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The Effected of Health Education on Knowledge on Alzheimer's Diseases and Dementia in Family Caregivers in Saudi Arabia 2022

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Abstract

Background:

Globally, an estimated 46.8 million people have Alzheimer's diseases and dementia and this figure is expected to almost treble by 2050. Deaths due to Alzheimer's disease and other dementias more than doubled between 2000 and 2015 making it the seventh leading cause of death worldwide. Most people, particularly in the early stages of Alzheimer's diseases and dementia, live at home and are cared for by family members or friend's hereafter referred to as 'carers' estimated to provide the equivalent of more than 40 million full time workers worldwide. The Saudi Arabia Association of Palliative Care recommends that family carers need education about the knowledge of Alzheimer's diseases and the progression of dementia. Dementia is characterized by progressive cognitive decline, memory impairment, and disability. Alzheimer's diseases dementia accounts for 60–70% of cases followed by vascular and mixed dementia. Saudi Arabia and the Middle East are at increased risk owing to aging populations and high prevalence of vascular risk factors. Appropriate levels of knowledge and awareness amongst health care professionals (HCPs) are the need of the hour.

Aim of the study: To explore the effected of health education about Knowledge of Alzheimer's diseases and dementia in family caregivers in Saudi Arabia 2022.

Methods: A cross-sectional study was conducted at200 family caregivers of patients diagnosed as Alzheimer's diseases and dementia in a third-class hospital in in Saudi Arabia, from April to May 2022, were selected for this study of convenient sampling. These patients were followed up at home after discharge from the hospital, and their main family caregivers were investigated by knowledge questionnaire.

Results: shows that most of the participants (79.0%) were in the age group (>50) years, regarding self-care ability the majority of participant needing help occasionally were(33.0%), regarding state of occupation work the majority of participant are freelancer were(46.0%), regarding the marital status most of participants not married were(69.0%).

Conclusion: There was not sufficient evidence to support nor refute the effectiveness of health education on progression of about Knowledge of Alzheimer's diseases and dementia on family caregivers, further robust research is required that use educational interventions regarding the progression of Alzheimer's diseases and dementia family caregivers.

Annals of R.S.C.B., ISSN:1583-6258, Vol. 26, Issue 1, 2022, Pages. 4616-4633
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Keywords: explore, health education, Knowledge, Alzheimer's, family caregivers, Saudi.

Introduction

Alzheimer disease (AD)and dementia is the main cause of cognitive impairment in Saudi Arabia, representing the second leading reason for neurological consultation; it is a healthcare and economic issue of great importance.[1] The behavioral alterations that develop during the course of the disease represent the main cause of caregiver burden and patient institutionalization. In parallel, the use of psychoactive drugs to control these alterations has been shown to increase the risk of death in these patients.[2] Assessing the level of understanding of Alzheimer disease among care-givers and in the general population is essential to optimize healthcare and, ultimately, to improve patient and caregiver quality of life and to decrease their burden.[3] However, assessing the understanding of the concept of dementia and/or Alzheimer disease and its implications will be useful for the general population and for caregivers, enabling us to identify the differences in understanding among people responsible for care and treatment of the disease,[4] to develop and evaluate the effectiveness of interventions, and to assess whether public information campaigns have met the objectives established. Various scales assess the understanding of AD among care-givers and the general population.[5] The most noteworthy scales include the Dementia Knowledge Assessment Scale11and the Alzheimer's Disease Knowledge Scale (ADKS), which have been shown to be useful in several populations, including among healthcare professionals, caregivers, students, and the general population.[6] However, no results have been published regarding the use of any of these scales in the population [7]. Alzheimer disease is the leading cause of dementia, a generic term encompassing various conditions characterized by cognitive impairment [8], and is responsible for an estimated 60%-80% of dementia cases worldwide. As of 2021, around 50 million people will have dementia globally. This number is anticipated to triple by 2050 due to the aging world population [9]. Despite Alzheimer disease growing prevalence and severe impact on patients, caregivers, and society, awareness and understanding of the disease remain limited in several communities [10]. This gap can lead to delayed diagnoses, increased stigma, diminished patient quality of life, and heightened caregiver stress [11]. Moreover, it can hinder the effectiveness of public health interventions to manage Alzheimer disease and its impacts [12]. Like many other nations, Saudi Arabia is undergoing significant demographic transformations due to increased life expectancy and a growing elderly population [13]. These changes are expected to raise the prevalence of age-related diseases, including Alzheimer disease. [14] Caring for people with Alzheimer's is an arduous task. The caregiver often does not devote sufficient attention to their own needs, due to the daily demands of care, including comfort, safety, help in activities of daily living (ADL) and tasks related to domestic chores. The primary caregiver is directly responsible for all these actions. [15] In contrast. While secondary caregivers may perform the same tasks as the primary caregiver, they do not have the same level of responsibility and decision-making authority.[16] Tertiary caregivers are supportive, replacing the primary caregiver for short periods, and usually perform specialized tasks such as shopping, assisting in patient transportation, collecting pensions, and paying bills.[17] While all play an important role in care, it is clear that the responsibility for providing care and attention rest with the primary caregiver. [18]

