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A Study To Assess The Level Of Knowledge On Alzheimer's Disease And Its Preventive Aspects Among Employees Of Mid Age Adults (35-55 Years)At Selected Organisations, Yanam

Sadhana Undru[1*], Korukonda Venkata surya Prakash[2], Swapna Dileep Garikimukkala[1], Nisha K[3]

[1]Department of Psychiatric Nursing, KIMS Nursing College, Amalapuram, East Gothwari - 533201, Andhra Pradesh, India.
[2]Principal, Kakinada SIMS College of physiotherapy, Kakinada -533016, Andhra Pradesh, India.
[3]Department of Community Nursing, KIMS Nursing College, Amalapuram, East Gothwari - 533201, Andhra Pradesh, India.

***Corresponding Author:** Mrs. Sadhana Undru
*Department of Psychiatric Nursing, KIMS Nursing College, Amalapuram, East Gothwari - 533201, Andhra Pradesh, India. Phone +919550259993 Email: sadhanundru@gmail.com

ABSTRACT

Introduction: Old age is a critical period in human life, with limited regenerative abilities and increased susceptibility to diseases like physical deterioration and psychosocial alienation. Alzheimer's disease, also known as the death of mind, is a progressive degenerative disease that attacks brain tissues, causing impaired memory, thinking, behavior, and emotions. It is the most common cause of neurodegenerative dementia in the elderly and is characterized by progressive cognitive decline. A study aims to assess the knowledge and preventive aspects of Alzheimer's disease among employees aged 35-55 at selected organizations in Yanam. The study aims to identify the association between knowledge and demographic variables.

Methodology:

A descriptive study design had made use of Non experimental approach by non probability convenience sampling to select 100 samples, from Public Works Department Yanam based on certain predetermined criteria, a formal written permission was obtained from the executive engineer of the Public Works Department Yanam. The data was gathered by a well-structured questionnaire whichwas validated and their reliability was determined. The structured tool consists of twoparts. Part A deals with socio demographic data and Part B deals with knowledge questionnaire on Alzheimer's Disease and its preventive aspects. The obtained data is analyzed by using descriptive and inferential statistics.

Result & Discussion:

The study found that 28% of mid-aged adults had inadequate knowledge about Alzheimer's Disease and its preventive aspects, with 65% having moderately adequate knowledge and 7% having adequate knowledge. The study also found a significant association between knowledge levels and preventive aspects among demographic variables such as age, education, family income, spirituality, academic grades, and geographical background. However, no significant association was found with other demographic variables. The study suggests the need for public education to reduce the risk of Alzheimer's and delay its onset. Nurses should also educate these individuals to prevent or delay the disease's onset.

INTRODUCTION

Old age refers to ages nearing (or) surpassing the life expectancy of human beings, and is the human life cycle. Old people often have limited regenerative abilities and are more susceptible to diseases related to physical deterioration and psycho social alienation among which Alzheimer's disease is one of the devasting factor in old age where people suffering with Alzheimer's disease fall under vulnerable group.

Alzheimer's disease was first described by a German Psychiatrist and Neurologist, Dr Aloes -Alzheimer, in 1906, on a middle- aged patient suffering from Dementia. It was after the death of the patient, by autopsy, that Alzheimer was ableto demonstrate abnormal changes in the brain. Alzheimer's disease (AD) is also called the death of mind. The AD is cruel disease which not only destroys person's mind but also robs him or her of memories[1]. It is a progressive degenerative disease which attacks the tissues of the brain and results in impaired memory, thinking, behaviour and emotions. The process is gradual and is often associated with loss of the individual's ability to care for him or herself[2].

Alzheimer's disease (AD), the most frequent cause of neurodegenerative dementia in the elderly, is characterized by progressive cognitive decline and by its unique pathology. In 1907, Alois Alzheimer was the first to report a case of intellectual deterioration with the histological findings of senile plaques and neurofibrillary tangles[2] .

Alzheimer's disease is sixth leading causes of death in the U.S., as death rates for Alzheimer's are increasing, unlike heart disease and cancer death rates thatare on the decline[3].

