RESEARCH ARTICLE

A STUDY TO ASSESS THE LEVEL OF KNOWLEDGE ON ALZHEIMER'S DISEASE AMONG PATIENTS IN SELECTED HOSPITALS AT BANGALORE WITH A VIEW TO DEVELOP AN INFORMATIONAL BOOKLET REGARDING PREVENTION OF ALZHEIMER'S DISEASE

*[1]Lakshmi R Nair and [2]Vinil Upendrababu

[1]Physician Assistant, Caritas Hospital, Ettumanoor, Kerala
[2]Research Scholar, Department of Nursing, Shri Venkateshwara University, Gajraula, Amroha, Uttar Pradesh

ABSTRACT

Every day, every minute, experts in the health care fraternity and scientists are learning something new about the Alzheimer's disease as the incidents of the same is on the rise, Globally. As per the research evidences it is proved that the knowledge about the disease and it's preventive measures among common people can reduce the incidence of Alzheimer's disease to an extend. Hence the main aim of this research was to assess the existing knowledge on Alzheimer's disease among patients and to develop an informational booklet regarding prevention of Alzheimer's disease. Non-experimental descriptive design was adopted to assess the knowledge regarding Alzheimer's disease among the samples. With the use of non probability convenient sampling technique100 patients attending medical OPD of selected hospitals were used as samples. After getting consent from the samples knowledge was assessed from the samples with the help of a structured knowledge questionnaire. The result of the study had shown that the knowledge about the Alzheimer's disease among samples were inadequate and their knowledge were effectively strengthened with the help of information booklet. Also, it is proved that there was significant association between knowledge score of patient and selected demographic variables such as age (χ^2= 6.47) gender (χ^2=5.59) marital status (χ^2= 15.33) occupational status (χ^2=14.49) family income (χ^2= 6.32) ,source of information (χ^2=6.51),mode of information(χ^2=15.94).

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INTRODUCTION

"Memory is a way of holding on to the things you love, the things you are, and the things you never, want to lose."
Kevin Amold

Alzheimer's disease is named after Dr. Alois Alzheimer, a German doctor, in the brain tissue of women who had died of an unusual mental illness (Heitkemper, 2011). This disease destroys the brain cell, gradually, that control thought, memory, and language (Pauline Anderson, 2009) Alzheimer's disease is defined as, progressive, irreversible, degenerative neurological disease that begins insidiously and it is characterised gradual losses of cognitive function and disturbance in behaviour and affect (SmeltzerSuzanne, 2004). As per the 2009 world Alzheimer report, which is released by Alzheimer's disease international, the global prevalence of dementia was more than 35 million in 2010 and it's predicted

to be almost double every 20 years to 65.7 million in 2030 and 115.4 million in 2050 (Encyclopaedia of mental disorder, 2002). Scientists have found that brain changes in people with Alzheimer's disease gradually. There is loss of nerve cells and pathways in the area of the brain that are vital to memory and other mental abilities among them (http:www.wikipedia.com). The cause and progression of Alzheimer's disease are not well understood. Research indicates that the disease is associated with beta-amyloid plaques and neurofibrillary tangles in the brain. As part of aging people develop some plaques in their brain tissue, but in Alzheimer's disease there are more plaque in certain part of the brain (Heitkemper, 2011). Symptoms of Alzheimer's disease will often become noticeable between the age of 65 and 85, becoming more prevalent as the person grows older and the disease progresses (Smeltzer Suzanne, 2004). Clinical signs of Alzheimer's disease are characterised by mild cognitive impairment and people with trouble thinking and speaking clearly, remembering recent events, over time, it becomes hard for them to handle every day activities and take care of themselves (John Hopins Bloomberg school public health, 2007).

*Corresponding author: Lakshmi R Nair,
Physician Assistant, Caritas Hospital, Ettumanoor, Kerala

More than 26 million people worldwide were estimated to be living with Alzheimer's disease in 2006, according to a study led by researcher at the johns Hopkins Bloomberg School of public health. The researchers also concluded the global prevalence of Alzheimer's disease will grow to more than 106 million by 2050 (Jean Carper, 2010). New research reveals that lifestyle factors play a significant role in protecting your brain as you age. You can reduce your risk of Alzheimer's disease and other dementias by eating right food, exercising, and staying mentally and socially active and keeping stress in check. By leading a brain-healthy life style, and also able to prevent the symptoms of Alzheimer's disease entirely and slow down, or even reverse, the deterioration of aging. Researchers are increasingly struck by the fact that Alzheimer's has some of the same lifestyle origins as heart disease and diabetes, such as obesity, high bad LDL cholesterol, high blood pressure, and physical activity-although admittedly, the stakes seem higher when the target is brain (Alzheimer's disease research paper docstoc, 2009). Hence Education/ knowledge on modifiable risk factors of Alzheimer's plays an important role in prevention of Alzheimer's disease.

