: Case History Schedule, PGI Memory Scale (Pershad & Wig, 1988, 1976), Bender Visual Motor Gestalt Test (Bender, 1938), Clock Drawing Test (Shulman et al., 1986) and General Health Questionnaire (GHQ 28) (Goldberg and Miller, 1979).

Statistical Analysis: The result was analyzed using descriptive statistics and Independent samples t-test

Result and Discussion:

Results indicate significant difference between dementia and their normal counterpart on domains of memory functioning. These functions are tightly bound together in the first few years and support the ability to learn, communicate and plan for the future. Dementia is characterized by loss of neurons and synapses in the cerebral cortex and certain sub-cortical regions which results in group atrophy of the affected regions including degeneration of the frontal lobe, temporal and parietal lobe (Wenk, 2003). There is a significant difference between dementia and their normal counterpart on visuo-motor-perceptual organization and visuo-spatial constructive ability. This might be attributed to visuo-motor deficits in proximal and distal components of prolonged grasping movement times, inaccurate reaches to visual targets, difficulty in hand shaping for object size and inappropriate wrist orientation.

Domains	Groups	Mean	SD	t-values
Remote Memory	Normal Control	6.00	0.00	12.022**
	Dementia	3.13	1.30	
Recent Memory	Normal Control	4.90	0.30	6.101**
	Dementia	3.06	1.61	
Mental Balance	Normal Control	7.80	1.58	9.281**
	Dementia	3.86	1.69	
Attention and Concentration	Normal Control	8.80	1.06	4.085**
	Dementia	7.06	2.06	
Delayed Recall	Normal Control	8.43	1.67	6.232**
	Dementia	5.20	2.29	
Immediate Recall	Normal Control	8.96	3.05	6.782**
	Dementia	4.20	2.34	
Verbal Retention for similar pairs	Normal Control	4.53	0.77	7.483**
	Dementia	2.66	1.12	
Verbal Retention for dissimilar pairs	Normal Control	9.80	1.86	10.106**
	Dementia	4.73	2.01	
Visual Retention	Normal Control	11.16	1.85	9.699**
	Dementia	5.36	2.69	
Recognition	Normal Control	8.66	1.29	8.046**
	Dementia	5.00	2.13	
Visuo-motor-perceptual organization	Normal Control	2.06	2.74	-6.390**
	Dementia	11.56	7.66	
Visuo-spatial-constructive ability	Normal Control	4.46	0.86	7.951**
	Dementia	2.13	1.35