Growing evidence links comorbid, psychosocial etiologic and life style factors to Alzheimer's disease (AD)[4].

Alzheimer's disease person has brain changes, it has fewer healthy cells and it gets smaller over time. Most of the time, the brain cells also form two types of flows. Neurofibrillary tangles, Beta-amyloid plaques and also few things that may make people more likely to get Alzheimer's disease are Age, Gender, Family history (Genetics),Down syndrome, Head injury and other factors (High Choloesterol level, High Blood pressure)[5].

Alzheimer's disease, as in other types of dementia, increasing numbers of nerve cells deteriorate and die. A healthy adult brain has 100 billion nerve cells, with long branching extensions connected at 100 trillion points called synapses. At these connections, information flows in tiny chemical pulses released by one neuron and taken up by the receiving cell. Different strengths and patterns of signals move constantly through the brain's circuits, creating the cellular basis of memories, thoughts and skills In Alzheimer's disease, information transfer at the synapses begins to fail, the number of synapses declines and eventually cells die. Brains with advanced Alzheimer's show dramatic shrinkage from cell loss and widespread debrisfrom dead and dying neurons[6].

Neuro degeneration is the umbrella term for the progressive loss of structure or function of neurons, including death of neurons. Many neurodegenerative diseases including Parkinson's, Alzheimer's, and Huntington's occur as a result of neurodegenerative processes. As research progresses, many similarities appear which relate these diseases to one another on a sub-cellular level. Discovering thesesimilarities offers hope for therapeutic advances that could ameliorate many diseases simultaneously. There are many parallels between different neurodegenerative disorders including atypical protein assemblies as well as induced cell death. The most common causes of dementia in individuals older than 65 years of age are: Alzheimer's disease[7].

Alzheimer's disease pathophysiology is complex, involving several Neuro transmitter systems and pathophysiologic processes. The 3 hallmarks of Alzheimer'sdisease. B amyloid plaques, Neurofibrillary tangles and neuronal cell death all well known and central factors in Alzheimer's disease pathology. These hallmarks, combined with information on neurotransmitter involvements are specific to Alzheimer's disease based on the timing, sequence and location of these changes and leads to Neuronal death which is common in older adults[8].

Alzheimer's disease is a brain disease that cause on slow decline in memory thinking and reasoning skills. There are 10 warning signs and symptoms to notice Alzheimer's disease they are memory loss, challenges in planning (or) solving problems, difficulty completing familiar tasks at home at work (or) at leisure, confusion with time (or) place, trouble understanding visual images and spatial relationships, new problems with words in speaking (or) writing, misplacing things and losing the ability to retrace steps, decreased (or) poor judgment, withdrawn from work (or) social activities, and changes in mood and personality[9].

Seven stages has been noticed in patient with Alzheimer's Disease stage I has to apparent symptoms, stage II consists of forgetfulness, stage III has mild cognitive decline, stage IV has mild to moderate cognitive decline, confusion, stage V has moderate cognitive decline (early dementia) stage VI moderate to severe cognitive decline (middle dementia) stage VII is severe cognitive decline (late dementia)[10].

Studies such as prevent trail run through various U.K universities which is studying how people aged 40-59 may predict changes in cognitive function are set toconfirm this further. How to reduce the risk of Alzheimer's through prevention is a concept developed during and formulated following preventive methods such as stay connected with family and friends, exercise or physical activity, eating healthy mainly mind diet, manage stress through relaxing and increase brain activity through hobbies improvement or development[11.]

