Effects of Psycho-educational Program Alone and Combined with Reminiscence Therapy on Depression, Cognitive and Non-cognitive Behaviors among Patients with Dementia

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ABSTRACT

Background: Dementia is a progressive neurodegenerative condition characterized by altering cognitive processes, behavior, and emotional state. It limits the ability to develop daily life activities. **Aim:** To explore the effects of psycho-educational program alone and combined with reminiscence therapy on depression, cognitive and non-cognitive behaviors among patients with dementia. **Subjects and Methods: Design:** A quasi-experimental study was utilized. **Setting**: The study was conducted at the outpatient department at Psychiatric and Mental Health Hospital in Meet-khalf in Menoufia, Egypt, from the beginning of November 2021 to the end of June 2022. **Subjects:** A purposive sample of sixty patients was classified into two groups, thirty patients in psychoeducational program group and thirty patients in psychoeducational program combined with reminiscence therapy group. **Tools:** Personal characteristics sheet, Cornell scale for depression in dementia (A-CSDD) and the Alzheimer's disease assessment scale (ADAS). **The Results:** The study revealed that patients on the psychoeducational combined with reminiscence therapy had a higher decrease in total mean scores in the A-CSDD (67.16 before, 48.73 after, and 50.26 follow-up) and ADAS (25.03 before, 14.43 after, and 17.80 follow-up) than patients on the psycho-educational program alone. The difference between the two groups' post-test intervention scores was statistically significant ($p \leq 0.000$). **Conclusion:** Psycho-educational program combined with reminiscence therapy was more effective in alleviating depression, and improving cognitive and non-cognitive behaviors among patients with dementia than psycho-educational program alone. **Recommendations:** A comprehensive treatment plan involving a combination of reminiscence therapy and psychoeducational program should begin with dynamic caregivers at an early stage of dementia.

Keywords*:* Cognitive Behaviors, Dementia, Depression, Non-cognitive Behaviors, Psycho-educational Program, and Reminiscence Therapy.

INTRODUCTION

Dementia is a progressive and neurodegenerative disorder in which the change in behavior, cognitive functions, and emotional condition, as well as the limited capacity to develop daily life activities, are the hallmarks of the disorder. It is one of the most important reasons for disability in individuals over age of 65. According to Morales-de-Jess et al. (2021) individuals in this group will be with various levels of dependence. Dementia is a leading source of dependency among the elderly.

In Egypt, the dementia prevalence ranged from 2.01% to 5.07%. Dementia increased with age, with the rapid increase among those aging 80th and older. Also, its prevalence was higher among illiterate groups than among educated groups (Elshahidi et al., 2017). Additionally, in Upper Egypt, prevalence of Alzheimer disease was 1% for population aged 50 years and more, reaching 9.7 for patients aged > 80 years. Early onset Alzheimer disease (< 65 years) was recorded in 7.9% of patients (Tallawy et al., 2019).

Alzheimer's disorder is the highly prevalent type of dementia, reporting to 60-70% of all cases, although dementia is really a catchall word encompassing more than 200 other disorders of the brain (Brataas et al., 2010; Telenius, Eriksen & Rokstad, 2020; von Kutzleben et al., 2012). There are around fifty million persons living with dementia worldwide. Each year, nearly 10 million new cases are diagnosed (WHO, 2020). Aside from depression, cognitive dysfunction, and “behavioral & psychological symptoms of dementia”, this illness causes difficulties with daily living activities. Dementia is the most debilitating disease and the fifth leading cause of mortality worldwide (Moon & Park, 2020).

Dementia is currently incurable, but with adequate management, those who have it can have a reasonable quality of life. Various non-pharmacological therapies are available for those people and aimed at reducing the signs and symptoms of psychological, behavioral, and cognitive impairment. Non-pharmacological managements are the first way of treatment in the management of dementia, as they encourage the use of a variety of approaches and techniques to care for physical and emotional stability to a patient without adverse effects of drugs (Olazarán et al., 2010; Theleritis et al., 2018).

One kind of such non-pharmacological interventions is called "reminiscence therapy" (RT). Conversations between the patients and the psychotherapist, health professional, or caregiver form the basis of RT. These conversations, which are facilitated by the therapist, are centered on prior events and experiences. If the goal is to analyze and examine the patient's life, the dementia patient can be led chronologically across his or her life history during RT. However, for RT purposes, it is possible to specifically induce positive

memories of pertinent events for the patient (González-Arévalo, 2015). Dementia patients may benefit from this treatment because it targets their long-term memory with material that is both highly relevant and simple to recall. Multiple studies have looked at the positive effects of RT on dementia patients and found that it helps stabilize their emotional states, makes them more sociable, and builds trust (Cuevas et al., 2020; Lök, Bademli, & Selçuk-Tosun, 2019; Melendez et al., 2017).

