



# PREVALENCE OF DEMENTIA IN ELDERLY PEOPLE WHO ARE LIVING IN OLD AGE HOMES

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**Background:** Dementia refers to a group of syndromes that affect the brain and are characterized by progressive global deterioration in intellect including memory learning orientation language, comprehension and judgment. The Dementia Severity Rating Scale (DSRS) is a brief informant-rated, multiple-choice questionnaire made up of 12-items that measure functional abilities. The DSRS requires minimal staff training to administer, takes five minutes to complete, and can be completed via mail, Internet, or phone. The DSRS incorporates a broad range of scores, making this instrument useful for quantifying all levels of functional impairment, and permitting the detection of fine increments of change over time 8. Reliability and validation studies have shown that the DSRS has high reliability, as well as a constant linear rate of change throughout the entire course of AD.

**Aim:** The aim of the study is to prevalence of dementia in elderly people who are living in old age homes.

**Method:** In this study 108 elderly were screened for inclusion exclusion criteria and 26 elderly people did not fulfill the inclusion criteria hence not taken in the study 82 elderly people fulfill the inclusion criteria hence were taken in the study among whom 39 were male and 42 were female. In this Study the data were collected with questionnaire in the order to determine the prevalence of dementia in elderly people, the dementia servility rating scale questioner use the questionnaire assess about the history of experience of dementia. (DSRS)

**Result:** The study shows unpaired t-test was performed for gender wise comparison if DSRS Dementia Severity Rating Scale which scored t-value 0.97 and p value of 0.33 which is not significant.

**Conclusion:** The study conducted that the average score of Dementia Severity Rating Scale (DSRS) among old age group of 60 to 80 living at old age homes were significant. Whereas DSRS (Dementia Severity Rating Scale) scores among the age 60 to 80 living at old age home. According to gender were no significant.

**Keywords:** Dementia, Dementia severity rating scale (DSRS), Old age, Old age Homes.

## INTRODUCTION

Dementia refers to a group of syndromes that affect the brain and are characterized by progressive global deterioration in intellect including memory learning orientation language, comprehension and judgment. <sup>1</sup> The challenge of an aging population with its expected attendant problem of an increase in the number of people with dementia is particularly acute in a number of countries including Singapore, which has one of the world's fastest aging populations. In a later life the incidence of chronic condition increases and associated rise in the prevalence of age related morbidities such as dementia. The most common form of dementia is Alzheimer's disease (60-70% of cases) and other forms of dementia include vascular, lewy bodies, front temporal, Parkinson's', multi infarct and mixed.<sup>2</sup>

The prevalence of dementia among rural habitants of age 60 years and above was 2.7% and it was reported to 3.6% in the urban population shaji et al. (1996) have reported this figure as 3.4% in the rural community of Kerala.<sup>3</sup>

The population of age 55 years and above of a rural community in Northern India, the prevalence rate of 8.4 per 1000 was reported.<sup>3</sup>

The basic risk factors that including to smoking, depression, social isolation, physical inactivity, air pollution, obesity and lifestyle factors such as diabetes so many risk factors are involved in developing dementia.<sup>4</sup>

The effects of ageing on the brain and cognition are widespread and have multiple etiologies. Ageing has its effects on the molecules, cells, vasculature, gross morphology, and cognition. As we age our brains shrink in volume, particularly in the frontal cortex. As our vasculature ages and our brains shrinks in volume particularly in the frontal cortex. As our vascular ages and our blood pressure raise the possibility of stroke and ischemia increases and white matters develop lesions. Memory decline also occurs with ageing and brains tasks and our blood pressure raises the possibility of stroke and ischemia increases and our white matter develops lesions. Memory decline also occurs with ageing and brain activation becomes more bilateral for memory tasks.<sup>5</sup>

