*Original Research Article*

# Assessment of the Knowledge Regarding Alzheimer's Disease among Senior Citizens in Selected Community at Tirupati

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## ABSTRACT

**Background:** Increases in life expectancy during the 21st century have produced an aged population of an unprecedented size and longevity. Ageing leads to several biological changes that take place over time and results in progressive loss of functional capacity. The aged have to cope up with many physical and mental health problems with advancing age requiring constant attention. Depression, hypertension, arthritis, dementia, Alzheimer's diseases are highly prevalent among the aged.

**Objectives:**
To assess the knowledge on Alzheimer's disease among senior citizens in a selected community.
To find out the association between the level of knowledge with selected demographic variables of senior citizens.

**Methodology :** Descriptive research approach was adopted , sample were selected by non probability purposive sampling technique(N=100) .Data was collected by structured interview schedule.

**Results:** Among 100 senior citizens, 25% had inadequate knowledge, 46% had moderate knowledge, and 29% had adequate knowledge. There was a statistically significant association between the levels of knowledge among senior citizens with their selected geographical background, education, marital status, source of information and specific source of information regarding Alzheimer's disease. On conclusion, senior citizens with inadequate knowledge, unable to expand their knowledge towards the Alzheimer's disease. So the researcher prepared a book let on Alzheimer's disease to improve their knowledge on Alzheimer's disease.

*Key words:* Alzheimer's disease, Knowledge, Senior citizen

## INTRODUCTION

*You have to begin to lose your memory if only in bits and pieces to realize that memory is what makes our lives. Life without memory is our coherence, our reason, our feelings, our action; with put it we are nothing.*

*"Memory Is The Mother Of All Wisdom"*

The central nervous system is master controlling system of the human body. Every thought, action and emotion reflects its activity. Its electrical impulses, which are rapid and specific, can cause almost immediate responses. Brain is the intellectual center that allows thought, learning, memory and creativity. [1]

Two thirds of all people eventually experience some significant loss of mental lucidity and independence as a result of aging. People eventually experience some significant loss of mental lucidity and independence as a result of aging. People aged 60 years and years and older experience significant cognitive decline, including decline in memory, concentration, clarity of thoughts, focus and judgement

with an increase in the onset of several neurological problems [2]

Increases in life expectancy during the 21st century have produced an aged population of an unprecedented size and longevity. Women are three times more likely to be affected than men Current estimates reveals that there are about 18 million cases of dementia in the World and by 2025, there will be about 34 million suffering from dementia. The overall prevalence of dementia ranges from 5 percent to 7 percent. Alzheimer's disease is the most common dementing disorder accounting for 80 percent of all cases of dementia. [3]

The sun will continue to show its rays on the world. The waves of the vast ocean will continue their rush to reach the shore and the wind will continue to blow the leaves of the tree. "But let us all accept the person with Alzheimer's disease and give them a better tomorrow".

Worldwide, nearly 44 million people had Alzheimer's disease or related dementia. Only 1 in 4 people with Alzheimer's disease had been diagnosed. Alzheimer's and other dementias are the top cause for disabilities in later life. Every 67 seconds someone in the United States develops the Alzheimer's disease. [4]

An estimated 5.2 million Americans are affected with Alzheimer's disease and other 20 million families must care for them. One in 9 Americans over 65 has Alzheimer's disease. currently 8,00,000 people living with dementia in united kingdom today , a number in the Asia pacific region will rise from about 14 million today to 65 million by 2050. [4]

There is a remarkable Lack of relevant information on Alzheimer's in general population, and that most individual wish to be informed about a potential diagnosis of Alzheimer's disease together with their family and friends. [5]

**RESEARCH APPROACH:** Research approach used for this study was Non-Experimental approach.

**RESEARCH DESIGN:** The research design selected for the present study was cross sectional descriptive research design with the objective to assess the level of knowledge regarding Alzheimer's disease among senior citizens.

**SETTING OF THE STUDY:** The study was conducted at selected area of Tirupati. The setting was chosen on the basis of feasibility of required sample and co-operation extended by the senior citizens.

**POPULATION:** Senior citizens 60-80 years.

**SAMPLE:** The sample chosen for this study was senior citizens, who were falling under inclusion criteria.

**SAMPLE SIZE:** 100 senior citizens who were falling under the inclusion criteria.

**SAMPLEING TECHNIQUE:** Non Probability purposive sampling technique was adopted depending upon the availability of the selected samples. In this type of sampling design, samples are chosen by chance not by chance, through a judgment made by researcher based on their knowledge about the population. The entire process of sampling is done in a single step, with each subject selected independently from the population.