Moreover, Butler's (1963) 'Life Review' model, which saw reminiscence as an intuitive process where a individual looks back and comments on his or her life, is largely seen as the first example of reminiscence treatment with individuals who have dementia. The term "dynamic process of adjustment" perfectly describes this phenomenon (Woods et al., 2018). Erikson's (1950, 1959) last stage theory of psychological development, "ego integrity versus despair," is reflected in this idea. In this phase, people look back on their lives and try to make sense of them. "Ego integrity" is attained when a life is accepted in its whole (Macleod et al., 2021).

As a result of RT, individuals are better able to draw meaning from their lives and get sense of their pasts. Patients with dementia may see enhancements in their cognitive abilities and life quality, helping them to reduce or alleviate depression and other dementia symptoms. Caregivers and people with dementia together may get the psychological benefits of RT. In the past, RT was accomplished through more traditional methods, such as storytelling, which necessitated the use of memory triggers like commonplace things or mementos from the subject's history. Conventional RT requires training for the RT leader and preparation of things to serve as memory triggers; therefore, it may not be cost efficient (Moon & Park, 2020).

Psychoeducational interventions may help older adult persons establish adaptive reactions to cognitive decline that promote adjustment and acceptance (Satre, Knight & David, 2006). A stable sense of self was preserved among some individuals during the early stage of dementia, whereas others' self-concept shifts in reaction to observed changes in their cognitive abilities (Sukhawathanakul et al., 2021). The most effective treatments for helping people adjust to new circumstances may be patient-centered therapies that consider the individual's identity and social responsibilities (Caddell & Clare, 2010).

Psycho-educational interventions are described as a collection of approaches intended to increase the psychological well-being of caregivers and their family members with dementia through cognitive and behavioral mechanisms. Both mechanisms have been shown to help dementia patients in terms of therapy, by decreasing the emotional burden on

family members and minimizing complications through the period of isolation while the social contact with certain services is restricted (Alves et al., 2020).

Psychological education, counseling, and outpatients' visits from patients with dementia were incorporated into the intervention to offer support, knowledge, and motivate participants. People with dementia and their caregivers generally approved of these activities. The caregivers felt the psychoeducational sessions were helpful and applicable to their present situations. They enjoyed the sessions taking on a more individual tone by allowing them to talk about the unique difficulties they were facing on a daily basis with others in a similar circumstance and a counselor who specialized in dementia. If people read about these issues in a book or on the Internet, they'd miss out on the individual perspective provided by a live discussion. In addition, respondents said that they profited from and appreciated participating in psychoeducation. Some people said they learned more about dementia and how to cope with it (Skov et al., 2021).

Significance of the study

Reminiscence therapy is considered to be useful in both group and individual settings to assist persons incorporate previous experiences, diminish feelings of loss, improve self-awareness, and increase socialization (Sutinah, 2020). Psychoeducational approaches are highly important techniques that may help patients and caregivers to deal with symptoms of dementia. It is part of the non-pharmacological treatment of dementia. It might begin at an initial stage of the disorder with energetic patients and caregivers who are ready for knowledge and assistance. The efficacy of psychoeducational interventions is seen at several levels including a decrease in the frequency of nursing home placement, in psychosocial problems, in the use of medication, in the load on caregivers, and an improvement in well-being of patients and caregiver (Dumont, Barvaux & Cornil, 2016). There was considerable support for psychoeducational program in alleviating depression among patients with dementia (Ortega Qazi & Spector, 2015). From this point, the current study aims to explore the effects of psycho-educational program alone and combined with reminiscence therapy on depression, cognitive and non-cognitive behaviors among patients with dementia.

AIM OF THE STUDY

This study aimed to explore the effects of psycho-educational program alone and combined with reminiscence therapy on depression, cognitive and non-cognitive behaviors among patients with dementia**.**

The study will achieve these objectives:

- Assess the levels of depression among patients with dementia.
- Measure the severity of non-cognitive and cognitive behavioral dysfunctions characteristic of persons with dementia.
- Design psycho-educational program alone and combined with reminiscence therapy among patients with dementia.
- Implement psycho-educational program alone and combined with reminiscence therapy among patients with dementia.
- Evaluate the effects of psycho-educational program alone and combined with reminiscence therapy on depression, cognitive and non-cognitive behaviors among patients with dementia.

HYPOTHESIS

The current study hypothesized that:

$H_{1:}$ A psycho-educational program combined with reminiscence therapy will have a higher decrease in total mean scores for alleviating depression symptoms among patients with dementia than psycho-educational program alone.

$H_{2:}$ A psycho-educational program combined with reminiscence therapy will have a higher decrease in total mean scores in non-cognitive and cognitive behavioral dysfunctions of patients with dementia than psycho-educational program alone.