Background:

Old age is a critical period in human life, with individuals often having limited regenerative abilities and being more susceptible to diseases related to physical deterioration and psychosocial alienation. Alzheimer's disease, also known as the death of mind, is a progressive degenerative disease that attacks brain tissues, resulting in impaired memory, thinking, behavior, and emotions. It is the sixth leading cause of death in the U.S. and is characterized by progressive cognitive decline and unique pathology. Alzheimer's disease is characterized by fewer healthy cells and a decline in neurofibrillary tangles and beta-amyloid plaques. Factors such as age, gender, family history, Down syndrome, head injury, and high cholesterol levels and blood pressure can increase the risk of developing Alzheimer's disease. Neurodegeneration is the umbrella term for the progressive loss of structure or function of neurons, including the death of neurons. Alzheimer's disease is a brain disease that causes a slow decline in memory, thinking, and reasoning skills. There are 10 warning signs and symptoms to notice Alzheimer's disease, including memory loss, challenges in planning, difficulty completing tasks, confusion, difficulty understanding visual images, new problems with words, decreased judgment, withdrawal from work or social activities, and changes in mood and personality. Preventive measures such as staying connected with family and friends, exercising, eating a healthy diet, managing stress, and increasing brain activity through hobbies can help reduce the risk of Alzheimer's disease.

Need of study:

India's population is growing rapidly, with an elderly population aged 55-64 years and over 6.24% male. The elderly dependency ratio has increased from 5:6% in 1967 to 13.69% by 2018. Alzheimer's disease affects 46.8 million people worldwide, with an estimated 5.8 million Americans living with the disease in 2017. A study on genetic variants found that higher education is a strong factor in preventing Alzheimer's disease. India has nearly 104 million elderly persons, with 53 million females and 51 million males. A report from the United Nations Population Fund and Help Age India suggests that the number of elderly persons is expected to grow to 113 million by 2026. A longitudinal study conducted in Kerala, southern India, found that low academic performance in high school English and algebra courses was a significant risk factor for Alzheimer's disease. Alzheimer's disease is the most common type of dementia, characterized by a decline in memory or other thinking skills. The greatest known risk factor for Alzheimer's disease is advanced age, but it is not a normal part of aging. Early detection and intervention methods can help delay progressive memory loss upon dementia, allowing older people to live longer lives with improved functioning and mental capacities.

Demographic aging is a global phenomenon, with regions with more favorable health indicators ageing faster. India's population is undergoing rapid demographic transition, with a sharp increase in the number of older people. Dementia remains a largely hidden problem in India, especially in areas with high poverty and illiteracy levels. To improve knowledge in prevention aspects and early detection of early signs of Alzheimer's disease, researchers should educate mid-age adults (35-55 years) about the disease.

STATEMENT OF THE PROBLEM

"A study to assess the level of knowledge on Alzheimer's disease and its preventive aspects among employees of mid age adults (35-55 years) at selected organizations, Yanam."

OBJECTIVES OF THE STUDY

1. To assess the level of knowledge regarding Alzheimer's disease and itspreventive aspects among employees of mid age adults (35-55 years).
2. To find out the association between the level of knowledge regarding Alzheimer's disease and preventive aspects among employees of mid age adults (35-55 years) with their selected demographic variables.

OPERATIONAL DEFINITIONS:

1. **Assess:** Assessment refers to the process of documenting the knowledge on Alzheimer's disease and its preventive aspects.
2. **Knowledge:** It refers to mid age adults (35-55 years) awareness regarding Alzheimer's disease and its preventive aspects as measured by scores obtained according to the response to the items on the structuredquestionnaire.
3. **Mid age adults**: In this study mid age adults refers to both males and femaleswithin the age of 35-55 years.
4. **Alzheimer's disease:** Alzheimer's disease is a Neuro degenerative disease characterized by progressive cognitive deterioration, together with declining activities of daily living, neuropsychiatric symptoms and behavioral changes.
5. **Organization:** In this study selected organization refers to Public works department (PWD) Yanam.

HYPOTHESIS

$H_{1:}$ There will be a statistically significant association between the knowledge scores regarding Alzheimer's disease and its preventive aspects among mid age adults (35-55 years) with selected demographic variables.

LIMITATIONS

- The study is limited to mid age adults (35-55 years) employed at PublicWorks Department Yanam.
- The study is limited to mid age adults (35-55 years).
- The study participants will be only 100.
- The period of data collection was limited to 15-03-19 to 25-03-19.