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Literature Review

A study of family caregivers carried out at the neurology department of the Hospital de Clínicas in Porto Alegre, Rio Grande do Sul, found that intensive care and attention are necessary in activities of daily living (ADL) mainly due to the impairments caused by the disease and the loss of autonomy and independence that result from it [19]. Other study reported that only 43% of 161 family careers of nursing home residents considered Alzheimer's diseases and dementia a disease you can die from [20]. Research shows that family caregivers meet more than 80% of Alzheimer's patient needs. Often, the elderly person can be cared at home by favorable levels of caring services. Therefore, isolation, physical fatigue, and mental pressure threaten family caregivers [21]. Studies have revealed that more than 80% of family caregivers experience high levels of social, physical, and psychological problems, such as stress, depression, and anxiety, alongside coping with the caring pressure [22]. Therefore, the majority of family caregivers require knowledge and skills to promote self-care and health. [23]. According to numerous studies, individuals with better understanding of the disease are more likely to identify it early and search for an optimal treatment.[24] Furthermore, education and training with healthcare professionals may improve patient outcomes in clinical and community settings,[25] and greater understanding of the disease in the general population may reduce stigma and increase social support. [26]. Assessment and Diagnosis was found to be associated with Treatment and management and Symptoms; lastly, Treatment and management were found to be associated with Symptoms. Since the intervention for Alzheimer's disease is multidisciplinary, it is worth noting that depending on these subdomains, the patient's well-being would be directly affected.[27]. This is consistent with the findings of a Malaysian study employing the ADKS in which a mean score of 18.5 and 19.05 out of 30 was revealed from pharmacists in public hospitals and health clinics, respectively [28]. Meanwhile, an Australian study which also assessed health professionals revealed a mean score of this mean score is relatively higher than the present study's findings, which could be attributable to the fact that healthcare professionals were not identified in the study.[29]. Numerous solutions are recommended for promoting family caregivers' health. Building resilience is suggested and describes a situation in which a caregiver improves social performance and overcome difficulties, despite experiencing high mental pressure [30]. Santos et al. showed that resilience education could decrease stress and promoted caregivers' physical and psychological health [31]. Other research has found that the employment of resilience training offers many advantages [32]. Many resilience studies explore personal characteristics that may affect coping or resilience and focus on individuals experiencing specific adverse circumstances (e.g., illness, bereavement, abuse, etc.). Researchers have demonstrated the effectiveness of interventions that assist family caregivers to provide support for patients with dementia [33]

Rationale:

Alzheimer's disease is a common chronic disease among elderly patients, which results in progressive memory loss, personality change, and difficulty in daily activities. It is estimated that approximately 100 million elderly patients will live with Alzheimer's disease by 2050, There are no official statistics regarding the disease in Saudi Arabia; however, according to the high number patients with Alzheimer's disease in Saudi Arabia who require at least one

family caregiver. The scores of home caregivers of patients with Alzheimer's diseases and dementia remain low and poor in knowledge, so it is necessary to strengthen the health education and care guidance for these caregivers. In this way, the caregivers can obtain more social support to improve their ability to care for patients; resilience education successfully improved the Alzheimer's diseases of family caregivers. Therefore, it is suggested that healthcare providers, Alzheimer's associations, and NGOs provide educational interventions to help promote the caregivers' Alzheimer's diseases.

Aim of the study:

To explore the effected of health education about Knowledge of Alzheimer's diseases and dementia in family caregivers in Saudi Arabia 2022.

Objectives:

To explore the effected of health education about Knowledge of Alzheimer's diseases and dementia in family caregivers in Saudi Arabia 2022.

Methodology:

Study design:

This study is descriptive type of cross-sectional study was conducted among 200 candidates this study included visitors in a third-class hospital in in Saudi Arabia

Study Area

The study has been carried out in the Saudi Arabia of is the holiest spot on Earth A cross-sectional study was conducted at200 family caregivers of patients diagnosed as Alzheimer's diseases and dementia in a third-class hospital in Saudi Arabia, from April to May 2022, were selected for this study of convenient sampling. These patients were followed up at home after discharge from the hospital, and their main family caregivers were investigated by knowledge questionnaire. During the April to May 2022, and it reflects a diversified demographic profile with a considerable portion of the population comes from rural descent, while others come from an urban one. This difference translates into biological, socioeconomic and lifestyle differences in Saudi Arabia population.