The neurotransmitters most often discussed with regard to ageing are dopamine and serotonin. Dopamine levels decline by around 10% per decade from early adulthood and have been associated with declines in cognitive and motor performance. It may be that the dopaminergic pathways between the frontal cortex and the striatum decline with increasing age, or those levels of dopamine itself decline, synapses/receptors are reduced or binding to receptors is reduced. Serotonin and brain derived neurotrophic factor levels also fall with increasing age and may be implicated in the regulation of synaptic plasticity and neurogenesis in the adult brain. A substance related to neurotransmitter levels, monoamine oxidase, increases with age and may liberate free radicals from reactions that exceed the inherent antioxidant reserves. Other factors that have been implicated in the ageing brain include calcium dysregulation, mitochondrial dysfunction, and the production of reactive oxygen species.<sup>5</sup>

The Dementia Severity Rating Scale (DSRS) is a brief informant-rated, multiple-choice questionnaire made up of 12-items that measure functional abilities. The DSRS requires minimal staff training to administer, takes five minutes to complete, and can be completed via mail, Internet, or phone. The DSRS incorporates a broad range of scores, making this instrument useful for quantifying all levels of functional impairment, and permitting the detection of fine increments of change over time.<sup>8</sup> Reliability and validation studies have shown that the DSRS has high reliability, as well as a constant linear rate of change throughout the entire course of AD.<sup>6</sup>

The possible activities interventions, including dance, exercises of various type and walking. The studies considered the physical activity aspect of activities of daily living such as housework and gardening are helpful to the patient. Physiotherapists are commonly involved in rehabilitation of the numerous symptoms presented by dementia including reduced mobility balance affection, in turn improving their quality of life.<sup>7</sup>

## METHODOLOGY

- Material Required
  - Pen
  - Pencil
  - Other Stationary things
  - Consent Form
- Population Size – 82
- Study Place – Old age Home, Jalgaon
- Study Design – Prevalence Study
- Sampling Method – Convenient Sampling
- Study Duration – 6 Months
- Outcome Measure – DSRS Dementia Severity Rating Scale

## SELECTION CRITERIA

- **Inclusive Criteria :**

- Age from 60 to 80
- Both Female and Male Gender
- Living at old age homes

- **Exclusive Criteria :**

- Trauma and head injury
- Previous Neurological diseases
- Previous history of brain injury
- Mental illness

## PROCEDURE

**Participant:** Participant where taken in survey, the participant who signed the consent form where taken in the study. Approval was taken from the ethical committee to do the study.

108 elderly were screened for inclusion exclusion criteria and 26 elderly people did not fulfill the inclusion criteria hence not taken in the study 82 elderly people fulfill the inclusion criteria hence were taken in the study among whom 39 were male and 42 were female.

108 elderly were screened

26 elderly people did not fulfill the inclusion criteria

82 Participants (Male 39 and Female 42)

In this Study the data were collected with questionnaire in the order to determine the prevalence of dementia in elderly people, the dementia severity rating scale questioner use the questionnaire assess about the history of experience of dementia (Memory, speech and language recognition of family members, orientation to time, orientation to place ability to make decision, social and community unity activity home activates and responsibility, personal care eating, control of urination and bowels, ability to get from place to place.)



