

# A Study to Assess the Knowledge Regarding Alzheimer's disease among Adults in Selected Areas of Pune City.

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## ABSTRACT

**Introduction:** Demographic aging is a global phenomenon. It has picked up momentum in low income countries of Asia, Latin America and Africa. India's population is undergoing a rapid demographic transition. Soon, there will be a sharp increase in the number of older people in our population. Dementia, including Alzheimer's disease, remains one of the biggest global public health challenges facing our generation. The number of people living with dementia worldwide today is estimated at 44 million, set to almost double by 2030 and more than triple by 2050. **The present study title:** "to assess the knowledge regarding Alzheimer's disease among adults in selected areas of Pune city. The objectives are (1) To assess the knowledge regarding Alzheimer's disease among adults in a selected areas of Pune city. (2) To associate the finding with selected demographic variables. **Material and Methods:** In present study, It is assumed that adults possess some knowledge regarding Alzheimer's disease. As per Health Belief Model, the conceptual framework was formulated. The study based on exploratory descriptive survey design. 200 adults are selected by Non probability convenient sampling technique. Data were collected from selected areas of Pune City. Study tool used by the researcher consisted of two sections. Section A – Demographic data and Section B – Questionnaire to assess knowledge regarding Alzheimer Disease. This tool was validated by 17 experts from different fields. Reliability of the tool were 0.86 with the help of Pearson's correlation coefficient formula. Pilot study was conducted among 20 samples and the study was found feasible. After one week of Pilot study, final Study was conducted. Descriptive and inferential statistics was used to analyze the data **Result:** Out of 200 adults 30.5 percent had poor knowledge, 51 percent had average knowledge and 18.5 percent had good knowledge on Alzheimer's disease. Average knowledge score of adults was 10.1 with standard deviation of 4. The study revealed that Demographic variables Age, Gender, Education, Occupation and information regarding Alzheimer's disease were found to have significant association with knowledge regarding Alzheimer's disease. The study revealed with the assumption of the study that the knowledge of adults regarding Alzheimer's disease is average. **Conclusion:** The knowledge of adults regarding Alzheimer's disease was adequate when assessed by the investigator through the structured questionnaire. **Recommendations:** A study can be done to assess the attitude and practices of caregiver's knowledge on Alzheimer's disease, a study to assess the effectiveness of structured teaching program me on adults regarding Alzheimer's disease, study can be conducted to assess the nurse's knowledge and attitude on Alzheimer's disease, comparative study can be conducted to compare the rural and urban adult's knowledge regarding Alzheimer's disease.

**Keywords:** (Assess, Knowledge, Alzheimer's disease (AD) and adults)

## INTRODUCTION

Demographic aging is a global phenomenon. It has picked up momentum in low income countries of Asia, Latin America and Africa. India's population is undergoing a rapid demographic transition. Soon, there will be a sharp increase in the number of older people in our population. It is important to note that this rapid demographic change is happening along with fast paced social restructuring accompanied by economic development. Regions with more favorable health indicators seem to be ageing faster. Dementia, including Alzheimer's disease, remains one of the biggest global public health challenges facing our generation. The number of people living with dementia worldwide today is estimated at 44 million, set to almost double by 2030 and more than triple by 2050. The global cost of dementia was estimated in 2010 at US \$604 billion, and this is only set to rise. Alzheimer disease is a major public health challenge in today's scenario. Alzheimer's disease is the fourth leading cause of death in adults. It robs the quality of not only the elderly but also the family members who are forced to devote their lives caring for their impaired loved ones. In 2000, age-standardized dementia mortality rate was 6.7 and 7.7 for 100,000 male and female respectively. 24.3 million have dementia, 4.6 million new cases per year. Worldwide dementia contributes 4.1% of all disability-adjusted life years and 11.3% of years lived with disability and 0.9% of years of life lost. In India morbidity and mortality rate dementia report 1.8 million have dementia in India and South Asia in people >60 years of age. 400,000 new cases per year for India and South Asia. There is a growing realization that the care of older people with disabilities makes enormous demands on their cares. Terms like dementia and Alzheimer's disease are now better understood. However, this was not the case when the Alzheimer's and Related Disorders Society of India (ARDSI) initiated awareness programmers in 1992. Dementia remains a largely hidden problem in India, especially in those parts of India where poverty and illiteracy levels are high.