Study Population

The study has been conducted regarding visitors to in a third-class hospital, in April to May 2022 in Saudi Arabia .

Selection criteria:

Inclusion criteria

- Visitors to in a third-class hospital sector complain about Alzheimer's diseases and dementia in Saudi Arabia.
- Participants who were family carers defined as non-paid, non-professional carers who provide care for a relative or friend with Alzheimer's diseases dementia of any type and severity
- All nationalities

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- Studies where the control group also received education on the progression of Alzheimer's diseases and dementia.

Exclusion criteria :

Studies written in English

- No specific exclusion criteria.

Sample size

Visitors to a third-class hospital about Alzheimer's diseases dementia in Saudi Arabia, the sample size has been calculated by applying Raosoft sample size calculator based on (The margin of error: 5%, Confidence level: 95%, and the response distribution was considered to be 20%) accordingly the Sample size is (200) in third-class hospital in the Saudi Arabia and adding 10 more to decrease margin of error. After adding 5% oversampling, the minimum calculated sample has been 200. Computer generated simple random sampling technique was used to select the study participants.

Sampling technique:

Systematic random sampling technique is adopted. After that, by using random number generator, then simple random sampling technique has been applied to select from third-class hospital. Also, convenience sampling technique will be utilized to select the participants in the study. By using systematic sampling random as dividing the total students by the required sample size; (200).

Data collection tool:

The self-administered questionnaire is designed based on previous studies to explore the effected of health education about Knowledge of Alzheimer's diseases and dementia in family caregivers in Saudi Arabia. The questionnaire has been developed in English. The questions were first pre-tested and were revised and finalized after it has been pilot tested. Before completing the survey, participants were required to indicate their consent using a forced response question followed by the survey questionnaires. The survey is estimated to take 10 min to complete .

To collect the information, a set of questions were constructed and developed. All questions were closed-ended, with tick boxes provided for responses; participants answered the questionnaires from the April to May 2022 the period of study in 2022. The questionnaire consisted of questions that **First part** General and Socio demographic information. These variables included contact data (email or mobile phone number), (age, gender, Sources of information). Other variables were education level, economic level. A questionnaire has been developed that had Socio demographic data and questions related to knowledge. The two senior faculty members checked the questionnaire’s validity and comprehension, and it was revised according to their suggestions. A pilot study has been conducted on secondary students to check the questionnaire’s understanding and responses further. The results of the pilot study were not included in the final analysis. The assessment to assessment of To explore the effected of health education about Knowledge of Alzheimer's diseases and dementia in family caregivers in Saudi Arabia among visitors to third-class

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hospital , and also as per each response/answer . Data entry and analysis were carried out using the Statistical Package for the Social Sciences.

Data collection technique:

Researcher has been visits the selected third-class hospital sector after getting the approval from the ministries of health. The researcher has been obtained permission from participants.

After the arrival of the participants has been explained the purpose of the study to all participants attending .

Data entry and analysis:

The Statistical Package for Social Sciences (SPSS) software version 24.0 has been used for data entry and analysis. Descriptive statistics (e.g., number, percentage) and analytic

Pilot study

A pilot study has been conducted in the same sector due to the similarity to the target group using the same questionnaire to test the methodology of the study. As a feedback, the questionnaire has been clear and no defect has been detected in the methodology

Ethical Approval

This study was approved from regional research center in Saudi Arabia. Each participant gave a verbal consent prior to recruitment and confidentiality was assured for each situation.

Budget: Self-funded

Results

Table 1: Socio-demographic profile of all participated patients in the study. (n- 200)

Demographic Characteristics	N	%
Alzheimer's diseases Patients		
Age		
<30	16	8
30-50	26	13
>50	158	79
Gender		
Male	126	63
Female	74	37
Severity of disease		
Mild	80	40
Moderate	44	22
Severe	76	38
Self-care ability		
Totally independent	36	18
Needing help occasionally	66	33
Needing help most of the time	54	27
Totally dependent	44	22
Family caregivers		