### Procedure

Permission from Ethical Committee

108 elderly were screened for inclusion exclusion criteria

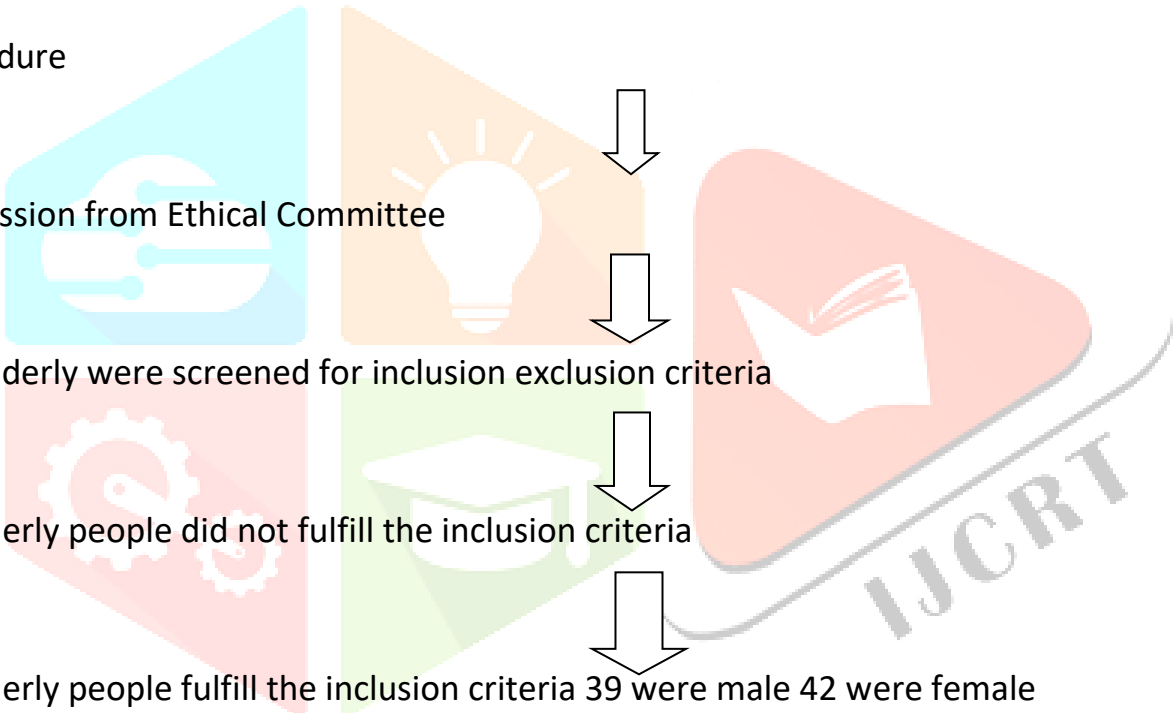
26 elderly people did not fulfill the inclusion criteria

82 elderly people fulfill the inclusion criteria 39 were male 42 were female

Informed questionnaire

Data was collected questionnaire

Statistical analysis were done and results were calculated



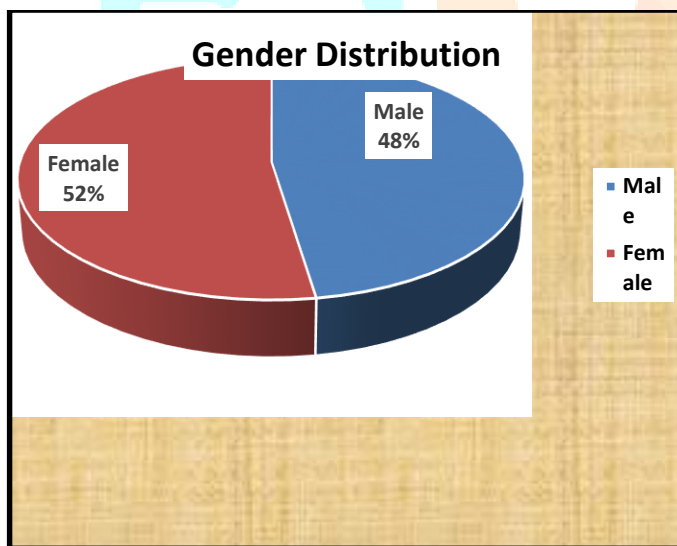
## DATA ANALYSIS

Descriptive statistic of gender distribution age distribution, dementia servility rating scale distribution, dementia servility rating scale Distribution, age group vs. DSRS (Dementia Severity Rating Scale), DSRS (Dementia Severity Rating Scale) total male and female.

The study populations were presented as numbers, percentage and mean Positive negative standard deviation prevalence of dementia of elderly people was determined by DSRS for old age people. Unpaired + -test was performed for gender wise companions of DSRS (Dementia Severity Rating Scale) 'ANOVA was done to see the difference between different age groups.

