

# Effectiveness of Virtual Instructional Package on Knowledge regarding Alzheimer's Disease in older Adults at Selected Old Age Homes

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**Abstract:** A study to assess the effectiveness of virtual instructional package on knowledge regarding Alzheimer's disease in older adults at selected old age homes. To assess the pretest level of knowledge score regarding Alzheimer's disease among older adults at selected old age home. To administer the virtual instructional package about Alzheimer's disease. In this present study one group pre test post test research group design was used. In order to achieve the objective of the study, a quasi-experimental one group pre-test post test without control group design adopted. Simple Random sampling technique was used to select the subject for the study. The data were collected by using structured questionnaire from older adults at selected old age home before and after the administration of virtual instructional package on knowledge regarding Alzheimer's disease. The pre-test and post-test knowledge score means were 10.367 and 15.567 respectively. The standard deviation for pre-test and post-test were 4.610 and 5.494 respectively. The mean difference was 5.980. The calculated 't' value 13.34 is greater than table value (2.0) at degree of freedom 0.05 level. This indicates the virtual 76 instructional package was effective in increasing knowledge regarding Alzheimer's disease in older adults Hence the research hypothesis (H1) was accepted. Chi-square value was calculated to find out the association between knowledge levels among older adults with selected demographic variables. The result shows that the calculated value is greater than (at 0.05 level) tabulated value for variables; gender, current year of study and source of previous information with pre-test knowledge of Older adults regarding Alzheimer's disease. Hence hypothesis H2 Accepted. The virtual instructional package helps the older adults to enhance their knowledge regarding Alzheimer's disease.

**Keywords:** Effectiveness, Alzheimer's disease, Virtual instructional package, Older adults

## 1. Introduction

*"The intuitive mind is a sacred gift and the rational mind is a faithful servant, we have created a society that honors the servant and has forgotten the gift"*

-Albert Einstein

Neurology (from Greek: neuron, and the suffix -logia "study of") is a branch of medicine dealing with disorders of the nervous system. Neurology deals with the diagnosis and treatment of all categories of conditions and disease involving the central and peripheral nervous system (and its subdivisions, the autonomic nervous system and the somatic nervous system); including their coverings, blood vessels, and all effectors tissue, such as muscle.

Alzheimer's disease is one of the most feared disorders of the modern times because of its catastrophic consequences for the patient and the family members, who are faced with many crucial ends of life decisions. It is a neuro degenerative disease characterized by progressive cognitive deterioration, together with declining activities of daily living, neuro psychiatric symptoms and behavioral changes. It is the most common forms of dementia. The most striking early symptom is the loss of memory (amnesia) which is manifested as minor forgetfulness that becomes steadily more pronounced with progression of illness with relative preservation of old memories.

Research in India is still in the initial stages. In the previous years, India had a lower population with Alzheimer's disease i.e. 4% when compared to the Alzheimer's patients in U.S above the age group of 65 years. In the year 2000

India had 3.5 million Alzheimer's/dementia patients against U.S 4.5 million. This is due to the increase in geriatric population. With demographic ageing comes the number of persons with Alzheimer's disease doubles every 5 years and so India will have one of the largest numbers of elders with this problem .The size of India's elderly population aged 60 and over is expected to increase from 70 million in 2001 to 179 million in 2031, and further to 301 million in 2051. In Kolkata there are about 46,000 patients with Alzheimer's. In Delhi it accounts for about 50,000 Alzheimer's patients and in Bangalore there are 30,000 elderly patients suffering from Alzheimer's disease. Today in India 32, 00,000 people are affected by dementia.

## 2. Literature Survey

**Werner P, (2003)** A study was conducted on knowledge about symptoms of Alzheimer's Disease correlates and relationship to help-seeking behavior. A convenient sample of 150 community-dwelling persons aged over 45, who did not have a close relative diagnosed with Alzheimer's disease were participated in the study. Knowledge about 11 warning signs of Alzheimer's disease as described in the information provided by the Alzheimer's Association, and four non-Alzheimer's disease symptoms was assessed, together with intentions to seek help from professional and non-professional sources. Although participants' knowledge about Alzheimer's disease symptoms overall was fair, only a slight percentage reported memory problems to be symptoms of the disease.

**Holzer .C, et .al, (2000)** A study was conducted to examine the most common signs and symptoms of patients associated

with the early onset of Alzheimer's disease. For this study a retrospective investigation was conducted in an outpatient referral population with two geriatric centres. Out of 1025 medical records reviewed 50 patients were chosen based on the inclusion criteria. Mini mental status examination was conducted for the selected sample. Thirty patients (60%) had difficulty in managing finances; 16 (32%) frequently repeated stories and statements; 15 (30%) became lost while driving; 10 (20%) frequently forgot the names of relatives; and 10 (20%) had poor judgment. The researchers concluded that there are a constellation of symptoms associated with early onset of Alzheimer's disease which includes missing recall items on mini mental status examination, difficulty in simple calculations i.e. Difficulty in performing familiar tasks, difficulty in language, getting lost during driving, disorientation to time place and person, forgetting the names of relatives and having a poor judgement.