**CRITERIA FOR SAMPLE SELECTION:**

INCLUSION CRITERIA: Senior citizens who,
➢ are willing to participate
➢ are present at the time of the study
➢ both male and female.

EXCLUSION CRITERIA: Senior citizens who were,
➢ below 60 years of age.
➢ diagnosed with Alzheimer's disease.
➢ hearing impairment.
➢ not willing to participate
➢ participated in pilot study.

**Procedure of data collection:** A formal written permission was obtained from the Puskarini managing director, Tirupati. Sample of 100 senior citizens were selected. Based on the inclusion criteria. A brief introduction of self and the purpose of the study was explained, consent was obtained

from the participants. Participants were made to sit comfortably, the questionnaire was administered. The data was collected daily from 6-7 samples. The respondents were thanked for their co-operation which they extended willingly.

## SECTION-I Frequency and percentage distribution of demographic variables of senior citizens. N=100

| Demographic variables | Frequency (F) | Percentage (%) |
|---|---|---|
| **Age in years** | | |
| 60-69 | 73 | 73% |
| 71-80 | 27 | 27% |
| **Gender** | | |
| Male | 98 | 98% |
| Female | 2 | 2% |
| **Religion** | | |
| Hindu | 99 | 99% |
| Muslim | 1 | 1% |
| **Education** | | |
| Illiterate | 1 | 1% |
| Primary education | 12 | 12% |
| Secondary education | 25 | 25% |
| Intermediate | 15 | 15% |
| Graduation | 31 | 31% |
| Post graduation | 16 | 16% |
| **Occupation** | | |
| Unemployed | 1 | 1% |
| Laborer | 2 | 2% |
| Private employee | 4 | 4% |
| Government employee | 6 | 6% |
| Business | 14 | 14% |
| Retired / Pension | 73 | 73% |
| **Marital status** | | |
| Married | 90 | 90% |
| Widow / widower | 9 | 9% |
| Separated | 1 | 1% |
| **Type of family** | | |
| Nuclear | 89 | 89% |
| Joint | 11 | 11% |
| **Family income per month** | | |
| Below 10,000 | 26 | 26% |
| 10,001-20,000 | 34 | 34% |
| 20,001-30,000 | 30 | 30% |
| 30,001-40,000 | 5 | 5% |
| 40,001-50,000 | 5 | 5% |
| **Residence** | | |
| Rural | 4 | 4% |
| Semi Urban | 5 | 5% |
| Urban | 91 | 91% |
| **Family History of Alzheimer's Disease** | | |
| Yes | 13 | 13% |
| No | 87 | 87% |
| **If Yes Specify the Relationship** | | |
| Siblings | 4 | 4% |
| Grand parents | 2 | 2% |
| Relatives | 7 | 7% |
| **Source of information regarding Alzheimer's disease** | | |
| Yes | 73 | 73% |
| No | 27 | 27% |
| **If yes specify** | | |
| Television / Radio | 6 | 6% |
| Magazine / Newspaper | 28 | 28% |
| Family member / Friends | 14 | 14% |
| Health personnel | 25 | 25% |

## INTERPRETATION:

Age: Among 100 Senior citizens 73% were 60-69 years and 27% were 70-80 years.

Gender: Related to gender among 100 senior citizens, 2% were females and 98% were males.

Religion: Out of 100 Senior citizens 99% were Hindus and 1% was Muslim.

Education: Among, 100 Senior citizens 1% was illiterate, 12% studied primary education, 25% had high school education, 15% had intermediate, 31% had graduation and 16% had post graduation

Occupation: Related to occupation, 1% was unemployed, 2% were coolies, 4% were private employees, 6% were government employees, 14% were business, 73% were retired and pension holders.

Marital status: With regard to marital status, 9% were widow / widower, 1% was separated.

Type of family: 89% were belongs to nuclear family and 11% were belongs to joint family.

Family income: Pertaining to income of the family per month, 26% families earning below Rs.10,000/-, 34% families earning Rs.10,001 – 20,000/- , 30% families earning around Rs.20, 001 – 30,000/- , 5% families earning 30,001-40,000/- and 5% families earning Rs.40, 001-50,000/-.

Residence: Out of 100 senior citizens, 04% family members were residing in rural areas, 5% were residing in semi urban areas and 91% were residing in urban areas.

Family history: 13% had history of Alzheimer's disease in the family.

Source of information regarding Alzheimer's disease: Among 100 senior citizens, 73% had information regarding Alzheimer's disease. Source of information is from television / radio 6%, magazine / newspaper 28%, family members / friends 14% and health personnel 25%.