Annals of R.S.C.B., ISSN:1583-6258, Vol. 26, Issue 1, 2022, Pages. 4616-4633
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Age		
<30	70	35
30-50	86	43
>50	44	22
Nationality		
Saudi	184	92
Non-Saudi	16	8
State of occupation work		
Retirement	74	37
Freelancer	92	46
None	34	17
Level of education		
High school/diploma or less	104	52
Bachelor's degrees	88	44
Master/Ph.D. degrees	8	4
Marital status		
Married	62	31
Not married	138	69
Family status		
Living alone	68	34
Living with spouse	54	27
Living with children	58	29
Living with others	20	10
Duration of caregiving		
>10 years	56	28
6～10 years	46	23
4～5 years	98	49
Monthly income		
<8000	46	23
8000-15,000	110	55
≥15,000	44	22
Source of information you received about Alzheimer's disease		
Social media/Internet websites/TV	46	23
Relatives or friends	84	42
Educational institution	44	22
Healthcare professionals	68	34
Personal experience	40	20

Table 1 shows that most of the participants (79.0%) were in the age group (>50) years follow by the age 30-50 were (13.0%) followed by <30 were (8.0%), the majority of them male was higher compared to female(63.0% and 37.0%), regarding severity of disease the majority of participant answer mild were(40.0%) while severe were(38.0%) but moderate were (22.0%), regarding self-care ability the majority of participant needing help occasionally were(33.0%) while needing help most of the time were(27.0%) but totally dependent were (22.0%) while totally independent were (18.0%), regarding family caregivers the majority of participant are from 30-50 were(43.0%) while from <30 were (35.0%) while

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>50 were(22.0%), regarding nationality the majority of participant are Saudi were(92.0%) while non-Saudi practitioner were(8.0%), regarding state of occupation work the majority of participant are freelancer were(46.0%) while retirement were(37.0%) while None were (17.0%), regarding educational attainment the majority of participant are high school/diploma or less were (52.0%) while bachelor's degrees practitioner were (44.0%) but the master/ Ph.D. degrees were (4.0%), regarding the marital status most of participants not married were(69.0%) while married were(31.0%), regarding family status the majority of participant living alone were (34.0%) while living with children were (29.0%) but living with spouse were (27.0%) while living with other were (10.0%), regarding duration of caregiving the majority of participant 4～5 years were (49.0%) while >10 years were (28.0%) but 6～10 years were (23.0%) , regarding monthly income the majority of participant are between 8000-15,000 were (55.0%) while <8000 were (23.0%) but more than 15000 were (22.0%) , regarding source of information you received about Alzheimer's disease the majority of participant relatives or friends were (42.0%) while healthcare professionals were(34.0%) but social media/Internet websites/TV were (23.0%) but educational institution were (22.0%) but personal experience were (20.0%) .

Table 2: Distribution of general information regarding Knowledge on Alzheimer's diseases and dementia in family caregivers

	N	%
Do you think Alzheimer's disease is restricted to a specified age group?		
Yes, to elderlies	24	12
Yes, to youngsters	46	23
Yes, to children	22	11
No (it can occur at any age)	90	45
I don't know	18	9
Do you think Alzheimer's disease is restricted to a specific sex?		
Yes, to males	42	21
Yes, to females	22	11
No (It can occur regardless of sex)	130	65
I don't know	6	3
What are the causes of Alzheimer's disease		
God's punishment	24	12
Evil eye or magic	22	11
Brain disease (organic or psychotic)	44	22
Genetic causes	20	10
Head injury	18	9
No specific cause	60	30
don't know	12	6
Do you think that Alzheimer's disease is controlled		
Yes, it's controlled through	44	22
Medically	30	15

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Surgically	38	19
Electrical shock	22	11
Reading Quran	16	8
Other options	18	9
No, it's not treatable	20	10
I don't know	12	6

Table 2 distribution of general information regarding Knowledge on Alzheimer's diseases and dementia in family caregiver's shows regarding you think Alzheimer's disease is restricted to a specified age group the most of the participants No (it can occur at any age) were (45.0%) while Yes, to youngsters were (23.0%) followed by Yes, to elderlies were (12.0%) followed by Yes, to children were (11.0%) but I don't know (9.0%) , regarding the you think Alzheimer's disease is restricted to a specific sex the majority of participant No (It can occur regardless of sex) were (65.0%) while Yes, to males were(21.0%) but Yes, to females were (11.0%) followed by I don't know were (3.0%) , regarding are the causes of Alzheimer's disease the majority of participant No specific cause were (30.0%) while brain disease (organic or psychotic) were (22.0%) but God's punishment were (12.0%) followed by evil eye or magic were (11.0%) while Genetic causes were (10.0%) but head injury were (9.0%) while don't know were (6.0%), regarding you think that Alzheimer's disease is controlled the majority of Yes, it's controlled through were (22.0%) while surgically most of the time were (19.0%) but medically were (15.0%) while electrical shock were (11.0%) while No, it's not treatable were (10.0%) while Other options were(9.0%) while Reading Quran were (9.0%) while I don't know were (6.0%)