SUBJECT AND METHOD

Design: To achieve the goal of this study, a quasi-experimental design (two group; Pre, post and follow up; One to implement the psycho-educational program combined with reminiscence therapy and another to implement the psycho-educational program alone) was used.

Setting: Outpatient Department at Meet-Khalf Psychiatric and Mental Health Hospital in Menoufia, Egypt.

Subjects: Sixty patients with dementia were selected using a purposive sampling. Then they were divided into two subgroups using systematic random sampling technique, thirty patients in the psycho-educational program group and thirty patients in the psycho-educational program combined with reminiscence therapy group.

Inclusion criteria:

- Regularly attended in the outpatient department.

- Have a mild to moderate level of dementia.
- Agree to participate in this study.
- Be able to communicate in an appropriate and reasonable manner.

Exclusion Criteria:

- Patients with other organic brain syndromes, or head trauma.
- Patients with mental retardation.
- Patients with communication difficulties.
- Patients with substance abuse problems.
- Patients with another neurological conditions and/or co-morbid bipolar disorder or schizophrenia.

Tools of data collection: One constructed interview sheet, which includes three tools were utilized to accomplish the study's aim:

Tool I: Personal characteristics sheet: Was constructed by researchers after reviewing literature, to obtain information regarding the patient as gender, age, educational level, marital status, … etc.

Tool II: The Cornell Scale for Depression in Dementia (A-CSDD): It was developed by Alexopoulos et al. (1988) in an English language and translated into an Arabic language by researchers. It involves 19 items in five sub-scales assessing mood-associated findings, behavioral changes, physical outcomes, cognitive differences, and cyclic functions. It is assigned a score between 0 (absent) and 2 (severe) for each item. It took about 5 to 10 minutes to administer the scale. The A-CSDD is a valid and reliable investigating tool for assessing symptoms of depression in people with dementia. The scale enables us to identify signs of depression in the patient. The minimum and maximum scores range from 0 - 38 with higher scores representing higher degrees of depressive mood.

Tool III: The Alzheimer's Disease Assessment Scale (ADAS): It was developed by Rosen, Mohs and Davis (1984) in an English language and translated into an Arabic language by researchers. The scale contains 21 items. It was constructed to measure the severity of cognitive and non-cognitive behavioral dysfunctions characteristic of people with Alzheimer's disorder and applicable to another dementias. The scoring system applied in this study was the same as maintaining the original scoring system through **11 items assigned to the cognitive section** and **10 items to non-cognitive part**. The maximum scores representing the highest degree of severity are 70 points for ADAS-Cog, 50 points for ADAS-Non-Cog, and 120 points for ADAS-Total. The rating scale of 0-5 indicates the degree of severity of dysfunction. A rating of 0 denotes no impairment on a task or absence of a particular

behavior. A rating of 5 is reserved for the most severe degree of impairment or very high frequency of occurrence of a behavior. A rating of 1 signifies a very mild presence of a behavior or corresponds to a particular performance on a task. Ratings of 2, 3, or 4 correspond to mild, moderate, and moderately severe, respectively. Ratings on many cognitive behaviors correspond to levels of functioning.

Content validity/reliability:

Prior to the start of data gathering, the researchers confirmed the tools' content validity. The tools have been translated into Arabic and their content verified. Translation and back-translation techniques have been performed for the measurement by three bilingual experts on a jury panel; two professors in psychiatric mental health nursing, and one Arabic language expert, to determine the appropriateness and comprehensiveness of the items and the required adjustments have been done consequently. Furthermore, the time required to fill in the data sheet was assessed. The reliability was tested utilizing Cronbach's alpha test, which indicated relatively homogeneous tools. The internal consistency of A-CSDD and ADAS was 0.81 and 0.78 respectively.

Pilot Study

Six patients (10%) were conducted on a pilot study to confirm that the study's tools are applicable, feasible, and clear. Because no changes were created, they were involved in sample of this study.

Field Work

The data were gathered through the period from the beginning of November 2021 to the end of June 2022. Researchers gathered information from the chosen setting.

The Program Construction: Involved four stages:

1. Assessment stage: Researchers chose patients who met the inclusion criteria by reviewing the psychiatric outpatients' sheets. Following the establishment of a relationship of trusting and clarifying the study's objectives, patients were chosen to participate in the study. This process continued until the estimated sample size (60 patients) was attained. The recruited patients were offered to the pre-test using constructed interview sheet and tools to assess task performance and levels of depression among patients with dementia. This was applied through interviewing patients individually. Each patient took 35-50 minutes, more time was given whenever needed.