**Percentage distribution of knowledge among senior citizens.**
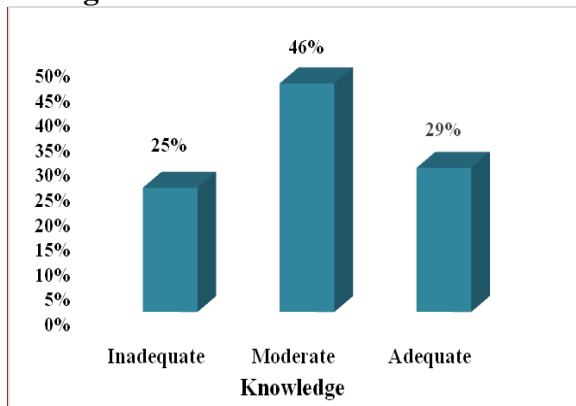


The Above fig shows that 25% had inadequate knowledge, 46% had moderate knowledge, and 29% had adequate knowledge regarding Alzheimer.

**Association of demographic variables with level of knowledge among senior citizens**

**N=100**

| Demographic variables | Inadequate knowledge | | Moderate knowledge | | Adequate knowledge | | Chi-square value $X^2$ |
|---|---|---|---|---|---|---|---|
| | f | % | f | % | F | % | |
| Age in years | | | | | | | |
| 60-69 | 18 | 24.7 | 34 | 46.6 | 21 | 28.8 | 0.982 |
| 70-80 | 7 | 25.9 | 12 | 44.4 | 8 | 29.6 | df=2, N.S |
| Religion | | | | | | | |
| Hindu | 25 | 25.3 | 46 | 46.5 | 28 | 28.3 | 0.290 |
| Muslim | 0 | 25.0 | 0 | 0 | 1 | 100.0 | df=2, N.S |
| Education | | | | | | | |
| Illiterate | 0 | 0.0 | 1 | 100.0 | 0 | 0.0 | 0 .002 |
| Primary education | 4 | 33.3 | 3 | 25.0 | 5 | 41.7 | df=10 |
| Secondary education | 5 | 20.0 | 4 | 16.0 | 16 | 64.0 | S** at 0.01level |
| Intermediate | 4 | 26.7 | 9 | 60.0 | 2 | 13.3 | |
| Graduation | 8 | 25.8 | 20 | 64.5 | 3 | 9.7 | |
| Post graduation | 4 | 25.0 | 9 | 56.3 | 3 | 18.8 | |
| Occupation | | | | | | | |
| Unemployed | 0 | 0.0 | 1 | 100 | 0 | 0.0 | 0.263 |
| Laborer | 0 | 0.0 | 0 | 0 | 2 | 100.0 | df=10 |
| Private employee | 1 | 25.0 | 2 | 50.0 | 1 | 25.0 | N.S |
| Government employee | 1 | 16.7 | 2 | 33.3 | 3 | 50.0 | |
| Business | 2 | 14.3 | 5 | 35.7 | 7 | 50.0 | |
| Retired / Pension | 21 | 28.8 | 36 | 49.3 | 16 | 21.9 | |
| Marital status | | | | | | | |
| Married | 19 | 21.1 | 45 | 50.0 | 26 | 28.9 | 0.014 |
| Widow / widower | 6 | 66.7 | 0 | 0.0 | 3 | 33.3 | df=4 |
| Separated | 0 | 0.0 | 1 | 100.0 | 0 | 0.0 | S* at 0.05 level |
| Type of family | | | | | | | |
| Nuclear | 20 | 22.5 | 43 | 48.3 | 26 | 29.2 | 0.221 |
| Joint | 5 | 45.5 | 3 | 27.3 | 3 | 27.3 | df=2, N.S |
| Monthly income of the family | | | | | | | |
| Below 10,000 | 8 | 30.8 | 8 | 30.8 | 10 | 38.5 | 0.853 |
| 10,001-20,000 | 8 | 23.5 | 18 | 52.9 | 8 | 23.5 | df=8 |
| 20,001-30,000 | 7 | 23.3 | 14 | 46.7 | 9 | 30.0 | N.S |
| 30,001-40,000 | 1 | 20.0 | 3 | 60.0 | 1 | 20.0 | |
| 40,001-50,000 | 1 | 20.0 | 3 | 60.0 | 1 | 20.0 | |
| Residence | | | | | | | |
| Rural | 1 | 25.0 | 3 | 75.0 | 0 | 0.0 | 0.616 |
| Semi urban | 2 | 40.0 | 2 | 40.0 | 1 | 20.0 | df=4 |
| Urban | 22 | 24.2 | 41 | 45.1 | 28 | 30.8 | N.S |
| Family history of Alzheimer's disease | | | | | | | |
| Yes | 2 | 15.4 | 9 | 69.2 | 2 | 15.4 | 0.196 |
| No | 23 | 26.4 | 37 | 42.5 | 27 | 31.0 | df=2, N.S |
| Relationship with person | | | | | | | |
| No relation | 23 | 27.1 | 36 | 42.4 | 26 | 30.6 | 0.435 |
| Parents | 0 | 0.0 | 2 | 100.0 | 0 | 0.0 | df=8 |
| Sibling | 1 | 25.0 | 1 | 25.0 | 2 | 50.0 | N.S |
| Grandparents | 0 | 0.0 | 2 | 100.0 | 0 | 0.0 | |
| Relatives | 1 | 14.3 | 5 | 71.4 | 1 | 14.3 | |