Table 3: Distribution of the knowledge about risk factors of the Alzheimer's disease and dementia

	TRUE		FALSE		Chi-square	
	N	%	N	%	X^2	P-value
Risk factors						
1. Mental exercise has been scientifically proven to prevent a person from getting Alzheimer's disease.	70	35	130	65	18.000	<0.001*
2. People in their 30s can have Alzheimer's disease.	144	72	56	28	38.720	<0.001*
3. Having high cholesterol can increase a person's risk of developing Alzheimer's disease.	154	77	46	23	58.320	<0.001*
4. Prescription drugs that help delay the progression of Alzheimer's disease are available.	48	24	152	76	54.080	<0.001*
5. High blood pressure may increase the risk of developing Alzheimer's disease**.**	138	69	62	31	28.880	<0.001*
6. Genes can only partially account for the development of Alzheimer's disease.	142	71	58	29	35.280	<0.001*
Life impact						
7. People with Alzheimer's disease are	152	76	48	24	54.080	<0.001*

particularly prone to depression.						
8. Most people with Alzheimer's disease live in nursing homes.	62	31	138	69	28.880	<0.001*
9. It is safe for people with Alzheimer's disease to drive as long as they have a companion in the car at all times .	58	29	142	71	35.280	<0.001*
Assessment and diagnosis						
10. When a person with Alzheimer's disease is agitated, a medical assessment can reveal other health problems that caused the agitation.	162	81	38	19	76.880	<0.001*
11. If memory and confusion start suddenly, it is likely due to Alzheimer's disease.	42	21	158	79	67.280	<0.001*
12. Symptoms of severe depression can be mistaken for symptoms of Alzheimer's disease.	160	80	40	20	72.000	<0.001*
13. Alzheimer's disease is one type of dementia.	140	70	60	30	32.000	<0.001*

Table (3) distribution of the knowledge about risk factors of the Alzheimer's disease and dementia regarding the mental exercise has been scientifically proven to prevent a person from getting Alzheimer's disease heave a significant relation were P-value=0.001, X^2 were (18.000) increase in false were (65.0%) followed by true were (35.0) , regarding People in their 30s can have Alzheimer's disease heave a significant relation were P-value=0.001, X^2 were (38.720) increase in true were (72.0%) followed by false were (28.0), regarding having high cholesterol can increase a person's risk of developing Alzheimer's disease heave a significant relation were P-value=0.001, X^2 were (58.320) increase in true were (77.0%) followed by false were (23.0), regarding the Prescription drugs that help delay the progression of Alzheimer's disease are available heave a significant relation were P-value=0.001, X^2 were (54.080) increase in false were (76.0%) followed by true were (24.0), regarding high blood pressure may increase the risk of developing Alzheimer's disease heave a significant relation were P-value=0.001, X^2 were (28.880) increase in true were (69.0%) followed by false were (31.0), regarding genes can only partially account for the development of Alzheimer's disease heave a significant relation were P-value=0.001, X^2 were (35.280) increase in true were (58.0%) followed by false were (29.0) .

Regarding life impact, regarding people with Alzheimer's disease are particularly prone to depression heave a significant relation were P-value=0.001, X^2 were (54.080) increase in true were (76.0%) followed by false were (24.0), regarding most people with Alzheimer's disease live in nursing homes heave a significant relation were P-value=0.001, X^2 were (28.880) increase in false were (69.0%) followed by true were (31.0), regarding safe for people with Alzheimer's disease to drive as long as they have a companion in the car at all times heave a significant relation were P-value=0.001, X^2 were (35.280) increase in false were (71.0%) followed by true were (29.0) .

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Regarding Assessment and diagnosis , regarding when a person with Alzheimer's disease is agitated, a medical assessment can reveal other health problems that caused the agitation heave a significant relation were P-value=0.001, X^2 were (76.880) increase in true were (81.0%) followed by false were (38.0), regarding if memory and confusion start suddenly, it is likely due to Alzheimer's disease heave a significant relation were P-value=0.001, X^2 were (72.280) increase in false were (79.0%) followed by true were (21.0), regarding Symptoms of severe depression can be mistaken for symptoms of Alzheimer's disease heave a significant relation were P-value=0.001, X^2 were (72.000) increase in true were (80.0%) followed by false were (20.0) , regarding Alzheimer's disease is one type of dementia heave a significant relation were P-value=0.001, X^2 were (32.000) increase in true were (70.0%) followed by false were (30.0) .