2. Designing stage: The researchers developed a teaching instruction based on the results of patient records, interviews, and observations, as well as a review of the literature. It was used immediately following the pretest. **The program contents**: The booklets were developed to face the requirements of patients while also presenting their interests and levels

of comprehension. They involved of several components of the psycho-educational program and reminiscence therapy for alleviating depression levels, and improving cognitive and non-cognitive behavioral functions among patients with dementia. **The teaching methods:** All patients in the experimental groups received similar content of the program and were taught using the equivalent processes, which included discussions, lectures, demonstrations/re-demonstrations and role-playing. **Media of teaching:** They involved handouts, photos, videos, and a slideshow on the computers of the researchers. **The content validity of the program:** The psychoeducation program and reminiscence therapy were revised by three expert professors of psychiatric nursing before implemented the program and there was no modification required.

3. Implementation stage:

- The psycho-educational program was implemented right now following the assessment and designing stage were achieved.
- Using a simple stratified random sampling technique, the sample of 60 patients were distributed into two equal groups.
- Participants were elderly patients and their family members.
- In the **"psychoeducation program and reminiscence therapy group"**, the psycho-education therapy was completed first, the following day, there will be the reminiscence therapy.
- Psychoeducational intervention involves ten sessions conducted in ten meetings, each lasting "50 - 65 minutes". However, reminiscence therapy involves five sessions through ten meetings, every session lasts "75 minutes".
- The reminiscence and psychoeducational therapy group was divided into five subgroups that completed the program concurrently.
- The intervention took place over a 12-week period, from Monday to Saturday, giving to an approved agenda.
- In **"psycho-educational program group"**, the patients were distributed into five subgroups who took the program in a parallel manner.
- Participants were patients and their family members.
- The intervention involves 10 sessions through 10 meetings. Every session was conducted from 45 - 60 minutes.
- The psycho-education program in both groups was the same.
- The researchers visited the Psychiatric Outpatients of the Psychiatric Hospital, 2 days/pre-week for eight months from 8.00 a.m. - 2.00 p.m.

The distribution of the program was as follows:

a. The Psycho-educational Program:

First session: The welcoming session is the initial meeting between researchers and participants and concentrations group memberships confirmation (six patients). Following recognition, researchers described the program's beginning and an explanation of the program's purposes.

Second, third and fourth sessions: "Cognitive Stimulation Therapy (CST)" is a non-pharmacological intervention utilized to help individuals suffering from mild to moderate dementia. Participating in CST, the patients are encouraged to share in the intervention meetings with researchers who have received training, proficient of interactive contact and provided care for people with dementia. Every session contains theme-based acts aimed at participating and motivating. Themes may incorporate issues, for example the application of money, food, and/or talks about present situations. The CST emphasizes the essential standards of individual focus, involvement, inclusion, choice, pleasure, respect, maximizing potential and strengthening relationships.

Fifth session: Validation Therapy, during this time, the researchers try to communicate with the demented patients' emotions as well as the implications around behavior and speech. Simply put, validation therapy seeks to permit an individual's feelings by recognizing emotions, just as if those feelings are built on misunderstandings or confusions due to dementia. The goal is to have patients with dementia as satisfied as likely.

Sixth session: Reality Orientation assists people with dementia by reminding them of the present, reinforcing their self-identity, and reminding them of their surrounding environment. It might need several ways, as well as calendars, signposts, notice boards, cueing, and it is regularly done within groups or separately. While applying this therapy, researchers should be aware of the patients with dementia requirements and maintain in their attention that the persons have an impairment of cognitive and can have difficulty recalling existing occasions as a result.

Seventh and eighth sessions: Physical Activity has been indicated the advantage for persons who do not have an impairment of cognitive. Also, it is useful for individuals with dementia, especially persons who used to be extremely dynamic. Patients with dementia were encouraged to engage in certain type of physical exercises, though this will clearly want to be modified because dementia progresses. When designing physical activity programs, consideration was prepared according to the individual's abilities, advantages, interests, and protection requirements. There is an indication that physical exercises can help decline

symptoms of depression as well as behavioral disturbances like aggression, agitation, and noisiness.

Ninth and tenth sessions: Instruct patients to use better breathing and relaxation procedures applying film and pictures to assist alleviate anxiety and promote the application of positive individual coping approaches for patient with depression.

b. Reminiscence Therapy:

- **First Session**: **Childhood and School Life**: The elderly persons attempted to recall the meaningful traits of have being a young person and their relationship with fathers, mothers, sisters, and/or brothers. They talked about school period, their teachers, school work, and classmates.
- **Second Session**: **Teenager Stage and Family Relationship**: Aged person talk about variations in their character, activities, and concerns. They shared recollections regarding their house, relationship and responsibility within their family.
- **Third Session**: **The Adulthood Stage**: The significance of work and their relationships within the coworkers, as well as their success in work. Additionally, this session includes recollections concerning marriage, the first meeting with the spouse, planning and preparation of marriage and day of wedding party.
- **Fourth Session**: Consist of recalls associated with married life before having babies and later getting newborns, giving birth of first baby, growing of children and their schooling**.**
- **Fifth Session:** It includes reminiscences associated with marriage of their kids, life after they were left home, struggles confronted, and the activity needed to resolve them, and their role with grandchildren.