METHODOLOGY

This chapter deals with methodology adopted to determine the "A study to assess the level of knowledge on Alzheimer's disease and its preventive aspects among employees of mid age adults (35-55 years) at selected organizations, Yanam". The various sections in this chapter include research approach, research design, setting, sample

size, sampling technique, criteria for sample selection, variables, development of tool, validity, reliability, pilot study, method of data collection and plan for data analysis.

Research Approach
The Research Approach adopted was Non experimental study.

Research Design
The descriptive research design was adopted for the study to achieve the objectives of the study.

Setting
The study was conducted in the Public Works Department Office of 100 employees which is in Yanam about 12 kms from KIMS College of Nursing Amalapuram. The setting was chosen on the basis of the investigator's feasibility, in terms of availability of adequate sample and cooperation, formal permission was obtained from the principal KIMS College of Nursing.
Sample size
The sample comprises of 100 employees in Public Works Department OfficeYanam, who fulfill the inclusive criteria.
Criteria for selection of sample
The sample of this includes all grades employees in Public Works DepartmentOffice Yanam.
Inclusion criteria:
- Mid age adults between (35-55 years) who are willing to participate in thestudy.
- Mid age adults between (35-55 years) who are available during the datacollection.

Exclusion criteria:
- Mid age adults (35-55 years) who were unable to read Telugu and English.
- Mid age adults (35-55 years) who were working other than selectedOrganization.
- Mid age adults (35-55 years) who were not willing to participate in the study.
- Mid age adults (35-55 years) who were not available at the time of datacollection.

Sampling Technique
Non probability convenient sampling technique was used in this study.
Variables of the study
Knowledge on Alzheimer's Disease and its preventive aspects among mid age adults between (35-55 years), age, sex, religion, education, occupational cadre, income, family type, area of living and source of health information.
Development of Tool
The structured questionnaire was developed from extensive review of literature, books, journals, newspapers and guidance from experts. The experts gavetheir opinions and suggestions regarding adequacy and appropriateness of the study.

Results:

This deals with analysis and interpretation of the data collected for the present study. Data was collected from 100 Employees of Mid age Adults (35-55 years) regarding Alzheimer's Disease and its Preventive Aspects at Selected Organizations, Yanam. Analysis and interpretation was done with the help of descriptive and inferential statistics to meet the objectives of the study.
Data was presented in following headings.
Section A: Frequency and percentage distribution among employees of mid age adults (35-55 years) according to their selected demographic variables.
Section B: Frequency, percentage, mean distribution, and standard deviation on level of knowledge scores among employees of mid age adults (35-55 years) on Alzheimer's disease and its preventive aspects.
Section C: Association between level of knowledge scores among employees of mid age adults (35-55 years) on Alzheimer's disease and its preventive aspects with their selected demographic variables.

SECTION – A : Frequency and percentage distribution among employees of mid age adults (35-55years) according to their selected demographic variables.
Table.1 shows that out of 100 mid-aged adults, 22% were aged 35-40, 37% were 41-45, 10% were 46-50, and 31% were 51-55. The majority were males, with 90% being male. The majority were Hindus (83%), with 11% being Muslims. The majority had secondary education, with 55% being graduates. The majority were in Grade I, 23% in Grade II, 30% in Grade III, and 43% in Grade IV. The majority had a monthly income of Rs.10000-30000/-, with 51% earning Rs.41000-50000/-. The majority lived in urban areas, with 86% being married and 3% being widowed. The majority were parents, with 99% having healthy married lives. The majority were active in spirituality, with 74%

reading holy books. The majority were non-vegetarians, with 79% achieving average grades in academics. The majority had no bad habits. Health information was primarily obtained from news papers and media, with 16% from family members and 24% from friends.

SECTION B : Frequency, percentage, mean distribution, and standard deviation on level of knowledge scores among employees of mid age adults (35-55 years) on Alzheimer's disease and its preventive aspects.