**Reiman M.E, et.al, ( 2001)** A Cross-sectional study was done to find the presence of a common Alzheimer's susceptibility gene (apolipoprotein E 4 allele), have abnormally low measurements of the cerebral metabolic rate for glucose (cmr<sub>gl</sub>) in the same regions as patients with Alzheimer's dementia with help of positron emission tomography (PET). Study was done on 10 cognitively normal E4 heterozygote and 15 E4 noncarriers 50–63 years of age with a reported family history of Alzheimer's dementia, before and after an interval of approximately 2 years. The study estimate that between 50 and 115 cognitively normal E4 heterozygote are needed per treatment group to detect the effect of PET ;in these cmr<sub>gl</sub> declines with 80% power and  $P = 0.005$  in 2 years. Assuming these cmr<sub>gl</sub> declines are related to the predisposition to Alzheimer's dementia, this study provides a paradigm for testing the potential of treatments to prevent the disorder and helps to understand the genetic role of the disease.

### 3. Problem Definition

“A study to assess the effectiveness of virtual instructional package on knowledge regarding Alzheimer's disease in older adults at selected old age homes.”

#### Objective of study

- 1) To assess the pretest level of knowledge score regarding Alzheimer's disease among older adults at selected old age home
- 2) To administer the virtual instructional package about Alzheimer's disease
- 3) To assess the post test level knowledge score after administering virtual instructional package about Alzheimer's disease
- 4) To find the effectiveness of virtual instructional package on knowledge regarding Alzheimer's disease in older adults.
- 5) To determine association between pre test and post test knowledge level score with selected demographic variable

### 4. Material and Methods

In this present study one group pre test post test research group design was used. study was conducted with the purpose to evaluate the effectiveness of virtual instructional package on knowledge regarding Alzheimer's disease in older adults at selected old age home.

In order to achieve the objective of the study, a quasi-experimental one group pre-test post test without control group design adopted. Simple Random sampling technique was used to select the subject for the study. The data were collected by using structured questionnaire from older adults at selected old age home before and after the administration of virtual instructional package on knowledge regarding Alzheimer's disease. The analysis of the findings was done according to the study objectives by using descriptive and inferential statistics.

### 5. Result

A structured questionnaire is used for data collection. The data collected were analyzed according to the plan for data analysis which includes both descriptive and inferential statistics. The data findings have been tabulated according to the plan for data analysis and interpreted according to objectives and hypothesis of the study.

The data was analyzed and is presented in the following sections:

#### Section – I

Description of older adults with regards to demographic variables

#### Section – II

Description of pre test and post test knowledge score of older adults regarding Alzheimer's disease.

#### Section – III

Description of effectiveness of virtual instructional package on knowledge regarding Alzheimer's disease in older adults

#### Section – IV

Description to show Association between pre-test knowledge score with selected demographic variables.

#### Section- V

Comparison of Frequency and Percentage distribution of subjects with regards to knowledge regarding Alzheimer's disease.

### 6. The Major Findings of the Study

Majority of the older adults in group i.e. 27(45%) were with the age group 60-65yrs

- Majority of the Older adults, 37(61.67%) were male.
- Majority of the older adults is married 39(65%).
- Majority of the older adults 44 (73.33%) belongs to Hindu religion.
- Majority of the older adults 22(36.675%) were illiterate.

- Majority of the Older adults 20 (33.33%) were engaged in any other occupation.
- Majority of the Older adults 35(58.33%) were staying since 1-5 year.
- Majority of the Older adults 41(68.33%) had No any pervious knowledge regarding Alzheimer's disease.
- Majority of the Older adults 42(70%) had poor pre test knowledge score regarding Alzheimer's disease.
- Majority of the Older adults 29(48.33%) had average post-test knowledge score regarding Alzheimer's disease.
- Demographic variable gender, education, previous occupation and source of previous knowledge were associated with pre-test knowledge score of older adults regarding Alzheimer's disease.
- Highly significant difference was found between the pre test and post test Knowledge Scores ( $P < 0.01$ ).
- Virtual instructional package on knowledge regarding Alzheimer's diseases is proved to be effective in improving the knowledge in older adults.

## 7. Discussion

The discussion is the most interesting part of the dissertation. The finding of the study was discussed in the light of previous studies. The discussion section is devoted to a thoughtful and insightful analysis of the finding, leading to a discussion of their clinical and theoretical utility.

### 7.1 Description of older adults with regards to demographic variables

The percentages wise distribution of samples according to their age group, in that the majority of older adults in group i.e. 27(45%) were with the age group of 60-65. 16 (26.67%) were with the age group of 66-70 and 11(18.33%) were with the age group of 71-75 and 6(10) older adults were with the age group of above 76 years.

The percentages wise distribution of samples according to their gender, in that gender distribution of male is about 37(61.67%) in and female 23(38.33%).