4. Evaluation stage: The post-test, where was the same as the pre-test, was conducted immediately after the eventual application of program functionality to evaluate the impact of the intervention on the two experimental groups. Three months after the post-test, the follow-up test was conducted by applying the same tools to evaluate retention across a comparison of findings as well as pre-post-tests.

Ethical considerations for the research and participants

Written approval (research No: 678) was achieved from the Ethical and Research Committee, Faculty of Nursing, Menofia University. An official letter was obtained from the Dean of the Faculty of Nursing, Menofia University and referred to the setting of the study. The study's goal was described to each participant and his/her family member prior to involvement. Data gathering were anonymous. Data privacy were secured. Participants' confidentiality were recognized. The patient's right to refuse or withdraw from this study at

any time was respected and emphasized. The collection of information was utilized for this study only and damaged right following data analysis.

Statistical Analysis:

Data gathered, coded by researchers, was transformed, entered into a designed form, and analyzed by using the Statistical Package for the Social Sciences 'SPSS' version 22 (Hays, 2013). The quantitative data were analyzed corresponding to the mean and standard deviation (SD). Qualitative data were presented as a number and a percentage. It was analyzed utilizing a chi-square test (χ^2). It was utilized in the Fisher Exact test "is a statistical test used to determine if there are nonrandom associations between two categorical variables", and if a predicted value of a table cell was below 5. Student t-test, and Paired t-test were employed as significant tests. The ANOVA test "is a statistical test used to analyze the difference between the means of more than two groups", it was applied to comparison between the two or more means concerning pre, post and follow-up in the experimental and comparison groups of patents. P-value < 0.05 was revealed to be significant and when the P-value < 0.001 was associated with highly significant.

RESULTS:

Table (1): reveals that; in the psychoeducation with reminiscence therapy group, the age ranged from 66 to 80 years with Mean ±SD (70.0±3.46) and nearly half of them (46.7%) was able to read and write. Regarding marital status, half of them (50%) was married and 80% did not have enough income. In the psycho-educational therapy group, the age ranged from 66 to 79 years with Mean ±SD (70.7±3.33) and 43.3% of them were able to read and write. Considering the marital status, more than half of them (53.3%) were married and the majority of them (96.7%) did not have enough income. An equal percentage (76.7%) of both groups were males. This table shows there were significance changes only between the two groups at ($p< 0.044$) when the income is insufficient. The results indicate that there was no difference between the two groups regarding personal characteristics. This means homogeneity between both groups.

Table (2): shows that there were highly significant differences concerning psycho-educational with reminiscence therapy group and psycho-educational therapy group between post and follow up of program regarding their scores of cognitive and noncognitive assessment of patients with dementia disease at ($p\leq0.000$). While the findings reveal that statistically significance differences between psycho-educational with reminiscence therapy and psycho-educational therapy at post the program regarding their scores of five-subscales of

depression at ($p \leq 0.000$), but after 3 months of the program regarding their scores of five-subscales of depression among patients with dementia disease, there were change as of mood-related findings at ($p \leq 0.005$), behavioral changes at ($p \leq 0.000$), cyclic functions ($p \leq 0.007$), and cognitive changes ($p \leq 0.027$).

Table (3): reveals that there were highly significant differences among psycho-educational with reminiscence therapy group and psycho-educational therapy group between immediately after and 3 months later the program regarding their total scores of assessments of the Alzheimer's disease and total score of depression in dementia at ($p \leq 0.000$). Analysis of the results showed that psycho-educational with reminiscence therapy more effective to alleviate depression symptoms and improve patients' performance than applying psycho-educational therapy alone among patient with dementia.

Figure (1): demonstrates that mean change related to total scores of Alzheimer's disease assessment was 25.03 before application of the program that reduced to 14.43 after the accomplishment of program and 17.80 in follow-up observations among psycho-educational with reminiscence therapy groups respectively. As well as it reveals that mean change related to total scores of depression level was 25.00 before completion of the program that improved to 17.76 after the application and 20.23 in follow-up observations among psycho-educational therapy groups respectively. Analyses of the results revealed that combining psycho-educational and reminiscence therapy was more effective than using psycho-educational therapy alone in improving the prognosis, cognitive and noncognitive behaviors of patients with dementia.