Table 4: Distribution of Alzheimer's disease knowledge in family caregivers

	TRUE		FALSE		Chi-square	
	N	%	N	%	X^2	P-value
Care giving						
1. People with Alzheimer's disease do best with simple instructions given one step at a time.	132	66	68	34	20.480	<0.001*
2. When people with Alzheimer's disease have difficulty caring for themselves, caregivers should take over immediately.	60	30	140	70	32.000	<0.001*
3. If a person with Alzheimer's disease becomes alert and agitated at night, a good strategy is to ensure that the person gets plenty of physical activity during the day.	138	69	62	31	28.880	<0.001*
4. When people with Alzheimer's disease repeat the same question or story several times, it is helpful to remind them that they are repeating themselves.	84	42	116	58	5.120	0.024*
5. Once people have Alzheimer's disease, they can no longer make informed decisions about their care .	66	33	134	67	23.120	<0.001*
Treatment						
6. People whose Alzheimer's disease is not yet severe can benefit from psychotherapy for depression and anxiety.	142	71	58	29	35.280	<0.001*
7. Poor nutrition can worsen the symptoms of Alzheimer's disease.	152	76	48	24	54.080	<0.001*
8. When a person has Alzheimer's disease, using reminder notes can contribute to the decline.	50	25	150	75	50.000	<0.001*
9. Alzheimer's disease cannot be cured.	134	67	66	33	23.120	<0.001*
Symptoms						
10. Tremor or shaking of the hands or arms is a common symptom in people with	68	34	132	66	20.480	<0.001*

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Alzheimer's disease.						
11. Trouble managing money or paying bills is a common early symptom of Alzheimer's disease.	136	68	64	32	25.920	<0.001*
12. One symptom that can occur with Alzheimer's disease believes that other people are stealing things.	140	70	60	30	32.000	<0.001*
13. Most people with Alzheimer's disease remember recent events better than things that happened in the past.	24	12	176	88	115.520	<0.001*

Table (4) distribution of Alzheimer's disease knowledge in family caregivers regarding the people with Alzheimer's disease do best with simple instructions given one step at a time heave a significant relation were P-value=0.001, X^2 were (20.480) increase in true were (66.0%) followed by false were (34.0) , regarding people with Alzheimer's disease have difficulty caring for themselves, caregivers should take over immediately heave a significant relation were P-value=0.001, X^2 were (32.000) increase in false were (70.0%) followed by true were (30.0), regarding if a person with Alzheimer's disease becomes alert and agitated at night, a good strategy is to ensure that the person gets plenty of physical activity during the day heave a significant relation were P-value=0.001, X^2 were (28.880) increase in true were (69.0%) followed by false were (31.0), regarding people with Alzheimer's disease repeat the same question or story several times, it is helpful to remind them that they are repeating themselves heave a significant relation were P-value=0.024, X^2 were (5.120) increase in false were (58.0%) followed by true were (42.0), regarding Once people have Alzheimer's disease, they can no longer make informed decisions about their care heave a significant relation were P-value=0.001, X^2 were (23.120) increase in false were (67.0%) followed by true were (33.0) .

Regarding Treatment , regarding people whose Alzheimer's disease is not yet severe can benefit from psychotherapy for depression and anxiety heave a significant relation were P-value=0.001, X^2 were (35.280) increase in true were (71.0%) followed by false were (29.0) , regarding Poor nutrition can worsen the symptoms of Alzheimer's disease heave a significant relation were P-value=0.001, X^2 were (54.080) increase in true were (76.0%) followed by false were (24.0), regarding When a person has Alzheimer's disease, using reminder notes can contribute to the decline heave a significant relation were P-value=0.001, X^2 were (50.000) increase in false were (75.0%) followed by true were (25.0), regarding Alzheimer's disease cannot be cured heave a significant relation were P-value=0.001, X^2 were (23.120) increase in true were (67.0%) followed by false were (33.0). **Regarding Symptoms**, regarding tremor or shaking of the hands or arms is a common symptom in people with Alzheimer's disease. heave a significant relation were P-value=0.001, X^2 were (20.480) increase in false were (66.0%) followed by true were (34.0), regarding Trouble managing money or paying bills is a common early symptom of Alzheimer's disease heave a significant relation were P-value=0.001, X^2 were (25.920) increase in true were (68.0%) followed by false were (32.0), regarding one symptom that can occur with Alzheimer's disease believes that other people are stealing things heave a significant relation were P-value=0.001, X^2 were (32.000) increase in true were (70.0%) followed by false were (30.0), regarding most people

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with Alzheimer's disease remember recent events better than things that happened in the past heave a significant relation were P-value=0.001, X^2 were (115.520) increase in false were (88.0%) followed by true were (12.0) .