The percentages wise distribution of samples according to their marital status, In that majority is married 39(65%), widowed 7(11.67%), single 6(10%) and divorced 8(13.33).

The percentages wise distribution of samples according to their religion, In that the highest percentage Hindu Is About 44(73.33%), Muslim Is About 4(6.67%), Christian 3 (5%) And Others Is About 9 (15%).

The percentages frequency wise distribution of family members based on Educational status. The result indicates that the majority of subjects 22(36.67%) were illiterate, 14(23.33%) has primary education, 12(20%) has secondary education, 7(11.67%) has higher secondary education and 5(8.33%) has graduation and above.

Occupation, 15 (25%) were doing their own business, 18(30%) worked as private employee & 7(11.67%) were doing government job.

The percentages wise distribution of older adults according duration of stay in old age home, in that highest percentage 35(58.33%) are staying since 5 years, 12(20%) are staying from 6-10 years, 7(11.67%) are staying from 11-15 years and 6(10%) for above 15 years.

The percentages wise distribution of samples according to their economic support from family, in that highest percentage 33(55%) has no any economic support and 27(45%) has some economic support from their family.

The percentages wise distribution of samples according to their Source of previous knowledge, In that the highest percentage 41(68.33%) had No any pervious knowledge, followed by 8 (13.33%) had Seminar/ Lecturer/ Book as the source of knowledge and 6 (10%) Health personnel were the source knowledge and 5 (8.33%) other sources were the source of knowledge.

### 7.2 Description of pre test and post test knowledge score of older adults regarding Alzheimer's disease

The knowledge of older adults regarding Alzheimer's disease was assessed by using self-structured questionnaire. The findings of the study revealed that that majority of the Older adults 42(70%) had poor knowledge, 13(21.67%) had Average knowledge and 5(8.33%) had good knowledge regarding Alzheimer's disease. In the post test knowledge score, study finding shows that majority of the Older adults 29(48.33%) had average knowledge, 17(28.33%) had poor knowledge and 14(23.33%) had good knowledge regarding restraining Alzheimer's disease. 75

### 7.3 Description of effectiveness of virtual instructional package on knowledge regarding Alzheimer's disease in older adults

The pre-test and post-test knowledge mean score were 10.367 and 15.567 respectively. The standard deviation for pre-test and post-test were 4.610 and 5.494 respectively. The mean difference was 5.980. The calculated 't' value 13.34 is greater than table value (2.0) at degree of freedom 0.05 level. **This indicates the virtual instructional package was effective in increasing knowledge regarding Alzheimer's disease in older adults. Hence H1 is accepted & Ho1 rejected.**

### 7.4 Description to show Association between pre test knowledge score with selected demographic variables

Chi-square value was calculated to find out the association. The result shows that the calculated value is greater than (at 0.05 level) tabulated value for variables; **gender, education, previous occupation and source of previous knowledge** with pre-test knowledge of older adults regarding Alzheimer's disease & **hence H2 is accepted.**

## 8. Conclusion

The main aim of the study was to assess the knowledge among older adults regarding Alzheimer's disease and to administer virtual instructional package on knowledge regarding Alzheimer's disease. The virtual instructional

package helps the older adults to enhance their knowledge regarding Alzheimer's disease.

#### The following conclusions were drawn on the basis of the findings of the study:

- 1) The knowledge and scores among most of the older adults were poor.
- 2) The virtual instructional package on knowledge regarding Alzheimer's disease helps them to learn more about the Alzheimer's disease
- 3) There was significant association between pre-test knowledge scores with selected demographic variable gender, current year of study and source of previous information of the older adults.

### 9. Future Scope

The findings of the study have implication for nursing practices, nursing education, nursing administration and nursing research.

#### Nursing practice

The extended and expanded role of professional nursing emphasizes preventive and promotive aspect of health. Nurses are key person of health team who play a major role in health promotion and maintenance, nursing research studies are usually not intended in pursuing knowledge simply for the sake of knowledge. It is practicing profession so the researcher generally integrates findings into practice. Nurses play a major role in effective teaching about the causes and prevention of Alzheimer's disease at right time by giving adequate knowledge and skills.

#### Nursing Education

The student nurses from school of nursing and college of nursing should be encouraged to attend specialized courses and seminars on knowledge on Alzheimer's disease

- a) Health exhibition can be conducted which include chart, posters etc
- b) Nurses need to take role as a motivator, facilitator, educator, counselor, advocator, change agent and researcher

#### Nursing administration:

- a) The nurse administrator should formulate policies, protocol, guideline and system of care in collaboration with multi disciplinary team.
- b) Nurse administrator ensure professional practice with evidence based research which is clinically effective.

#### Nursing Research

Research essentially is problem solving approach. There is wide scope of conducting research study in depth by using tools in order to assess the knowledge regarding Alzheimer's disease in older adults.

- a) This study will serve as valuable reference material for future investigator
- b) Dissemination of findings through conference and professional journal will make the

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