**Table: 1 Gender Distribution**

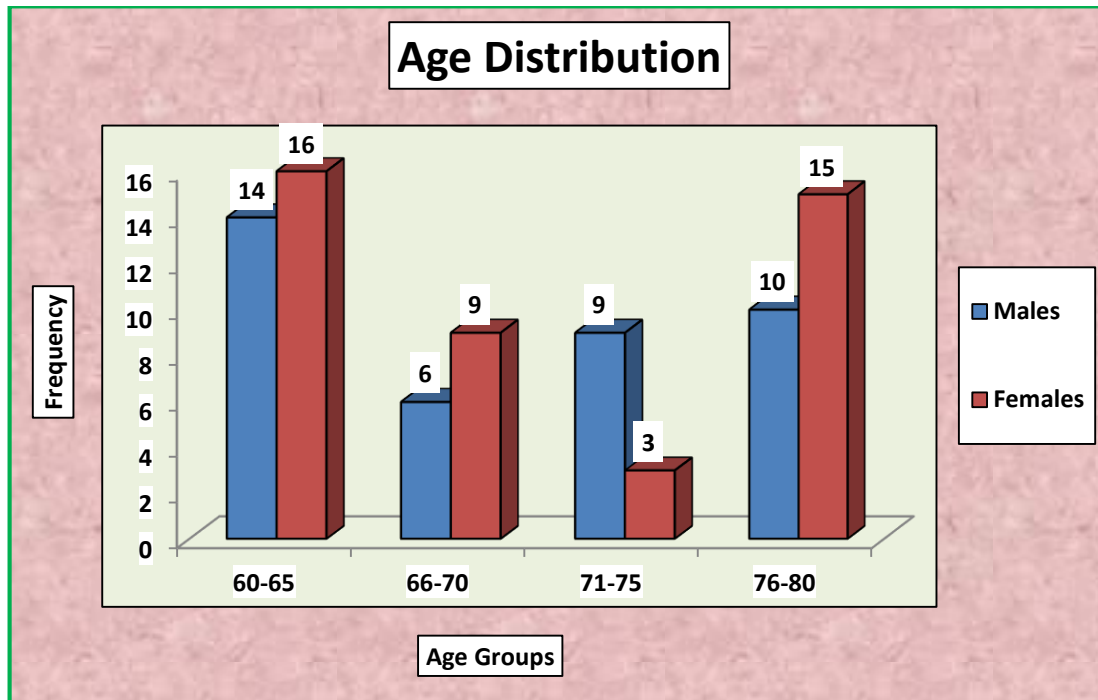
Variable	Groups	Frequency	Percentage
Gender	Male	39	47.56
	Female	43	52.44



The pie chart show gender distribution in our study 52 % subject was female and 48% subjects were male.

**Table: 2 Age Distribution**

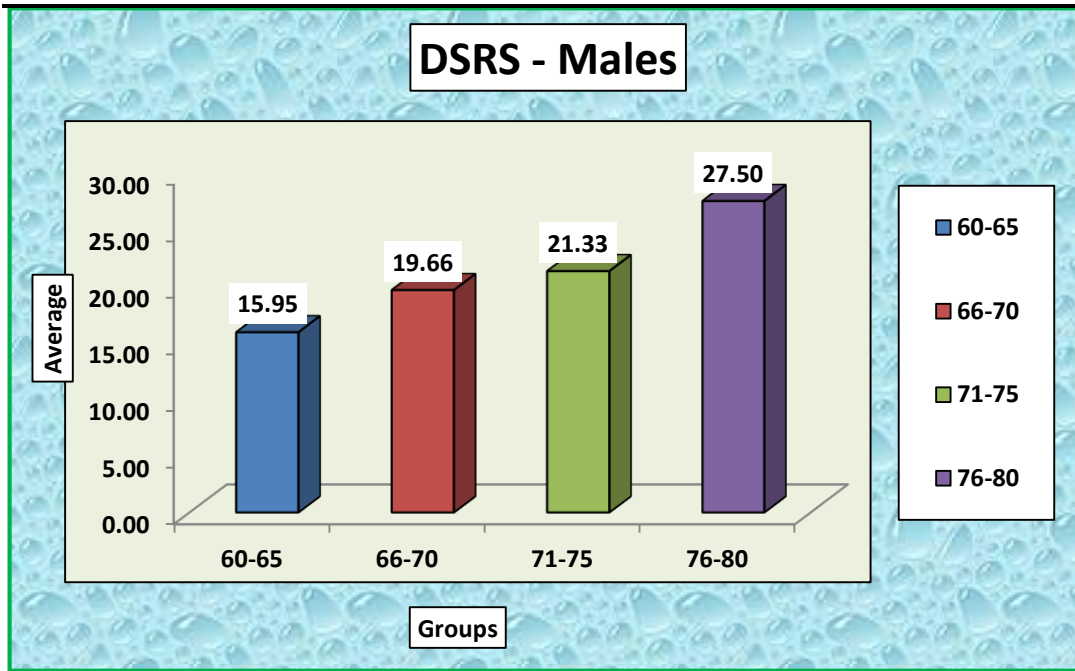
Variable	Groups	Males		Females	
		Frequency	Percentage	Frequency	Percentage
Age	60-65	14	35.90	16	37.21
	66-70	6	15.38	9	20.93
	71-75	9	23.08	3	6.98
	76-80	10	25.64	15	34.88