## NEED FOR THE STUDY

The global age standardized death rate for AD and other dementias is 6.7 per 100,000 for males and 7.7 per 100,000 for females. For India and the WHO South East Asia D sub region, the dementia mortality rate is 13.5 per 100,000 male and 11.1 per 100,000 female (Mathers and Leonardi, 2000). Compared to other chronic medical conditions (heart diseases, cancer and stroke), AD is the fourth leading cause of death in the Asia Pacific region (ADI 2006). Dementia is progressive and eventually results in the need for the constant care; therefore, it is one of the most burdensome disease of the elderly in this aging society. According to recent review of the global prevalence of dementia, the age-standardized prevalence of dementia for those aged  $\geq 60$  varied little: 5-7% in the most world regions, with a higher prevalence in Latin America (8.5%), and a distinctively lower prevalence in the four sub-Saharan African regions (2-4%). The evidence base on the prevalence of dementia is expanding rapidly, particularly in countries with low and middle incomes. In 2012, there were 185 million Chinese over age 60- the largest number of elderly people in any country in the world. With a reported national prevalence of 6%, there are an estimated 7.4 million elderly currently living in China with dementia, and this number will grow to 18 million by 2030 if effective preventions are not identified and implemented. •India has a large segment of older people in the population. This segment is growing fast with the rapid increase of the grey population in India. It is estimated that over 3.7 million people are affected by dementia in our country. This is expected to double by 2030. It is estimated that the cost of taking care of a person with dementia is about 43,000 annually; much of which is met by the families. The financial burden will only increase in the coming years. The challenge posed by dementia as a health and social issue is of a scale we can no longer ignore. This is a significant step forward in dementia care movement in our country. Many countries like Australia, England, France, Norway, Netherlands, and South Korea have already recognized the problem and have devised national dementia strategies and have made dementia a national health priority. It is coincidental the Ministry of Health is about to launch the National Health care programme for the elderly.

## OBJECTIVES OF THIS STUDY

1. To assess the knowledge regarding Alzheimer's disease among adults in a selected areas of Pune city.
2. To associate the finding with selected demographic variables.

## REVIEW OF LITERATURE

A literature review helps to lay the foundation for the study and also inspire new research ideas. The review of literature for the present study was organized under the following headings:

Literature related to prevalence and incidence of Alzheimer's disease.

According to WHO (2014) global burden of disease in dementia is the third leading cause of contributors to years of life lost due to disability (YLD) in elderly in low income and middle income countries. Dementia is the second highest source of disease burden after tropical disease.

According to The Hindu News (September 20, 2012) Says number of people with dementia above the age of 60 to touch 4.41 million by 2015. By the year 2015, India is expected to overtake the U.S. to become the country with the largest number of people with dementia, posing a major challenge to the economy, the Dementia India Report 2010 prepared by the Alzheimer's and Related Disorders Society of India (ARDSI) says. The report, to be released at a function here on Friday along with the World Alzheimer Report 2012, estimates that the number of people with dementia above the age of 60 in India will touch 4.41 million by 2015, up from the current 3.7 million. Persons with dementia in the 60-75 age group are expected to increase steadily over time, and a steep increment among patients over 75 years of age can be predicted after 203020.

According to Kaplan and Sadock, Synopsis of Psychiatry (2007) state that With the aging population, the prevalence of dementia is rising. The prevalence of moderate to severe dementia in different population groups is approximately 5 percent in general population older than 65 years of age, 20 to 40 percent in the general population older than 85 years of age, 15 to 20 percent in outpatient general medical practices, and 50 percent in chronic care facilities.