Table no.2 and Fig.1 shows that 28% had inadequate knowledge, 65% had moderateknowledge and 7% had adequate knowledge on Alzheimer's Disease and its preventive aspects. also revealed that the mean knowledge was 13.27 with 3.74 standarddeviation.

SECTION C : Association between level of knowledge scores among employees of mid age adults (35-55 years) on Alzheimer's disease and its preventive aspects with their selected demographic variable.

Table 3: Reveals that there was statistically significant association between level of knowledge scores on Alzheimer's disease and its Preventive Aspects with age, education, income, spirituality and grade attained in academics where the obtained chi square values were significant at 0.05 level of significance and there was no statistically significant association between level of knowledge on Alzheimer's Disease and its preventive aspects with other demographic variables like sex, religion, occupational cadre, number of persons in family, family type, area of living, marital status, are you a parent, about your parents married life, dietary patterns, habits of abuse and source of health information.

DISCUSSION

Among 100 mid age adults (35-55 years) majority 65% had moderately adequate knowledge, 28% had inadequate knowledge and 7% had adequate knowledge. The results of the present study was supported by the earlier study carried out by. **Low Lf, Anstey KJ 2009** A cross sectional study was conducted to investigate the recognition of dementia and beliefs regarding prognosis, cause and risk reduction in the Australian public. Data was collected from 2,000 adults by telephone interview. The study results showed that 82% of the samples identified "dementia" or Alzheimer's froma vignette and there were no differences in recognition rates between describing mild or moderate dementia symptoms. The study concludes that public awareness campaigns need to increase accurate knowledge of factors consistently found to be associated with dementia.[30]

CONCLUSION

In this study 28% had inadequate knowledge, 65% had moderately adequate knowledge and 7% had adequate knowledge on Alzheimer's disease and its preventive aspects. This study suggested the necessity of public education about Alzheimer's disease and its preventive aspects to produce awareness and reduce risk of Alzheimer's disease (or) delay early onset of Alzheimer's disease. Nurses working in clinical and community areas should engage themselves to educate the mid age adults and other groups about Alzheimer's disease and its preventive aspects as to prevent(or) delay the onset of Alzheimer's disease. Based on the obtained results researchers has prepared informational booklet so, it will be beneficial for the mid age adults to improve knowledge regarding Alzheimer's disease by preventing (or) delaying its onset and lead a happy life in their older age.

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TABLE. 1: Frequency and percentage distribution among employees of mid ageadults (35-55 years) according to their selected demographic variables.

S.No.	DEMOGRAHIC CHARACTERISTIC		FREQUENCY	PERCENTAGE
1.	Age in Years	30-40 Years	22	22%
		41-45 Years	37	37%
		46-50 Years	10	10%
		51-55 Years	31	31%

2	Sex	Male	90	90%
		Female	10	10%
3	Religion	Hindu	83	83%
		Muslim	11	11%
		Christian	6	6%
		Others	0	0%
4	Education	Secondary education	10	10%
		Intermediate	34	34%
		Graduate	55	55%
		Postgraduate	1	1%
5	Occupational cadre	Grade–I	4	4%
		Grade–II	23	23%
		Grade– III	30	30%
		Grade–IV	43	43%
6	Family income per month	Rs.10000-30000/-	51	51%
		Rs.31000-40000/-	11	11%
		Rs.41000-50000/-	20	20%
		>Rs.51000/-	18	18%
7	Number of persons in the family	Two	5	5%
		Three	14	14%
		Four	51	51%
		Five	15	15%
8	Family type	Joint family	24	24%
		Single family	75	75%
		Extended family	1	1%
9	Area of living	Urban	95	95%
		Rural	5	5%
10	Marital status	Unmarried	11	11%
		Married	86	86%
		Separated	0	0%
		Divorced	0	0%
		Widow	3	3%
11	Are you a parent	Yes	86	86%
		No	14	14%
12	Parent married life	Healthy	99	99%
		Separated	0	0%
		Divorced	1	1%
13	Spirituality	Active and reads holy books	74	74%
		Passive and never reads holy books	22	22%
		Rarely participates in	4	4%
		Spiritual activities		
		No participation inspiritual activities	0	0%
14	Dietary pattern	Vegetarian	25	25%
		Non vegetarian	75	75%
15	Grade attained in academics	Poor	0	0%
		Average	79	79%
		Good	21	21%
		Excellent	0	0%
16	Habits of abuse	Smoking	3	3%