The bar diagram shows age wise distribution, In our study out 82 subjects, 14 males and 16 female subject were between age group 60-65, 6 male and 9 female subject were between age group 66-70, 9 male and 3 female subject were between age group 71-75, 10 male and 15 female subject were between age group 76-80.

**Table 3: Scale Distribution VS Gender**

Sr. No.	Variable	Groups	DSRS		F value	P value	Significance
			Mean	SD			
2	Age (Males)	60-65	15.95	4.23	11.25	0.000	Significant
		66-70	19.66	4.84			
		71-75	21.33	3.93			
		76-80	27.50	6.20			



**RESULT**

Prevalence – A total 82 participants 39 male and 43 female responded to the survey.

Table: 4 shows severity % of dementia severity rating scale among participants irrespective of gender mild (42.12 %), moderate (51.22 %) and severe (3.66%) ANOVA was done to see the differences between different age groups (i.r 60-65, 66-70, 71-75, 76-80) which gave F value of 24.85 and the age wise F value for male is 11.25 and for female 13.61

Table: 5 shows unpaired t-test was performed for gender wise comparison if DSRS Dementia Severity Rating Scale which scored t-value 0.97 and p value of 0.33 which is not significant.

**Table 4: Scale Score Distribution**

Variable	Groups	Score	Frequency	Percentage
DSRS	Mild	10-18.	37	45.12
	Moderate	19-36	42	51.22
	Severe	37-54	3	3.66