According to the nursing journal of India 2014, it is revealed that advance in modern technology, specifically in medicine and improvement in standard of living contributed greatly to the increase in elderly population across the world. It is estimated that 35.5 million people worldwide suffer from dementia. This number may double every 20 years to an estimated 65.7 million in 2030 and 115.4 million in 2050. Already 58 percent of people with dementia live in developing countries but by 2050 it may raise to 71 percent. Prevalence of dementia in urban India is 4.8 percent whereas in rural India it ranges from 0.6 percent to 3.5 percent which shows that prevalence in India is much lower than in European countries

### Literature related adult's knowledge on Alzheimer's disease

K.Suganthi (2014) conducted a study to assess the knowledge of staff nurses regarding Alzheimer' disease in Govt. General Hospital Guntur. A.P. India. The research approach used in the study was descriptive study / non experimental study. The research design selected for the study was descriptive method. The samples were selected by using purposive sampling by use self-administered questionnaire. The finding of the study reveals that 24% of nurses have above average knowledge, 60% nurses have average knowledge and 26% of nurses have below average knowledge<sup>29</sup>.

Riaz KM, Jose SA (2014) conducted a study on phenomenological study on experience of care givers of patients with dementia in Rural Kerala. A phenomenological study was carried out to know the experience of 10 care givers of patients with dementia in a costal rural community in Thrissur district of Kerala (India). A qualitative approach with survey design using unstructured questionnaire was employed to collect the data. Interviews were recorded and transcribed verbatim before analysis by personal reflections on Giorgi's method. The study revealed that care givers of clients with dementia in rural settings have concerns related to caring and outcome. They expressed being overwhelmed, isolated and helpless with this deteriorating condition<sup>30</sup>.

Maddalena Riva MD, Caratoz et al (2013) conducted a study on Knowledge and attitudes about Alzheimer's disease in the lay public: influence of caregiver experience and other socio-demographic factors in an Italian sample. 1100 individuals were enrolled in study. The study is focused on the analysis of 9 of the 25 questions included in the questionnaire, highlighting aspects about knowledge of symptoms, risk factors, therapies and services. Results revealed that the percentage of correct responses was significantly greater among the caregivers. The group of old respondents gave similar answers, independently of their caregiver status. Women, caregivers or not, are the more knowledgeable group<sup>31</sup>.

Smyth W, Fielding E, Beattie E et al (2012) conducted a survey-based study of knowledge of Alzheimer's disease among health care staff. Knowledge levels were investigated via the validated 30-item Alzheimer's Disease Knowledge Scale (ADKS). All health service district staff with e-mail access were invited to participate in an online survey. A diverse staff group (N=360), in terms of age, professional group (nursing, medicine, allied health, support staff) and work setting from a regional health service in Queensland, Australia responded. Results revealed that Overall knowledge about Alzheimer's disease was of a generally moderate level with significant differences being observed by professional group, Knowledge was lower for some of the specific content domains of the ADKS, especially those that were more medically-oriented, such as 'risk factors' and 'course of the disease.' Knowledge was higher for those who had experienced dementia-specific training, such as attendance at a series of relevant workshops

## EXPERIMENTAL SECTION

### Material and method:

In present study, the study based on exploratory descriptive survey design. 200 adults are selected by Non probability convenient sampling technique. Data were collected from selected areas of Pune City. Study tool used by the researcher consisted of two sections. Section A – Demographic data and Section B – Questionnaire to assess knowledge regarding Alzheimer Disease.

Section I: : Demographic data such as age, gender, educational status, occupational status, type of family, family size, family history of mental illness, family members suffering from Alzheimer's disease, any information regarding Alzheimer's disease, source of information regarding Alzheimer's.

Section II: Questionnaire to assess knowledge regarding Alzheimer Disease.

### Plan for Data Analysis:

The analysis was done by using the data of section-I and section-II and presents them in tables, graphs and figures.

For the analysis of demographic data frequencies and percentage was calculated. the Association between knowledge of the adults regarding Alzheimer's disease and their demographic variables was assessed using Fisher's exact test. All the findings will be documented in tabulation, graphs and diagrams.

## RESULT AND DISCUSSION

Analysis and interpretation of the data are based on data collected from 200 samples.