Need for the Study: Alzheimer's disease is one of the most common and feared disease afflicting the elderly community (Shyama Rajagopal, 2014). With the number of elderly people in the country expected to be rise over 9 cores as per the Census2011 Report, the government has to recognise that disease of elderly is going to be a very important public health problem in India, said Dr. Jacob Roy (Chairman of Alzheimer's disease international (ADI)) (http:/ www.ahaf.org). According to WHO "It is estimated that there are currently about 18 million people worldwide with Alzheimer's disease". This figure is projected to nearly double by 2050 to 34 million. Much of this increase will be in developing countries, currently more than 50% of people with Alzheimer's disease live in developing countries and this will be over 70% by 2025 (Alzheimer's disease international, 2008). Moreover as per the report of Alzheimer's disease international (ADI), there are currently 30 million people with dementia in the world, with the occurrence of 4.6 million new cases annually (one new case every second) (Fornazzari, 2009).

The prevalence of the disease in India is said to be 1 in 20 for people over 60 years, and one in 5 for people over 80 years. There are about 3.7 core people affected by disease, and the cost of treating the disease is pegged at Rs.14, 700 crore. This is going to trible in the next 20 years as the number of affected is going to double and become 7.6 crore. In Bangalore there are 300,000 elderly patients suffering from Alzheimer's disease (White paper on Alzheimer's, 2011). However the knowledge level on Alzheimer's disease among lay men is very low as per the research evidences. A descriptive study was conducted to examine knowledge level of Alzheimer's disease among 125 Latin American seniors attending Alzheimer's disease educational sessions and investigated the relationship between knowledge of Alzheimer's diseases, demographic variables, educational level, acculturation level, subjective memory complaint and objective memory impairment. They found that knowledge of Alzheimer's disease was very weakly correlated with level of education and years living in Canada. They concluded that Latin American seniors are not knowledgeable about Alzheimer's disease and principal cause of their symptoms (Werner, 2003). A cross sectional study was conducted to assess the relationship

between knowledge about symptoms of Alzheimer' disease and help seeking intention among 150 community dwelling person aged over 45 knowledge about 11 warning signs of Alzheimer's disease as described in the information provided by the Alzheimer's association, and for non-Alzheimer's symptoms was assessed. They found that participant knowledge about Alzheimer's disease symptoms over all was fair, only a slight percentage reported memory problem to be symptoms of the disease .They concluded that improved recognition of Alzheimer's symptom will promote adequate Help-seeking behaviour and will increase early identification and treatment of Alzheimer's disease (Jean Carper, 2010). The knowledge about this disease and it's preventive measures can reduce the incidence of disease to an extend and moreover it helps to identify and treat the disease as early as possible. Some nutritional factors, including the appropriate intake of B-group vitamins, anti oxidative vitamins and polyunsaturated fatty acids, are likely to play a significant role in Alzheimer's disease prevention. A diet rich in vegetables and fruits, whole-meal bread, milk and dairy products as well as containing fish, plant oils and nuts provides all indispensable nutrients. The appropriate merging of these food products into dishes--widely described in literature as the Mediterranean diet--facilitates leading a long life in health.

As per the above mentioned data the investigator came to the conclusion that the incidence and prevalence of Alzheimer's disease is more among adults and elderly people. Nevertheless the knowledge about the preventive measures of disease is very less among almost all the people. Hence the investigator felt the need to assess the knowledge level on Alzheimer's disease among adults in selected hospital and to enhance their knowledge by administering the Informational booklet on prevention of Alzheimer's disease.

METHODS AND MATERIALS

Statement of the problem: A study to assess the level of knowledge on Alzheimer's disease among patients in selected hospitals at Bangalore with a view to develop an informational booklet regarding prevention of Alzheimer's disease.

Objectives of the study

- To assess the existing knowledge on Alzheimer's disease among patients.
- To determine the association between the level of knowledge on Alzheimer's disease among patients attending medical OPD with their selected demographic variables.
- To develop an informational booklet regarding prevention of Alzheimer's disease.