Table 5: Distribution of the knowledge and dementia.

knowledge and dementia			Score	
	N	%	Range	Mean±SD
Weak	28	14.0	3-13.	8.645±1.990
Average	103	51.5		
High	69	34.5		
Total	200	100.0		
X^2	42.310			
P-value	<0.001*			

This table 5 shows the majority of participant (51.5%) have average of the knowledge towards dementia followed by (34.5%) of participant high while weak were (14.0%) while total were (100.0%) but Range(3-13) and Mean ±SD(8.645±1.990), X^2 42.310 while heave a significant relation were P-value =0.001 .

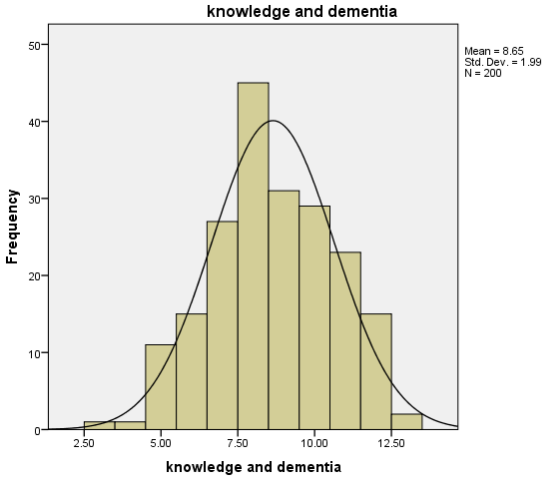

Figure (1): Distribution of the knowledge and dementia.

Table 6: Distribution of the knowledge in family caregivers .

knowledge in family caregivers			Score	
	N	%	Range	Mean±SD
Weak	3	1.5	5-13.	9.755±1.468
Average	77	38.5		
High	120	60.0		
Total	200	100.0		
X^2	105.070			
P-value	<0.001*			

This table 6 shows the majority of participant (60.5%) high of the knowledge towards

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family caregivers followed by (38.5%) of participant average while weak were (1.5%) while total were (100.0%) but Range(5-13) and Mean ±SD(9.755±1.468), X^2 105.070 while heave a significant relation were P-value =0.001

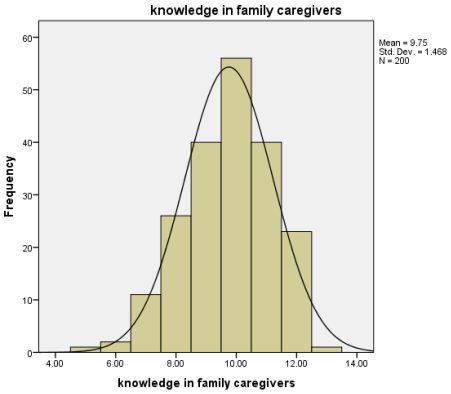

Figure (2): knowledge in family caregivers

Table 7: Distribution of the total knowledge .

Total Knowledge			Score	
	N	**%**	**Range**	**Mean±SD**
Weak	11	5.5	8-26.	18.4±3.317
Average	118	59.0		
High	71	35.5		
Total	200	100.0		
X^2	86.290			
P-value	<0.001*			

This table 7 shows the majority of participant (59.0%) average of the total knowledge followed by (35.5%) of participant high while weak were (5.5%) while total were (100.0%) but Range (8-26) and Mean ±SD (18.4±3.317), X^2 86.290 while heave a significant relation were P-value =0.001.

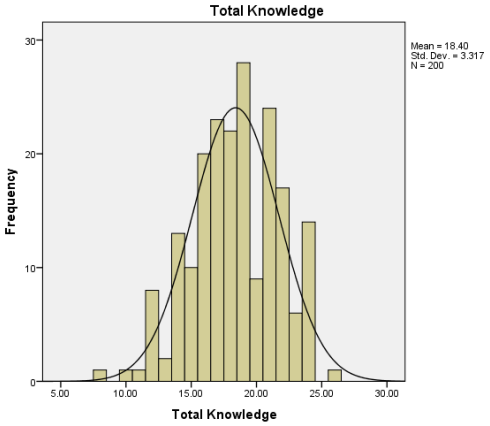

Figure (3): Distribution of the total knowledge

Discussion

The results indicated that health education promoted the Knowledge on Alzheimer's diseases and dementia in family caregivers for patient with Alzheimer's disease, which is