## Section-I

**Table 1: Description of samples according to their personal characteristics in terms of frequency and percentages**  
N=200

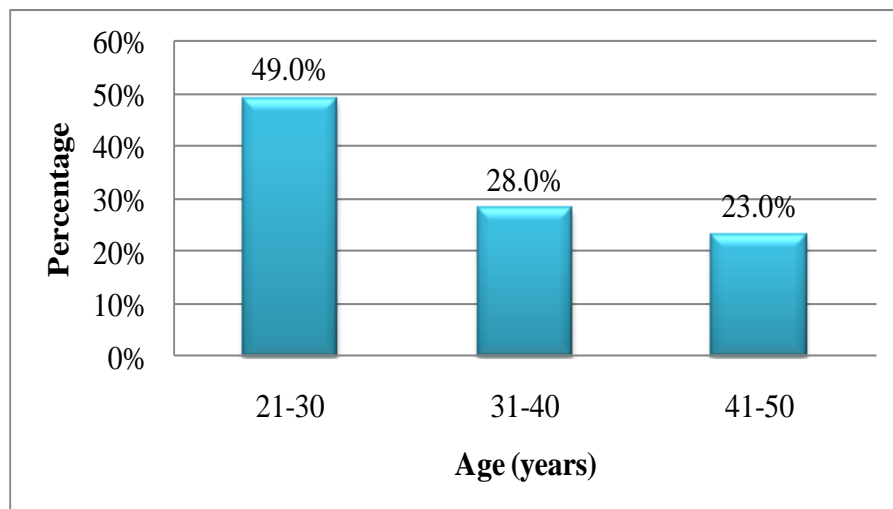


Figure reveals that the majority of adults 49 percent were in the age group of 21 – 30 years followed by 28 percent were in the age group between 31 – 40 years and 23 percent were in age group between 41 – 50 years.

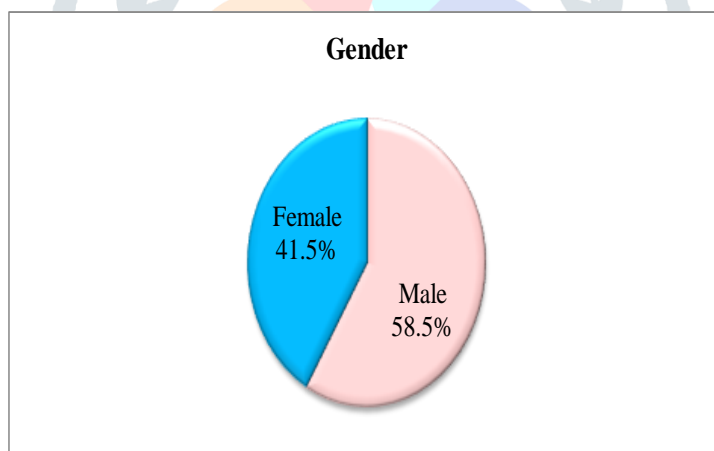


Figure reveals that Out of 200 adults, majority of adults 58.5 percent were males and 41.5 percent were females.

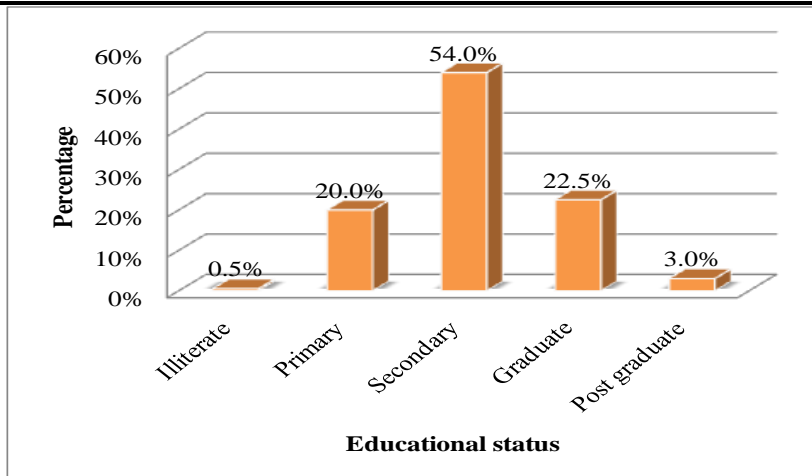


Figure reveals that Out of 200 adults 54 percent were secondary education, 22.5 percent were graduates, 20 percent were primary education, 3 percent were post graduate and 0.5 percent were illiterate.

