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RESEARCH ARTICLE

"A study to assess the effectiveness of cognitive exercises on cognitive abilities of elderly people with dementia problem in selected old age home, Chennai".

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Abstract

The aim and objective of the study was to assess the level of dementia among the elderly before giving cognitive exercise, the effectiveness of cognitive exercises among old age people with dementia and to determine the association between post test level of dementia and selected demographic variables such as age, sex, education, of the elderly. A pre experimental approach was used and a one group pre test post test approach was adopted. A total of 60 elders participated in the present study, who had either mild or moderate dementia and were residing in selected old age home at Chennai and those who fulfilled the inclusion criteria. A standardized tool was used for data collection after getting their informed consent. Kingston Dementia Rating Scale was used to categorize the participants as whether they have mild, moderate or severe level of dementia. Purposive sampling technique was adopted to select the sample of the study. The study concluded that cognitive exercise improves the level of cognitive abilities of elderly people with dementia problem residing in old age homes. The difference was found to be statistically significant at $p<0.001$ level which indicates the effectiveness of cognitive exercise in improving the cognitive abilities. Such exercises are beneficial not only for improving the cognitive abilities of elderly but also to improve their quality of life and peaceful aging.

Introduction:-

Old age is viewed both as a stage in the life span of individual and also segment of the population of the society. There are currently 580 million elderly aged 60 and over in the world and of these 355 million live in the developing countries. Old people have limited regenerative capabilities and are more prone to disease, syndrome and sickness than the other age groups**. Launer,** in 1992 stated that an older age is a major risk factor for dementia. Cognitive dysfunction and impairment may be accompanied by changes in the brain and mild cognitive impairment is a transitional stage between normal aging and dementia. The purpose of this review is to investigate whether cognitive exercise may help to maintain cognitive function late in life. Cognitive exercise for the elderly help to keep their minds sharp and alert while reducing the risk or delaying the onset of age-related dementia. Cognitive exercises stimulate the brain cells and often provide interaction with others. Cognitive exercise training in healthy older individuals produces strong and persistent protective effects on longitudinal neuropsychological performance, however, cognitive exercise has yet to be shown to prevent incident of dementia and to reduce the level of dementia in an appropriately designed trial and this is now an international priority.

Objectives:-

- To assess the level of dementia among the elderly before implementing cognitive exercise.
- To assess the effectiveness of cognitive exercises on cases among old age people with dementia.
- To determine the association between post test level of dementia and selected demographic variables such as age, sex, education of the elderly.

Hypothesis:

$H_{1:}$ The mean post test dementia score will be significantly lesser than the mean pre test dementia score of the old age who underwent cognitive exercise.

$H_{2:}$ There will be significant association between the post test level of dementia and selected demographic variable such as age, sex, education, religion, family support, and period of stay of the people.

Methodology:-

A pre experimental design one group pre test post test design was adopted for the study. Study participants included elderly people above 60 years of age with dementia. A total of 60 elders participated. Kingston Dementia rating Scale was used to assess the pre test and post test level of dementia.

Results:-

Pretest:-

Table 1: Pre test level of Dementia among the elderly people.

N = 60

PRETEST LEVEL OF DEMENTIA	PRETEST	
	FREQUENCY N	PERCENTAGE %
NORMAL	-	-
MILD	7	11.67
MODERATE	50	83.33
SEVERE	3	5
TOTAL	60	100

Table 1 reveals pretest level of dementia among the elderly people before implementing cognitive exercise. Among 60 elderly people with dementia problem 7(11.67%) belongs to mild level of dementia, 50 (83.33%) belongs to moderate level of dementia and 3 (5%) belongs to severe cases of dementia.

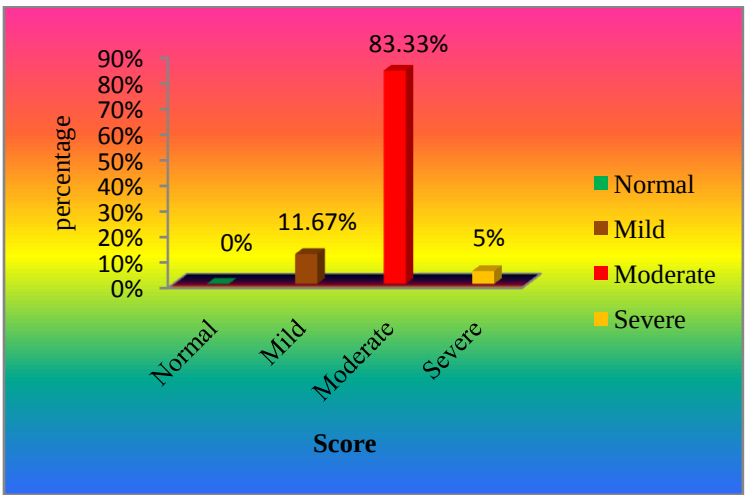

Figure 1: pretest level of dementia among elderly people

Post test:-

Table 2: Post test level of Dementia among elderly people

N= 60

POST TEST LEVEL OF DEMENTIA	POST TEST	
	FREQUENCY N	PERCENTAGE %
NORMAL	-	-
MILD	48	80
MODERATE	11	18.33
SEVERE	1	1.67
TOTAL	60	100

Table 2 reveals post test level of dementia among the elderly people after implementing cognitive exercise. Among 60 elderly people with dementia problem 48(80%) belongs to mild level of dementia, 11(18.33%) belongs to moderate level of dementia and 1(1.67%) belongs to severe cases of dementia.