Hypothesis

H_1: There will be significant statistical association between the levels of knowledge on Alzheimer's disease among patients attending medical OPD with their selected demographic variables.

Research approach: A descriptive approach was used for this study to assess the level of knowledge on Alzheimer's disease among patients in selected hospital.

Research Design: For the present study, non- experimental descriptive design was adopted to assess the knowledge

regarding Alzheimer's disease among patients in selected hospital.

Setting of the study: The study was conducted in medical OPD of selected hospitals (Chaitanya hospital, Lakshmi hospital, Gopal medical center, Shanmuga nursing home) at Bangalore.

Population

Target population: Patients between the age group of 30 -60 years.

Accessible population: All patients who are attending medical OPD whose age group is between 30-60 years in selected Hospital at Bangalore.

Sample size and sampling technique: Patients who are attending medical OPD and full fill the inclusion criteria are selected as samples. From the patients. who are attending OPD, 100 patients were selected as study participant with the help of non probability convenient sampling technique.

Description of the tool: In the present study, the data has been collected by using the structured knowledge questionnaire. The instrument consists of two sections.

Section A: Socio Demographic Data, which includes age, gender, religion, marital status, educational status, occupational status, family income/month, and type of family and family members suffering from Alzheimer's disease, source of information and mode of information regarding Alzheimer's disease.

Section B: Structured knowledge questionnaire, includes 30 items covering the content of areas such as meaning, type, incidence, cause, risk factors, signs and symptoms, diagnosis, treatment and preventive measures of Alzheimer's disease.

Reliability of the tool: The reliability of the structure knowledge questionnaire was established by using test retest method. In order to establish the reliability, the tool was administered to 10 patients attending medical OPD who fulfilled the inclusion criteria. The reliability quotient for the tool was 0.9.

Datacollection procedure: Content validity was ascertained in consultation with the guide and expert in the field of medicine and nursing. Reliability of the tool was established by test and re-test method. Informational booklet was prepared regarding prevention Alzheimer's disease. A prior permission was obtained from the concerned authority. The process of the study was explained to the patients and consent obtained from patients. A structured knowledge questionnaire was administered to assess the demographic profile. A structured knowledge questionnaire was administered to assess the knowledge regarding Alzheimer's diseases. Informational booklet regarding prevention of Alzheimer's diseases was distributed to the patients on the same day.

Plan for Data Analysis: The data was analyzed by using both descriptive and inferential statistics based on the objectives and hypotheses of the study.

RESULT

The data thus obtained were analyzed and presented under the following sections.

Demographic data: Majority of the selected samples were in the age group of 41-50 yrs(51%)and more than half of the subjects were female (56%) . About the education, majority among the selected samples had higher secondary education. Also, most of them were married (66%) and were private employees (34%).

Table 1. Classification of Respondents by Family Related Characteristics

Characteristics	Category	Respondents	
		Number	Percent
Religion	Hindu	37	37.0
	Muslim	35	35.0
	Christian	28	28.0
Family Income/month	Rs.10,000-20,000	34	34.0
	Rs.20,001-35,000	36	36.0
	Rs.35,001-50,000	30	30.0
Type of family	Nuclear	72	72.0
	Joint	28	28.0
Family members suffering from Memory Problems	Yes	16	16.0
	No	84	84.0
Source of Information	Yes	37	37.0
	No	63	63.0
Mode of Information	Electronic media	20	20.0
	Print media	10	10.0
	Health Personnel	7	7.0

Table 2. Classification of Respondents Knowledge level on Alzheimer's disease

Knowledge Level	Category	Respondents	
		Number	Percent
Inadequate	≤ 50 % Score	67	67.0
Moderate	51-75 % Score	33	33.0
Adequate	> 75 % Score	0	0.0
Total		100	100.0

Table 3. Over all mean Knowledge of Respondents on Alzheimer's disease

N=100

Aspects	Statements	Max. Score	Respondents Knowledge			
			Mean	SD	Mean (%)	SD (%)
Knowledge	30	30	10.65	5.4	35.5	17.9

Table 4. Aspect wise Mean Knowledge scores of Respondents on Alzheimer's disease

No.	Knowledge Aspects	Statements	Max. Score	Respondents Knowledge			
				Mean	SD	Mean(%)	SD(%)
I	Meaning and Type	2	2	0.90	0.7	45.0	33.7
II	Incidence, Causes and Risk factors	4	4	1.70	1.2	42.5	29.4
III	Signs and Symptoms	3	3	0.89	0.8	29.7	27.6
IV	Diagnosis and Treatment	5	5	2.09	1.3	41.8	26.4
V	Prevention	16	16	5.07	3.3	31.7	20.4
	Combined	30	30	10.65	5.4	35.5	17.9