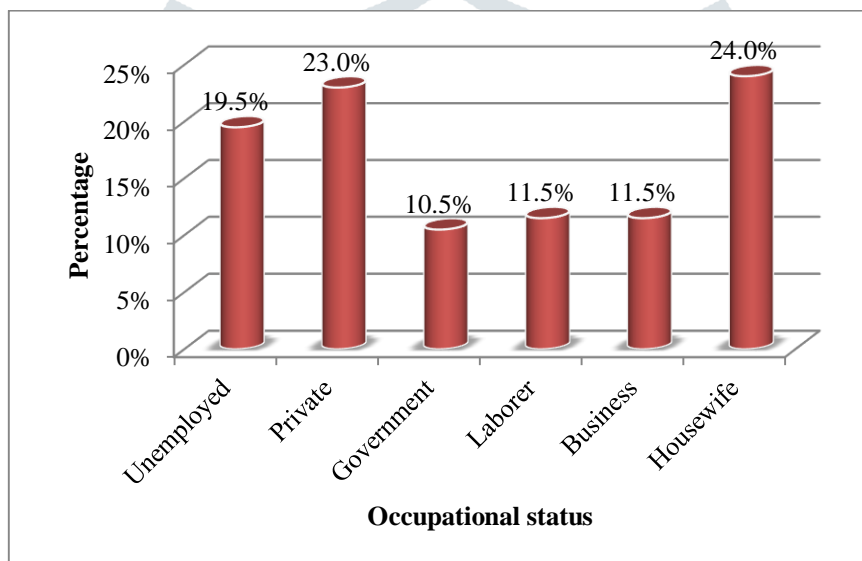


Figure reveals that Among total respondents 23 percent were private employees, 10.5 percent were government employees, 24 percent were housewives, 11.5 percent were laborers, 11.5 percent were business and 19.5 percent were unemployed.

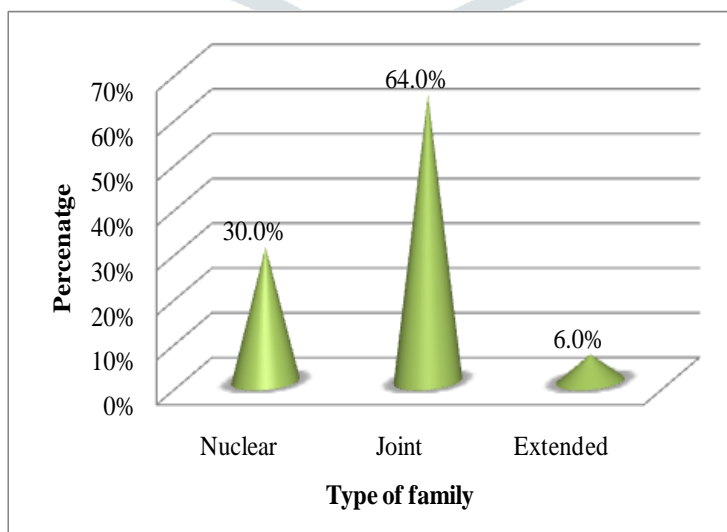


Figure reveals that 30% of them were from nuclear family, 64% of them were from joint family and 6% of them were from extended family.