similar to other studies [14] . This could be explained by stating that health education for caregivers was successful in inducing the feeling of strength for dealing with high levels of stress. in our study socio-demographic profile of all participated patients shows that most of the participants (79.0%) were in the age group (>50) years the majority of them male was higher compared to female(63.0% and 37.0%), self-care ability the majority of participant needing help occasionally were(33.0%), family caregivers the majority of participant are from 30-50 were(43.0%) , family status the majority of participant living alone were (34.0%), duration of caregiving the majority of participant 4～5 years were (49.0%),source of information you received about Alzheimer's disease the majority of participant relatives or friends were (42.0%) (See table 1) Martin-Carrasco et al., believed that educational interventions resulted in more effective interactions in caring among caregivers and that teaching the Mon how to find better solutions in facing adversity decreased their physical and mental problems [34]. The education was also successful in decreasing anxiety/insomnia and severe depression, which are also consistent with other studies [15]. The results by Scuteri et al, confirmed the effectiveness of training in stress reduction of mothers whose children suffered from cancer in Imam Khomeini Hospital of Tehran [31]. Regarding the distribution of general information regarding Knowledge on Alzheimer's diseases and dementia in family caregivers . The average in knowledge of family caregivers of patients with Alzheimer's diseases and dementia remaining in a lower level . The family caregivers lack knowledge of care in disease. Most of the family caregivers are home careers and are of lower level of education, of whom have junior high school degree or below. There is a decrease in the ability to acquire knowledge of caregivers over the age , accounting , which is consistent with other studies [10], in our study shows regarding you think Alzheimer's disease is restricted to a specified age group the most of the participants No (it can occur at any age) were (45.0%), the you think Alzheimer's disease is restricted to a specific sex the majority of participant No (It can occur regardless of sex) were (65.0%), you think that Alzheimer's disease is controlled the majority of Yes, it's controlled through were (22.0%) (See table 2,3). Family caregivers have limited sources of knowledge, some of which come from their own and others' experiences [11], lacking professional, standard and targeted training. The family caregivers have low perception of Alzheimer's disease, believing that AD is a normal physiological degradation with age, rather than a disease. Their negative attitude affects their knowledge of the disease. Treatments are focused on complications of AD and prevention and diagnosis of are ignored. As a result, when the patient is diagnosed with AD, the optimal intervention time has been missed failing to delay the disease progression of the patient [12]. In our study shows the majority of participant (51.5%) have average of the knowledge towards dementia followed by (34.5%) of participant high while weak were (14.0%) while total were (100.0%) but Range(3-13) and Mean ±SD(8.645±1.990), X2 42.310 while heave a significant relation were P-value =0.001(See table 5). For distribution of the knowledge in family caregivers and the total knowledge, respondents correctly identified that mental exercise could help prevent Alzheimer's diseases. This indicates a relatively high level of awareness about the potential benefits of cognitive stimulation in maintaining brain health. Mental practices such as puzzles, reading, learning new skills, and engaging in challenging activities have reduced cognitive decline risk [35]. In contrast, respondents knew that high

cholesterol increases the risk of Alzheimer's diseases. This indicates a significant knowledge gap. Research shows that high cholesterol levels, particularly in midlife, may contribute to developing amyloid plaques and tau tangles, the hallmark brain abnormalities associated with Alzheimer's diseases [27]. Educating the public about the link between cholesterol and Alzheimer's diseases risk could promote lifestyle changes and better cardiovascular health . regarding the distribution of the knowledge in family caregivers in our study shows and the total knowledge the majority of participant (60.5%) high of the knowledge towards family caregivers followed by (38.5%) of participant average while weak were (1.5%) while total were (100.0%) but Range (5-13) and Mean ±SD(9.755±1.468), X2 105.070 while heave a significant relation were P-value =0.001 (See table 6.Figure 3).

Conclusion

In the present study, resilience education successfully promoted the Knowledge on Alzheimer's diseases and dementia of family caregivers. Therefore, educational interventions provided by healthcare providers, the Alzheimer's associations, and NGOs can promote caregiver Knowledge on Alzheimer's diseases and dementia. Financial support and shortening the caring duration by including other family members are among the solutions recommended for caregivers' Knowledge on Alzheimer's diseases and dementia. Healthcare providers, especially nurses, are more suitable to provide society based services and practical solutions for the Knowledge on Alzheimer's diseases and dementia in this population. This study is among the limited studies attempting to determine the role of coping strategies in promoting Knowledge on Alzheimer's diseases also in caregivers of elderly Alzheimer's disease patients. Therefore, we suggest that interventional studies be conducted using coping strategies against psychological disorders and mental pressure/stress in this group of clients. There was significant relationship between mental health and family relationship with the patient, education level, smoking habit, and occupation; thus, future studies investigating these factors are needed for more clarification.

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