Figure (2): illustrates that mean difference associated to total scores of depression level was 67.16 before application of the program that changed to 48.73 post the implementation and 50.26 in follow-up observations among psycho-educational with reminiscence therapy groups respectively. As well as it revealed that mean change related to total score of depression level was 67.50 before the program that modified to 58.03 following the implementation and 64.40 in follow-up observations in psycho-educational therapy groups respectively. Analyses of outcomes revealed that combination therapy of psycho-educational with reminiscence had better effect to alleviate depression level than psycho-educational therapy only.

Table (4): demonstrates that there were significant positive correlations between psycho-educational with reminiscence therapy groups in **ADAS** and regarding **A-CSDD** at pre/post & follow-up of ($p < 0.013$, 0.003 & 0.015 respectively). Furthermore, there were

significant positive correlations among psycho-educational program groups regarding **ADAS** and **A-CSDD** at pre/post & follow-up ($p < 0.007$, 0.028 & 0.024 respectively).

Table (1): Frequency distribution of studied patients regarding their personal characteristics (n=60).

	Psycho-educational program with reminiscence therapy group (n=30)		**Psycho-educational program group (n=30)**		**X^2**	**p-value**
	no	**%**	**no**	**%**		
Age						
65 - <70	19	63.3	13	43.3	2.552	.279
70 - <75	7	23.3	12	40.0		
75+	4	13.3	5	16.7		
Min - Max	66-80		66-79			
Mean ±SD	70.0±3.46		70.7±3.33			
Gender						
Male	23	76.7	23	76.7	.000	1.000
Female	7	23.3	7	23.3		
Educational level						
Don't Read & Write	9	30.0	8	26.7	.506	.918
Read & Write	14	46.7	13	43.3		
Secondary	6	20.0	7	23.3		
University	1	3.3	2	6.7		
Marital status						
Single	2	6.7	1	3.3	.561	.905
Married	15	50.0	16	53.3		
Widow	9	30.0	10	33.3		
Divorced	4	13.3	3	10.0		
Income level						
Enough	6	20.0	1	3.3	4.043	.044*
Not Enough	24	80.0	29	96.7		
Family number						
<3	3	10.0	0	0.0	3.570	.168
3-5	13	43.3	17	56.7		
<5	14	46.7	13	43.3		

* statistically significance $p<0.05$ **highly statistically significance $p<0.001$

Table (2): Mean and standard deviation of studied patient (psycho-educational program with reminiscence therapy and psychoeducational program groups) regarding subscale of ADAS and A-CSDD through the program phases.

Scale		Group	Pre		Post		Follow up		t1	p-value	t2	p-value	t3	p-value
			Mean	±SD	Mean	±SD	Mean	±SD						
ADAS	ADAS-Cog	Psycho-educational program with reminiscence therapy	35.53	4.06	25.80	2.78	28.73	2.54	.000	1.000	-6.763	.000**	-6.594	.000**
		Psychoeducation program	35.53	4.50	30.86	3.01	34.23	3.79						
	ADAS-Non-Cog	Psycho-educational program with reminiscence therapy	31.63	3.51	22.93	2.50	25.53	1.83	-.391	.697	-6.562	.000**	-7.792	.000**
		Psychoeducation program	31.96	3.06	27.16	2.49	30.16	2.69						
A-CSDD	Mood-related findings	Psycho-educational program with reminiscence therapy	5.20	1.32	2.66	1.09	4.06	1.17	.316	.753	5.06	.000**	2.89	.005*
		Psycho-educational therapy	5.30	1.11	4.06	1.04	4.93	1.14						
	Behavioral changes	Psycho-educational program with reminiscence therapy	5.03	.96	3.00	1.01	4.03	1.03	.268	.789	4.09	.000**	3.68	.000**
		Psycho-educational program	5.10	.95	4.10	1.06	5.03	1.06						
	Physical findings	Psycho-educational program with reminiscence therapy	3.80	.61	2.40	.81	3.30	.87	-.642	.523	4.06	.000**	1.56	.122
		Psycho-educational program	3.70	.59	3.33	.95	3.63	.76						
	Cyclic functions	Psycho-educational program with reminiscence therapy	5.66	1.37	3.30	1.11	4.33	1.09	-.186	.853	3.52	.001**	2.79	.007*
		Psycho-educational program	5.60	1.40	4.33	1.15	5.23	1.38						
	Cognitive changes	Psycho-educational program with reminiscence therapy	5.33	.99	3.06	.90	4.46	.89	-.138	.891	5.73	.000**	2.26	.027*
		Psycho-educational program	5.30	.87	4.40	.89	5.03	1.03						

**highly statistically significance p<0.001 * statistically significance p<0.05

t1 independent t test between psycho-educational program with reminiscence therapy and psycho-educational pre program

t2 independent t test between psycho-educational program with reminiscence therapy and psycho-educational post program

t3 independent t test between psycho-educational program with reminiscence therapy and psycho-educational after 3 months of the program

Table (3): Mean and standard deviation of studied patient (psycho-educational program with reminiscence therapy and psychoeducational program groups) regarding total ADAS and A-CSDD through the program phases.