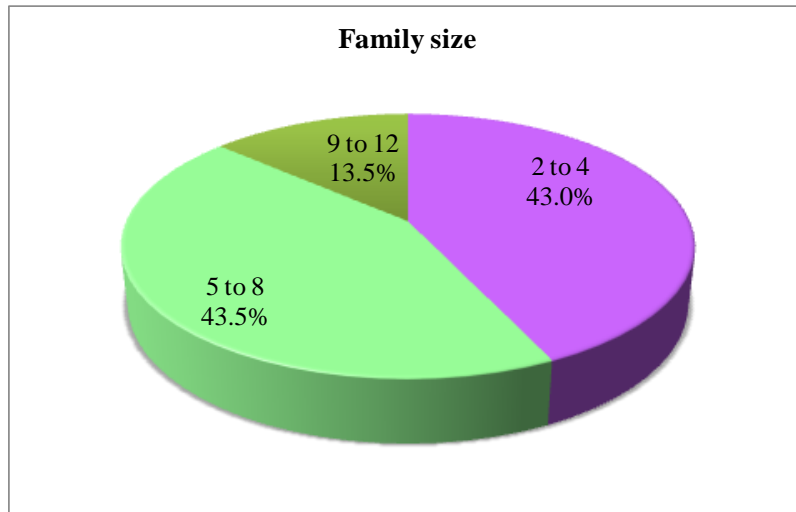


Figure reveals that Out of 200 adults 43.5 percent were from the family size of 5-8 members, 43 percent were from the family size of 2-4 members and 13.5 percent were from the family size of 9-12 members.

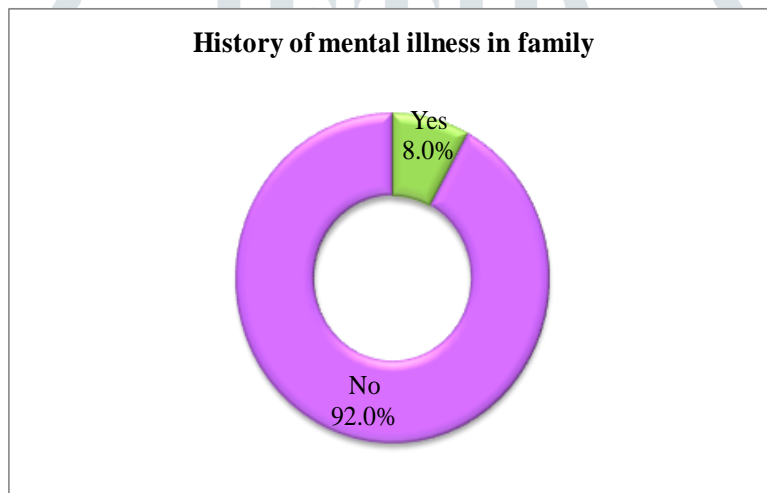


Figure reveals that Only 8% of them had history of mental illness in family.

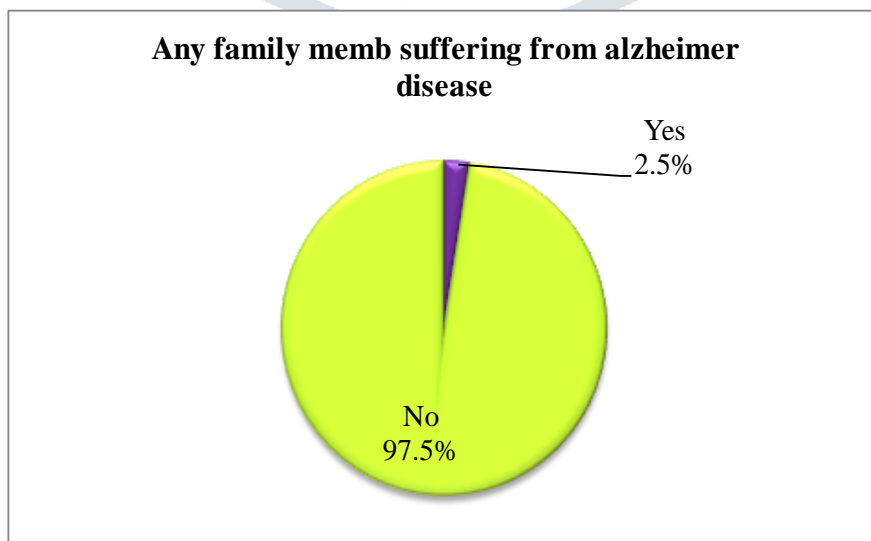


Figure reveals that only 2.5% of them had family member suffering from Alzheimer’s disease.