| Table to be continued… | | | | | | |
|---|---|---|---|---|---|---|
| Source of Alzheimer's disease knowledge information | | | | | | |
| Yes | 12 | 16.4 | 35 | 47.9 | 26 | 35.6 | 0.002 |
| No | 13 | 48.1 | 11 | 40.7 | 3 | 11.1 | df=2 |
| | | | | | | | S**at 0.01 level |
| If yes specify the source | | | | | | |
| No | 13 | 50.0 | 11 | 42.3 | 2 | 7.7 | 0.001 |
| Television / Radio | 0 | 0.0 | 4 | 66.7 | 2 | 33.3 | df-10 |
| Magazine / Newspaper | 6 | 21.4 | 16 | 57.1 | 6 | 21.4 | S** at 0.01 level |
| Family member / Friends | 3 | 21.4 | 8 | 57.1 | 3 | 21.4 | |
| Health personnel | 3 | 12.0 | 7 | 28.0 | 15 | 60.0 | |

Above table: revealed that there was a statistically significant association between the levels of knowledge among senior citizens with their, education, marital status, and specific source of information regarding Alzheimer's disease at 0.05 level.

## DISCUSSION

The purpose of the study is to assess the knowledge regarding Alzheimer's disease among senior citizens of selected community Tirupati. The discussion of the present study is based on the findings obtained from the descriptive and inferential statistical analysis of collected data. It is presented in the view of the objectives of the study

### OBJECTIVE:-1

**To assess the knowledge regarding Alzheimer's disease among senior citizens in a selected community.** Among 100 senior citizens, 25% had inadequate knowledge, 46% had moderate knowledge, 29% had adequate knowledge, 72% stated that they were forgetting the recent events. 73% of elderly knows that due to Alzheimer's unable to recognize time and place. 82% were aware that Alzheimer's diseases is one type of dementia, 51% not agree with family history is most common risk factor for Alzheimer's disease, 81% were aware that treating depression improves cognitive ability , Out of 100, 80% of elderly expressed that Alzheimer's diseases in common in old age people. The present study results were supported by the earlier study carried out by Carpenter BD, Zoller SM, Balsis S, Otilingam PG, Gatz M (2011), [6] reported that lower knowledge ($p<0.01$) for older adults , senior center staff and undergraduate students .

The study concluded that the awareness on Alzheimer's disease is important to improve the knowledge.

### OBJECTIVE 2:

**To find out the association between the level of knowledge with selected demographic variables of senior citizens.** There was a statistically significant association between the levels of knowledge among senior citizens with their selected geographical variables viz., education (p=0.01), marital status (p=0.05), source of information (p= 0.01) and specific source of information regarding Alzheimer's disease (p=0.01)The results of the present study were supported by the earlier study carried out by Maria Niures P.S. Matioli, Arnaldo Etzel, João A.G.G. Prats, Wares F. de et al., (2011) [7] on Worries about memory loss, knowledge regarding Alzheimer's disease in community-dwelling elderly from Brazil. The results shown that the greater knowledge about Alzheimer's disease was associated with eight or more 9.4 ($\pm$4.8 s) [5] years of education (97.4% vs 92.5%; p<0.01) and age between 60 and 70 years.

## CONCLUSION

In this study among 100 senior citizens that 25% had inadequate knowledge, 46% had moderate knowledge, and 29% had adequate knowledge. Senior citizens with inadequate knowledge, unable to expand their knowledge towards the Alzheimer's disease. Based on the obtained findings the researcher prepared a book let on Alzheimer's disease, so that it will help them to improve their knowledge towards Alzheimer's disease. Public awareness campaign need to be increased, accurate

knowledge of factors constantly found to be associated with dementia.

## Recommendations for Further Research
1. A similar study can be conducted on a larger population to generalize the findings
2. A comparative study to assess the knowledge regarding Alzheimer's disease among male and female senior citizens.
3. A comparative study to compare the knowledge regarding Alzheimer's disease among rural and urban areas.

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