Scale	Group	Pre		Post		Follow up		t1	p-value	t2	p-value	t3	p-value
		Mean	±SD	Mean	±SD	Mean	±SD						
ADAS	Psycho-educational program with reminiscence therapy	25.03	2.85	14.43	2.72	17.80	2.72	-.048	.962	8.20	.000**	5.28	.000**
	Psychoeducation program	25.00	2.50	17.76	2.75	20.23	2.64						
A-CSDD	Psycho-educational program with reminiscence therapy	67.16	6.70	48.73	4.44	50.26	3.66	-.190	.850	-7.671	.000**	-8.357	.000**
	Psychoeducation program	67.50	6.87	58.03	4.93	64.40	5.53						

**highly statistically significance p<0.001 * statistically significance p<0.05

t1 independent t test between psycho-educational program with reminiscence therapy and psycho-educational pre program

t2 independent t test between psycho-educational program with reminiscence therapy and psycho-educational post program

t3 independent t test between psycho-educational program with reminiscence therapy and psycho-educational after 3 months of the program

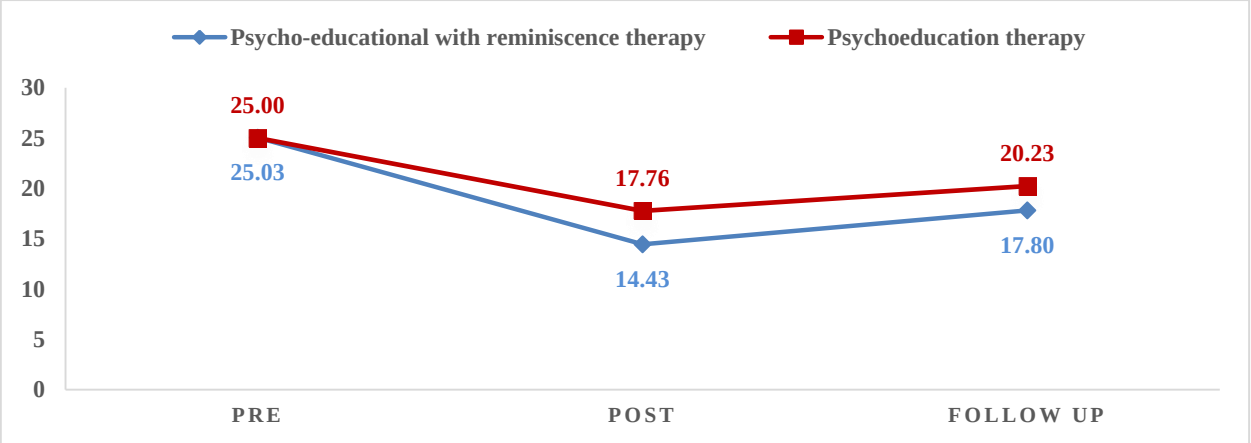

Figure (1): Line chart for psycho-educational program with reminiscence therapy and psycho-educational program groups regarding their ADAS severity through the program phases.

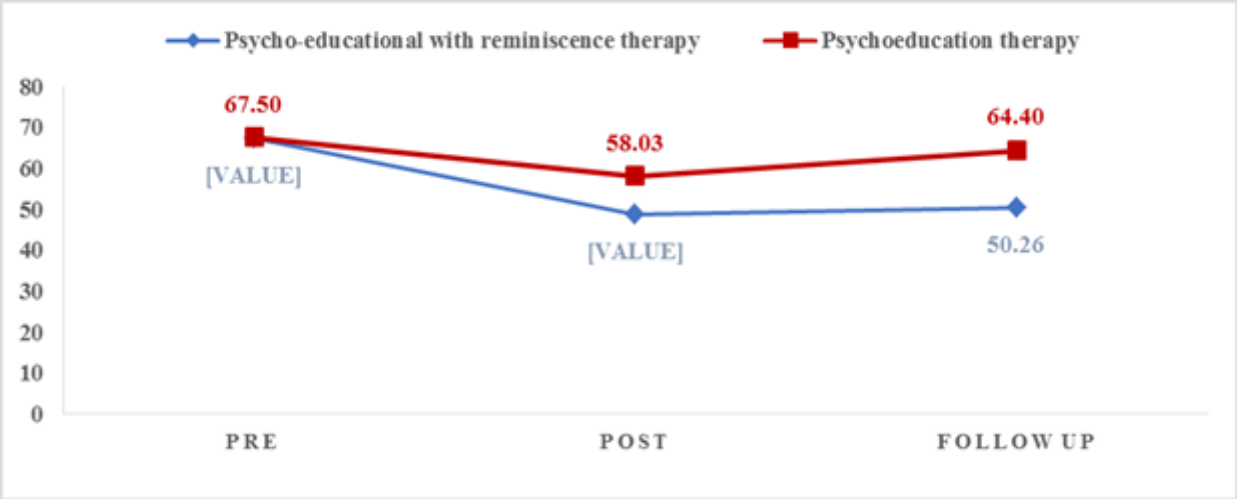

Figure (2): Line chart for psycho-educational program with reminiscence therapy and psycho-educational program groups regarding their A-CSDD severity through the program phases.