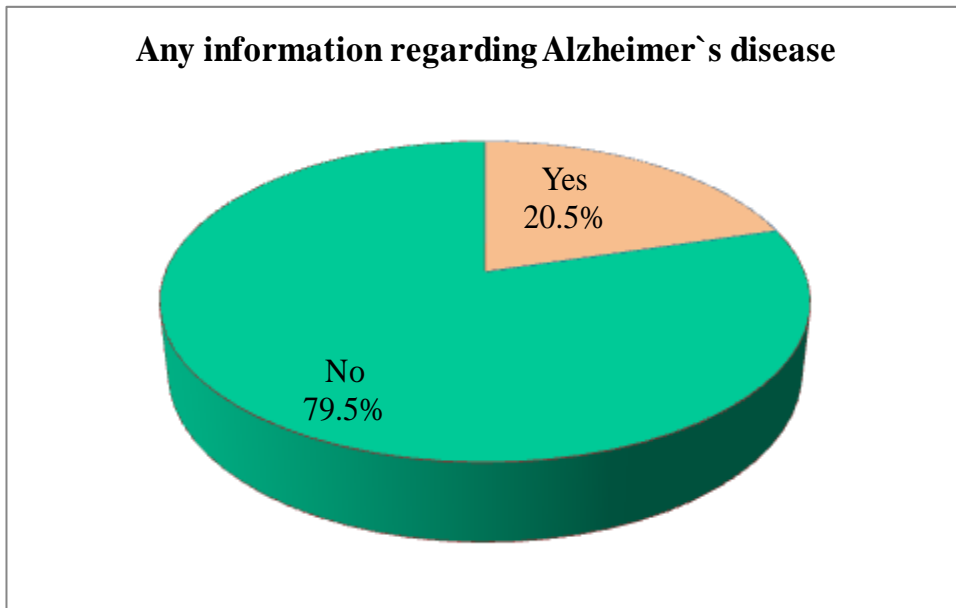


Figure reveals that only 20.5% of them had information regarding Alzheimer`s disease.

### Section-II

An analysis of data related to the assessment of knowledge regarding Alzheimer`s disease among adults.

N=200

**Table 2: Knowledge regarding Alzheimer`s disease among adults**

Knowledge	Freq	%
Poor (Score 0-7)	61	30.5
Average (Score 8-14)	102	51
Good (Score 15-21)	37	18.52

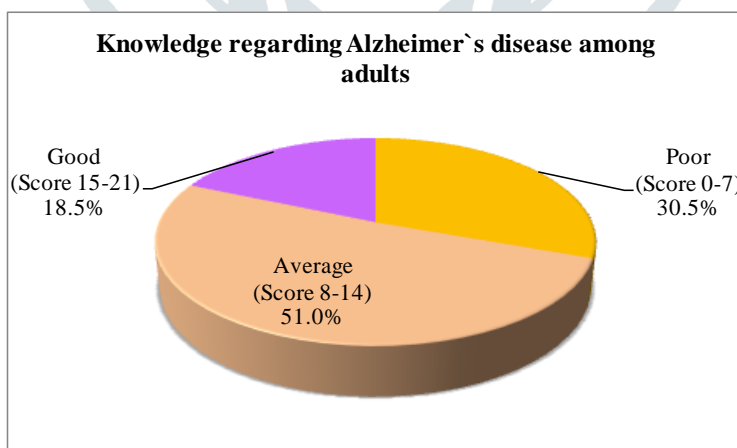


Figure reveals that Out of 200 adults, More than half (51%) of the adults had average knowledge (Score 8-14) regarding Alzheimer`s disease, 30.5% of them had poor knowledge (score 0-7) and 18.5% of them had good knowledge (score 15-21) regarding Alzheimer`s disease.

**Association between knowledge regarding Alzheimer's disease and demographic variables of adults**  
**SD-4**

Demographic variable		Knowledge			p-value
		Poor	Average	Good	
Age (Years)	21-30	19	54	25	0.008
	31-40	23	27	6	
	41-50	19	21	6	
Gender	Female	18	44	21	0.027
	Male	43	58	16	
Education	Illiterate	0	1	0	0.000
	Primary	23	17	0	
	Secondary	35	52	21	
	Graduate	2	29	14	
	Post graduate	1	3	2	
Occupation	Business	7	13	3	0.004
	Govt.	1	15	5	
	Housewife	13	28	7	
	Laborer	15	6	2	
	Private	12	25	9	
	Unemployed	13	15	11	
Type of family	Extended	6	2	4	0.103
	Joint	36	71	21	
	Nuclear	19	29	12	
Family size	2 to 4	26	47	13	0.445
	5 to 8	26	45	16	
	9 to 12	9	10	8	
History of mental illness in family	No	59	92	33	0.246
	Yes	2	10	4	
Any family member suffering from Alzheimer's disease	No	61	99	35	0.163
	Yes	0	3	2	
Any information regarding Alzheimer's disease	No	57	90	12	0.000
	Yes	4	12	25	