Table 5. Classification of Respondents on Knowledge level on Alzheimer's disease

No.	Knowledge Aspects	Knowledge Level							
		Inadequate		Moderate		Adequate		Total	
		N	%	N	%	N	%	N	%
I	Meaning and Type	82	82.0	0	0.0	18	18.0	100	100.0
II	Incidence, Causes and Risk factors	79	79.0	10	10.0	11	11.0	100	100.0
III	Signs and Symptoms	73	73.0	26	26.0	1	1.0	100	100.0
IV	Diagnosis and Treatment	61	61.0	20	20.0	19	19.0	100	100.0
V	Prevention	78	78.0	21	21.0	1	1.0	100	100.0
	Combined	67	67.0	33	33.0	0	0.0	100	100.0

Overall and Aspect wise Knowledge Scores of Respondents on Alzheimer's Disease

The above table elaborates that the mean knowledge of respondents were 10.65 and standard deviation was 5.4. At the same time percentage of mean and standard deviation percentage was 35.5% and 17.9% respectively. The above table indicate mean percentage and standard deviation of respondents knowledge on different areas of Alzheimer's disease. The above table indicates that majority of subjects had inadequate level on knowledge on all aspects of Alzheimer's disease.

Association between Demographic variables and Knowledge level of Respondents on Alzheimer's disease:
The Chi-square test was carried out to determine the association between the pre-test knowledge level and demographic variables such as age, gender, religion, marital status, educational level, and occupation, and economic status, type of family and family history of Alzheimer's disease, source of information regarding Alzheimer's disease. Out of which age ($\chi^2 = 6.47$) gender ($\chi^2 = 5.59$) marital status ($\chi^2 = 15.33$) occupational status ($\chi^2 = 14.49$) family income ($\chi^2 = 6.32$), source of information ($\chi^2 = 6.51$), mode of information($\chi^2 = 15.94$)were found to be significantly associated with pre-test knowledge at 5% level and the rest of the demographic variables were not significant. Hence research hypotheses H_1 is proved and accepted.

DISCUSSION

The first objective was to assess the existing knowledge on Alzheimer's disease among patients in selected hospitals. The knowledge regarding Alzheimer's disease of patients was assessed by structured questionnaire. Out of 100 patients, 33% had moderate knowledge, 67% had inadequate knowledge. The overall mean percentage knowledge was 35.5% and mean 10.65 with standard deviation of 17.9%. These finding showed that most of the patient had inadequate knowledge regarding Alzheimer's disease. This finding is supported by a study which was conducted to examine knowledge of dementia in south Asian older people as compared with Caucasian older people in Manchester, uk.191 DKQs (dementia knowledge questionnaire) from India and 55 DKQs from Caucasian older

people were included in the analyses. Indian older people showed significantly less knowledge about basic aspect (p<0.001) and epidemiology (p<0.001) of dementia than Caucasian older people. Both group faired equally badly on questions about etiology (p=0.001) and symptomatology (p=0.66). They concluded that Indian older people in U K do not seem to have sufficient knowledge about dementia. The second objective was to determine the association between the levels of knowledge on Alzheimer's disease among patients attending medical OPD with their selected demographic variables. There was significant association between knowledge score of patient and selected demographic variables such as age ($\chi^2 = 6.47$) gender ($\chi^2 = 5.59$)marital status ($\chi^2 = 15.33$) occupational status ($\chi^2 = 14.49$) family income ($\chi^2 = 6.32$),source of information ($\chi^2 = 6.51$),mode of information($\chi^2 = 15.94$)were found to be significantly associated with pre-test knowledge at 5% level and the rest of the demographic variables were not significant. The third objective was to develop an informational booklet regarding prevention of Alzheimer's disease. Study shows that the Patients have lack of knowledge about prevention of Alzheimer's disease. So it is necessary to educate them. Hence the efforts should be made to provide up to date information with help of information booklet targeted to improve knowledge and create awareness regarding different aspects like causes, signs and symptoms, risk-factors, management and prevention of Alzheimer' disease.

Conclusion

Based on the result, the investigator reached the conclusion that majority of the samples had poor knowledge on Alzheimer's disease. Hence it is mandatory to improve their knowledge with the help of information booklet. Information booklet has provided on the same day of exam to the samples to improve their knowledge.

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