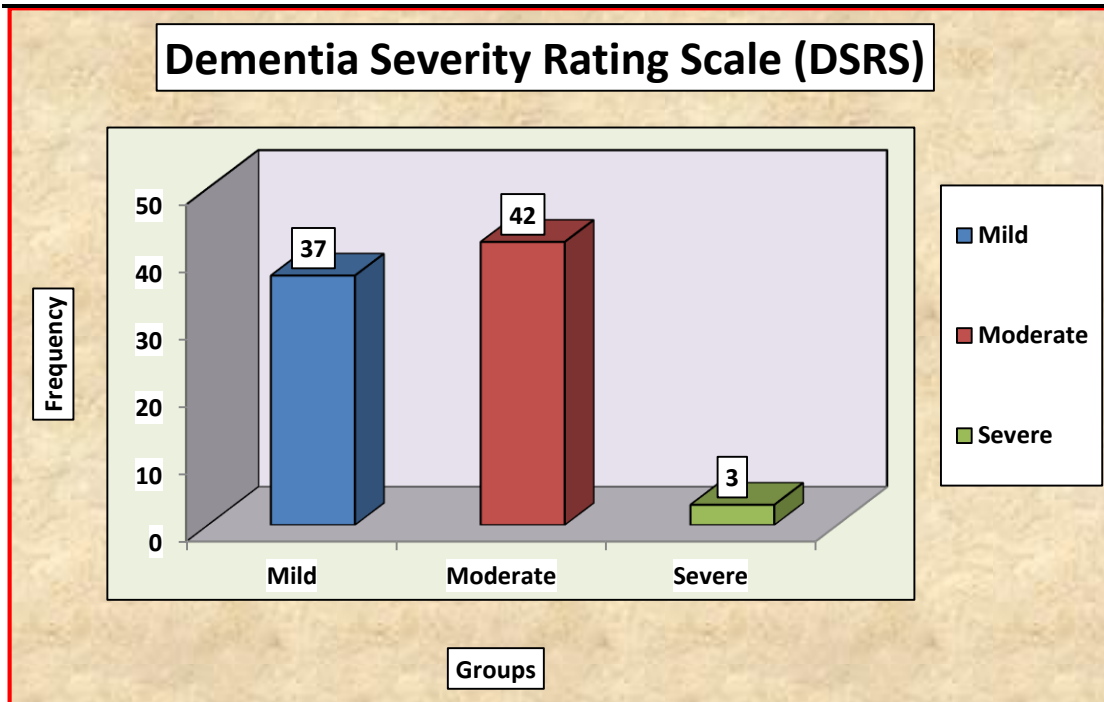


Table: 5

**Age groups vs. (DSRS) Dementia Severity Rating Scale**

	Age Groups	Mild		Moderate		Severe	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
All (82)	60-65	27	72.97	3	7.14	0	0.00
	66-70	4	10.81	11	26.19	0	0.00
	71-75	4	10.81	8	19.05	0	0.00
	76-80	2	5.41	20	47.62	3	100.00

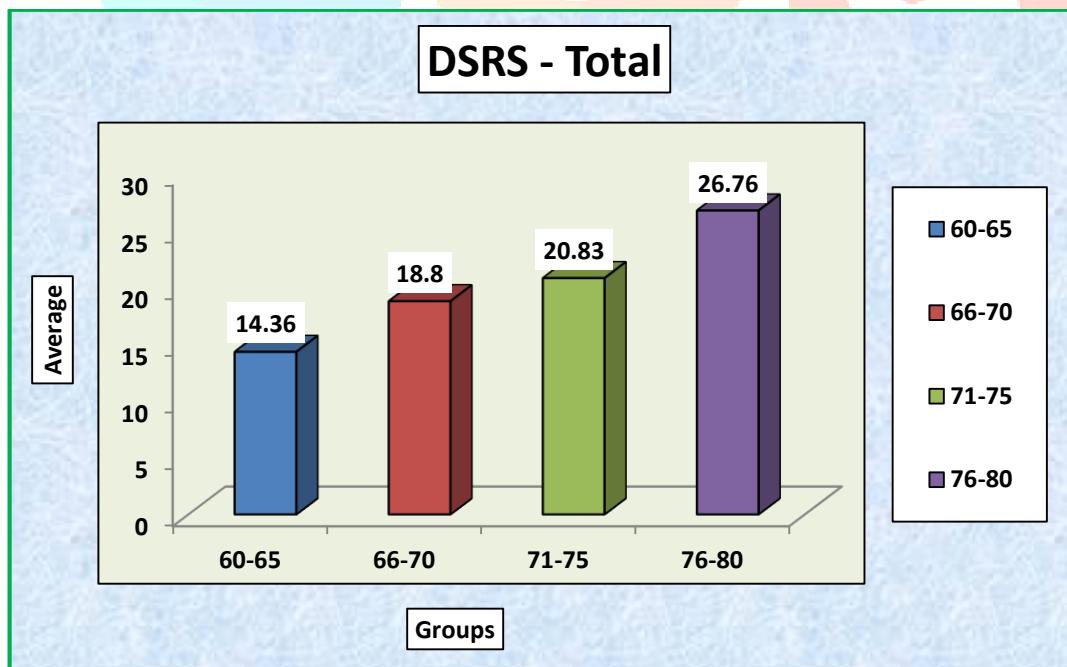
	Age Groups	Mild		Moderate		Severe	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Males (39)	60-65	11	64.71	3	14.29	0	0.00
	66-70	2	11.76	4	19.05	0	0.00
	71-75	3	17.65	6	28.57	0	0.00
	76-80	1	5.88	8	38.10	1	100.00

Females (43)	Age Groups	Mild		Moderate		Severe	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
	60-65	16	80.00	0	0.00	0	0.00
	66-70	2	10.00	7	33.33	0	0.00
	71-75	1	5.00	2	9.52	0	0.00
	76-80	1	5.00	12	57.14	2	100.00