## Discussion

The present study done on 200 samples. The conceptual framework adopted for the study was health belief model. Review of literature enhanced the investigator to gather the information to support the study. K.Suganthi (2014) conducted a study to assess the knowledge of staff nurses regarding Alzheimer' disease in Govt General Hospital Guntur. A.P. India. The research approach used in the study was descriptive study / non experimental study. The research design selected for the study was descriptive method. The samples were selected by using purposive sampling by use self-administered questionnaire. The finding of the study reveals that 24% of nurses have above average knowledge, 60% nurses have average knowledge and 26% of nurses have below average knowledge.

## Conclusion

The knowledge of adults regarding Alzheimer's disease was adequate when assessed by the investigator through the structured Questionnaire. The findings revealed that there is a More than half (51%) of the adults had average knowledge (Score 8-14) Regarding Alzheimer's disease, 30.5% of them had poor knowledge (score 0-7) and 18.5% of them had good knowledge (Score 15-21) regarding Alzheimer's disease.

## IMPLICATIONS

The finding of this study is implicated in following headings-

### Nursing Practice

Health is a state of complete physical, mental, social and spiritual wellbeing and not merely an absence of disease or infirmity. (W.H.O. Definition) It has been emphasized in the definition of health by World Health Organization, that health is treated as a whole and not as a fragmented element. Hence, for health of every individual as nurse needs to pay attention to all the comprehensive aspects of health. Nurse can assess the knowledge regarding Alzheimer's disease. Nurses are key person of a health team, who play a major role in the health promotion and maintenance, nursing research studies are usually not interested in pursuing knowledge simply for the sake of knowledge. It is a practicing profession, so the researcher's generally integrate finding into practice. Mental health nurses working in hospital and community play an important role in giving health education on Alzheimer's disease. Special emphasis needed to be given to promote positive attitudes among adults towards accepting a person with Alzheimer's disease. The investigator as a nurse felt nurses should act as facilitator to educate adults on Alzheimer's disease.

### Nursing Education

Nursing education helps the students to gain adequate knowledge, skills and attitude to fulfill their duties and responsibilities in nursing field. Nurse educators can educate students about Alzheimer's disease. For these activities nurses also need to update their knowledge through regular in-service education.

Nursing Administration. The present study reveals that the adults did not have adequate knowledge on Alzheimer's disease. Special endeavors can be taken up by nursing administrator and educators to develop standards of care for Alzheimer's disease patients. The nursing administrator should organize in service education programme to nursing personnel and allied paramedical regarding Alzheimer's disease. The nursing administrator working in hospital and community setting should take up keen interest in developing awareness among adults regarding Alzheimer's disease.

### Nursing Research

There is a wide scope of conducting research study in depth using other tools in order to assess the knowledge regarding Alzheimer's disease. The researcher found that literature regarding the assessment of knowledge on Alzheimer's disease to Indian context was inadequate. Research studies can also be conducted on caregivers of Alzheimer's disease. So, the nursing leaders can motivate nurses to do more research in this aspect.

### Limitations

Study is limited to the adults (21-50 years) only.  
 Sample size is limited and not covering to the entire city.  
 Analysis of the study will based purely on the basis of responses given by the subjects.  
 The study was limited to the experience level of the researches.

### Recommendations

A similar study can be conducted on a larger sample for wider generalizations.  
 A study can be done to assess the attitude and practices of caregiver's knowledge on Alzheimer's disease.

A study to assess the effectiveness of structured teaching programs me on adults regarding Alzheimer's disease.  
A study can be conducted to assess the nurse's knowledge and attitude on Alzheimer's disease.  
A comparative study can be conducted to compare the rural and urban adult's knowledge regarding Alzheimer's disease.

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