		Alcohol & its beverages	15	15%
		Other substances	6	6%
		Smoking and Alcohol	5	5%
		No habits	71	71%
17	Source of Health information	Newspapers & media	60	60%
		Family members	16	16%
		Friends	24	24%
		Others	0	0%

TABLE – 2: Frequency, percentage, mean distribution, and standard deviation onlevel of knowledge scores among employees of mid age adults (35-55years) on Alzheimer's disease and its preventive aspects.

Level of knowledge	Frequency	Percentage	Mean	Standard deviation
Inadequate	28	28%	13.27	3.74
Moderately adequate	65	65%		
Adequate	7	7%		
N=100				

TABLE – 3: Association between level of knowledge scores among employees of mid age adults (35-55 years) on Alzheimer's disease and its preventive aspects with their selected demographic variables.

S.No	Demographic variables	f	%	Level of Knowledge on Alzheimer's Disease and its Preventive Aspects						Chi Square	Sig.
				Inadequate		Moderate		Adequate			
				F	%	f	%	f	%		
1	**Age in years**										
	35-40 years	22	22	6	6	13	13	3	3	17.30 @df-6	**
	41-45 years	37	37	4	4	31	31	2	2		
	46-50 years	10	10	7	7	3	3	0	0		
	>51 years	31	31	11	11	18	18	2	2		
2	**Sex**										
	Male	90	90	28	8	56	56	6	6	4.32 @df-2	NS
	Female	10	10	0	0	9	9	1	1		
3	**Religion**										
	Hindu	83	83	21	21	57	57	5	5	3.48 @df-4	NS
	Muslim	11	11	5	5	5	5	1	1		
	Christian	6	6	2	2	3	3	1	1		
4	**Education**										
	Secondary	10	10	0	0	10	10	0	0	13.71 @df-6	**
	Intermediate	34	34	11	11	22	22	1	1		
	Graduation	55	55	17	17	32	32	6	6		
	Post graduation	1	1	0	0	1	1	0	0		
5	**Occupational cadre**										
	Grade I	4	4	0	0	4	4	0	0	6.88 @df-6	NS
	Grade II	23	23	7	7	14	14	2	2		
	Grade III	30	30	6	6	20	20	4	4		

	Grade IV	43	43	15	15	27	27	1	1		
6	**Income per month**										
	Rs.10000-30000/-	51	51	17	17	32	32	2	2	14.27 @df-6	**
	Rs.31000-40000/-	11	11	5	5	4	4	2	2		
	Rs.41000-50000/-	20	20	3	3	16	16	1	1		
	>Rs.51000/-	18	18	3	3	13	13	2	2		
7	**Number of persons in family**										
	Two	5	5	0	0	5	5	0	0	13.88 @df-8	NS
	Three	14	14	4	4	10	10	0	0		
	Four	51	51	19	19	26	26	6	6		
	Five	15	15	4	4	10	10	1	1		
	Above five	15	15	1	1	14	14	0	0		
8	**Family type**										
	Joint family	24	24	4	4	20	20	0	0	6.04 @df-4	NS
	Single family	75	75	24	24	44	44	7	7		
	Extended family	1	1	0	0	1	1	0	0		
9	**Area of living**										
	Urban	95	95	28	28	60	60	7	7	2.83 @df-2	NS
	Rural	5	5	0	0	5	5	0	0		
10	**Marital status**										
	Unmarried	11	11	6	6	4	4	1	1	8.56 @df-4	NS
	Married	86	86	22	22	59	59	5	5		
	Widow	3	3	0	0	2	2	1	1		
11	**Are you a parent**										
	Yes	86	86	22	22	58	58	6	6	1.85 @df-2	NS
	No	14	14	6	6	7	7	1	1		
12	**About your parents marital life**										
	Healthy	99	99	28	28	64	64	7	7	0.54 @df-2	NS
	Divorced	1	1	0	0	1	1	0	0		
13	**About Spirituality**										
	Active	74	74	12	12	56	56	6	6	23.14 @df-4	**
	Passive	22	22	15	15	6	6	1	1		