Table: 6

### Age Group wise comparison of Dementia Severity Rating Scale (DSRS)

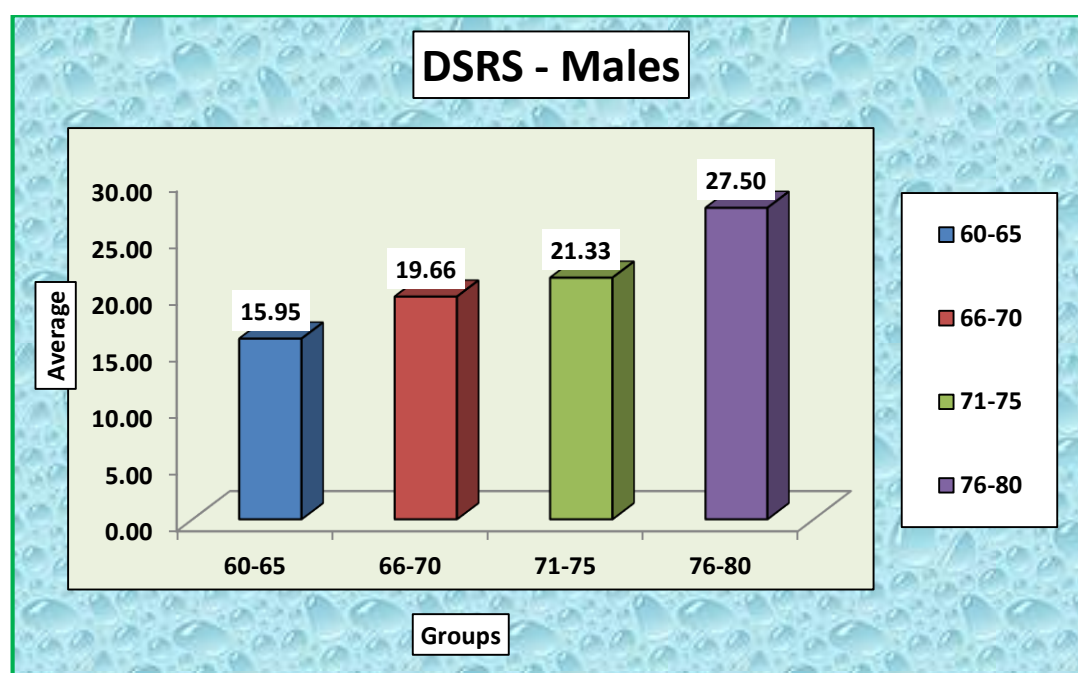
Sr. No.	Variable	Groups	DSRS		F value	P value	Significance
			Mean	SD			
1	Age (Total)	60-65	14.36	3.57	24.85	0.000	Significant
		66-70	18.8	3.84			
		71-75	20.83	3.97			
		76-80	26.76	7.82			



Test Used - Analysis of Variance (ANOVA) - F test statistics

Table 7: Scale VS Gender Comparison

Sr. No.	Variable	Groups	DSRS		F value	P value	Significance
			Mean	SD			
2	Age (Males)	60-65	15.95	4.23	11.25	0.000	Significant
		66-70	19.66	4.84			
		71-75	21.33	3.93			
		76-80	27.50	6.20			