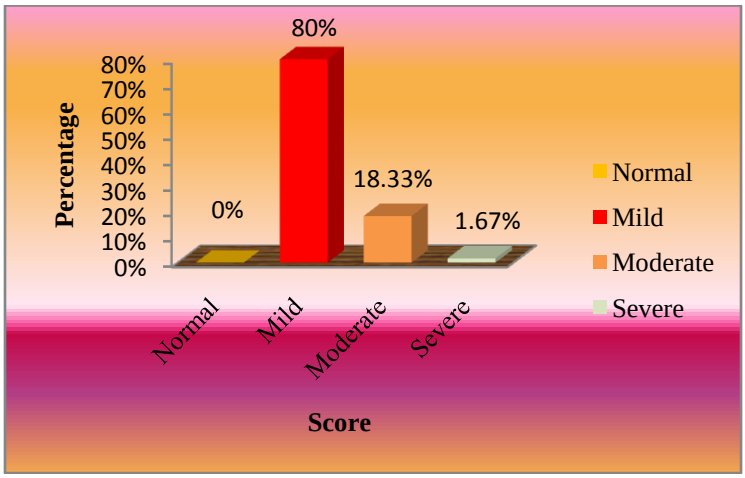

Figure 1: post test level of dementia among elderly people.

Comparison of pre test and post test level of dementia among elderly people:

Table 3: Comparison of Pre and Post Test Level of Dementia among Elderly People

N=60

LEVEL OF DEMENTIA	PRE TEST				POST TEST				't' value
	N	%	MEAN	SD	N	%	MEAN	SD	
NORMAL	0	0	4.8	1.2	0	0	2.7	1.3	7.8*** P<0.001
MILD	7	11.67			48	80			
MODERATE	50	83.33			11	18.33			
SEVERE	3	5			1	1.67			

Table 3 reveals the comparison of effectiveness of cognitive exercise on cognitive abilities of elderly with dementia problem. Before implementing cognitive exercise, out of 60elderly people with dementia 7(11.67%) belongs to mild level of dementia, 50 (83.33%) belongs to moderate level of dementia and 3 (5%) belongs to severe cases of dementia. However in post test 48(80%) belongs to mild level of dementia, 11(18.33%) belongs to moderate level of dementia and 1(1.67%) belongs to severe cases of dementia. Chi square test was formulated and the paired t value is 7.8** which is statistically significant at p<0.001 and this indicates the effectiveness of cognitive exercise on cognitive abilities of elderly people with dementia problem.

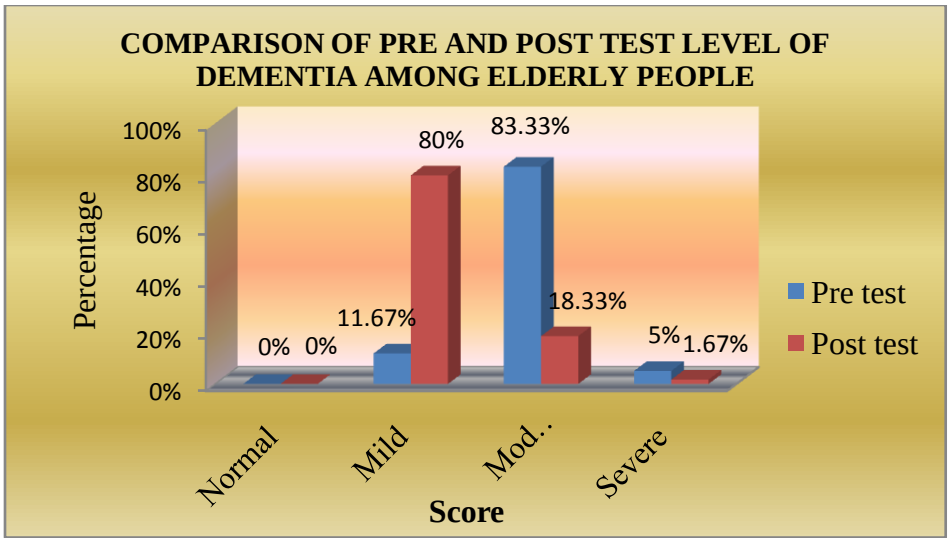

Figure 2: comparison between pre and post test level of dementia among elderly people.

Conclusion:-

The study concluded that cognitive exercise improves the level of cognitive abilities of elderly people with dementia problem residing in old age homes. The 't' value was 7.8*** and the difference was found to be statistically significant at $p<0.001$ level which indicates the effectiveness of cognitive exercise in improving the cognitive abilities. Such exercises are beneficial not only for improving the cognitive abilities of elderly but also to improve their quality of life and peaceful aging.

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