	Rarely participates	4	4	1	1	3	3	0	0		
14	Dietary pattern										
	Vegetarian	25	25	3	3	19	19	3	4	4.86 @df-2	NS
	Non vegetarian	75	75	25	25	46	46	4	4		
15	**Grade attained in Academics**										
	Average	79	79	28	28	47	47	4	4	11.21 @df-2	**
	Good	21	21	0	0	18	18	3	3		
16	**Habits of abuse**										
	Smoking	3	3	0	0	3	3	0	0	9.95 @df-8	NS
	Alcoholism	15	15	3	3	11	11	1	1		
	Other substances	6	6	0	0	5	5	1	1		
	Smoking and alcoholism	5	5	3	3	1	1	1	1		
	No habits	71	71	22	22	45	45	4	4		
17	**Source of health information**										
	News papers& media	60	60	13	13	42	42	5	5	5.17 @df-4	NS
	Family members	16	16	4	4	11	11	1	1		
	Friends	24	24	11	11	12	12	1	1		

NS= Not significant ** Significant at 0.05 level

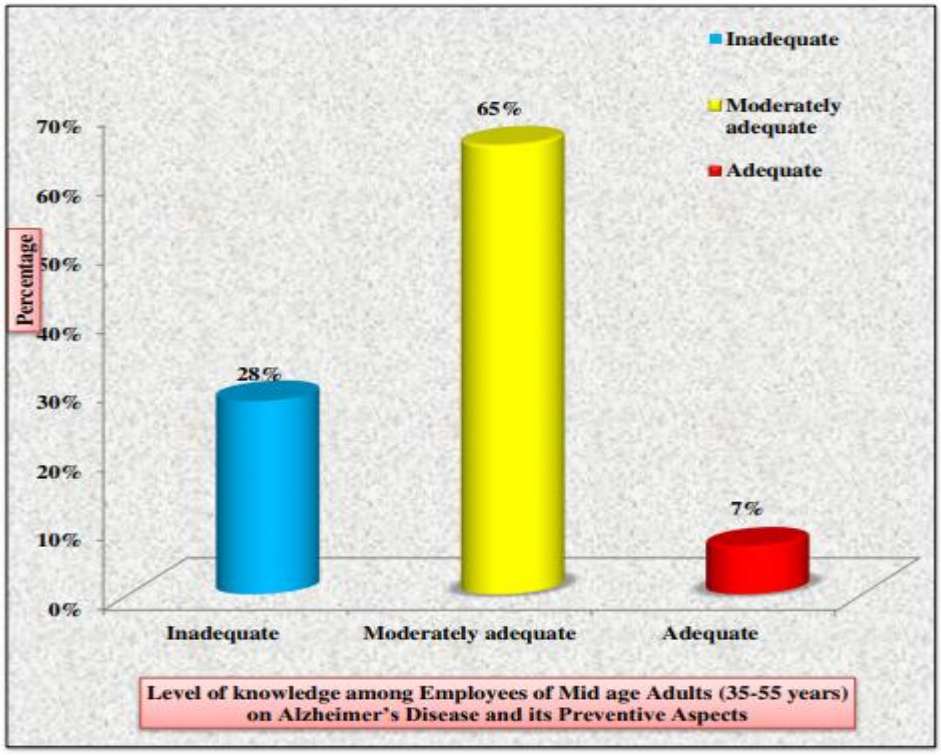

Fig. No. 1 Percentage distribution of Employees of Mid age Adults (35-55 years) according to Level of knowledge on Alzheimer's Diseaseand its Preventive Aspects.