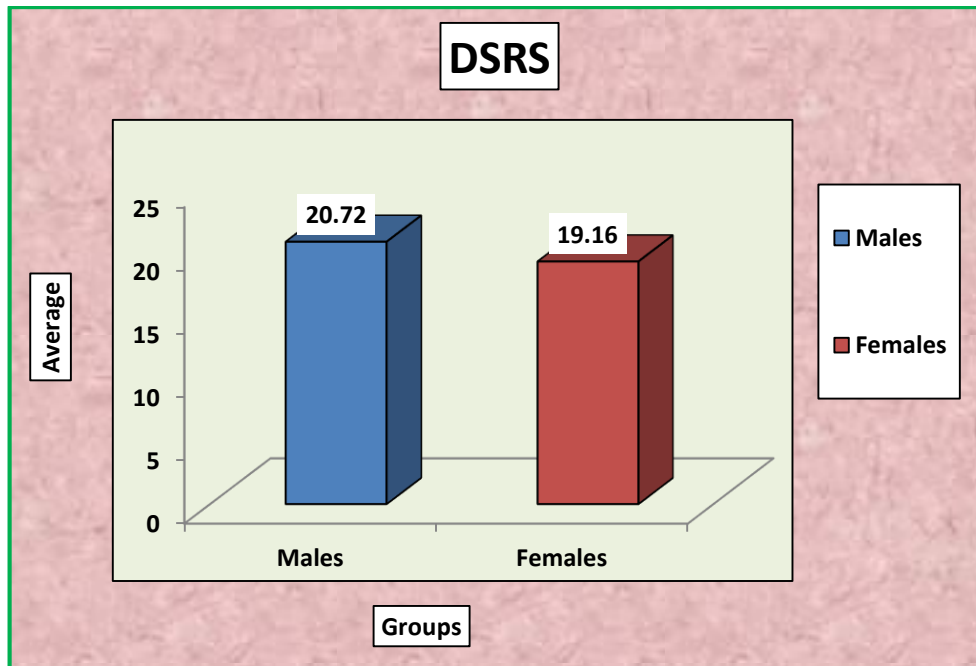


Test Used - Analysis of Variance (ANOVA) - F test statistics

Table: 8

**(DSRS) Dementia Severity Rating Scale comparison - Gender wise**

Variable	Groups	DSRS		t value	P value	Significance
		Mean	SD			
Gender	Males	20.72	6.51	0.97	0.33	Not Significant
	Females	19.16	7.99			

**Test used - Unpaired t test**

The bar diagram shows gender wise comparison by scale in our study 20.72 mean subject were male and 19.16 mean were female.

**DISCUSSION**

- The Primary aim of this study was to see prevalence of dementia in elderly people who are living in old age homes.
- The challenges of an aging population with its expected attendant problem of an increase in the number of people with dementia are particularly acute. The result of the current study shows that severity of dementia (DSRS) increase as the age increase.
- In this study 82 participants fill the Dementia Severity Rating Scale (DSRS) 39 male and 43 female were included result showed mean of 20.72 and 19.16 respectively.

- Dementia Severity Rating Scale (DSRS) Component: In the Present Study we assessed for Memory, speech and language, recognition of family members, orientation to time, orientation to place, Ability to make decisions, social and community activity, home activities and responsibilities, personal care, eating, control of urination, and bowels, ability to get from place to place.
- A prevalence of dementia in age 60-65 is 72.97% Mild, 7.14% Moderate, 0% Severe, age 66-70 is 10.81 % mild, 26.19 % moderate, 0% severe, age 71-75 is 10.81% Mild, 9.05% moderate, 0% severe, age 76-80 is 5.41% Mild, 7.62 moderate, 3% severe.
- The previous study “prevalence of dementia in people aged 60 years and above: result from the wise study” the author Harish Magadi, Rathi Mahendran conduct in January 2015 shows validity of wise study with validity of 10/66 dementia higher than DSM-IV dementia when compared against the clinical gold standard.
- The “previous study prevalence of dementia in people aged 60 years and above: result from the wise study” conducted by siow Ann Chong, janhavi Ajit Vaingankar et. al , in January 2015, reported that most of the subjects with dementia in their study were already at mild stage (as judged according to their abbreviated (DSRS) Dementia severity rating scale) and that the prevalence figures excluded sever dementia
- The average score of Dementia Severity Rating Scale (DSRS) among old age group of 60 to 80 living at old age homes were significant
- Whereas DSRS (Dementia Severity Rating Scale) scores among the age 60 to 80 living at old age home. According to gender were non significant.

## CONCLUSION

the study conduct that the average score of Dementia Severity Rating Scale (DSRS) among old age group of 60 to 80 living at old age homes were significant Whereas DSRS (Dementia Severity Rating Scale) scores among the age 60 to 80 living at old age home. According to gender were non significant.

## LIMITATION

- We have not taken family background.
- We have not taken past medical history.
- Cause factor were not studied.
- The trauma and reason behind reaching the old age home was not known.

## FUTURE SCOPE

- By this prevalence we can prevent the progression by dementia in this age group.
- Dementia diagnosed early intervention can be used to prevent dementia in old age, causes dementia can be removed.
- Young people can be advice how to prevent dementia.

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