Table (4): Correlation of studied patient in psycho-educational program with reminiscence therapy and psycho-educational program groups regarding A-CSDD and ADAS through the program phases.

	Group	**A-CSDD**					
		Pre		**Post**		**Follow**	
		r	**p-value**	**r**	**p-value**	**r**	**p-value**
ADAS	**Psycho-educational program with reminiscence program**	.450	.013*	.750	.003*	.432	.015*
	Psycho-educational program	.520	.007*	.322	.028*	.229	.024*

**highly statistically significance p<0.001 * statistically significance p<0.05

DISCUSSION:

The current study objective is to explore the effects of psycho-educational program alone and combined with reminiscence therapy on depression, cognitive and non-

cognitive behaviors among patients with dementia. The present study revealed that mean score of **ADAS** and **A-CSDD** had significantly decreased after the application of psycho-educational and reminiscence therapy. This finding points to a possible beneficial effect on alleviating depression symptoms and improving cognitive and non-cognitive behaviors in elderly patients with dementia.

However, in the group that received a psychoeducational program combined with reminiscence therapy, the reduction mean score of ADAS and A-CSDD was higher than in the group that received only a psychoeducational program. These results were in line with Sutinah (2020) who studied and analyzed the effects of reminiscence therapy alone and in combination with psychoeducation program on depression level of elderly in Indonesia and reported that reminiscence and psycho-educational therapy might alleviate depressive and negative emotions in the patients with dementia.

In reminiscence therapy, the therapist assisted the elderly in recalling the positive elements and belongings which there were expressive to the elderly who had encountered the elderly in the past to integrate these positive things in their daily lives as they aged and assessed the life they had lived up to this point, allowing the elderly to feel content with their lives (Khan et al., 2022). Exploring the accomplishments of the elderly is at the heart of recollection therapy activities since it increases pleasure, happiness, and pride in oneself while reducing negative and depressing feelings. Reminiscence therapy, however, is an efficient treatment for lowering depression (Liu et al., 2021).

Fortunately, both reminiscence and psycho-education therapy were conducted in groups, which allowed participants to interact with others and share their stories, so reducing emotions of loneliness, pessimism, and powerlessness. In groups each respondent could interact with one another, share knowledge and experiences, and feel as though their fates were similar. This could boost attitudes and inspire one another. A similar result was observed in Cammisuli et al. (2022) who studied the effects of reminiscence therapy on depression, cognition and quality of life in elderly people with Alzheimer's disease in Italy and reported that improvement with the increase in autonomy is achieved when doing certain activities in daily life.

The results are consistent with study of Bazrafshan et al. (2021), who studied the effect of reminiscence on depression and anxiety of the elderly female hookah users in Iran and indicate that reminiscence is excellent when paired with other treatment strategies. These outcomes are also consistent with the work by Sukhawathanakul et al. (2021), who studied psychotherapeutic interventions for dementia in Canada and found that combining reminiscence therapy with psychoeducational therapy improved patients'

communication, collaboration, socialization, and restlessness, as well as their hope, life satisfaction, and spiritual well-being. Furthermore, the findings are in line with those of Duff (2018), who studied the assessment, management and support for people living with dementia and demonstrated that psychoeducational and reminiscence therapy may improve independence, cognition, and well-being in patients with dementia.

Indeed, incorporating the family caregivers by offering knowledge and education would aid families in enhancing their abilities, gaining insight into the situation, and coping with the burden of caring for a sick loved one. On the other hand, the family plays a crucial part in this. Caregiver self-care was addressed in this research as it relates to difficulties encountered by those caring for people with dementia. It is hoped that by doing so, caregiver s' own ability to cope and acquire new information would be enhanced. Caregivers also received training in dementia care, including how to recognize behavioral changes and manage behavioral difficulties in patients. According to Kate et al. (2013) who studied relationship of caregiver burden with coping strategies, social support, psychological morbidity and quality of life in the caregivers of schizophrenia in India and found that the requirement of family psychoeducation and reminiscence therapy enhance level of knowledge of the patients and caregiver care, resulting in a decrease in depression.

One of the main characteristics that set our intervention apart was the patients' recurrent performance of an activity they are all quite accustomed. We postulated that the ability of patients to perform previously known tasks (cognitive and non-cognitive behaviors) better explains how completing tasks while reminiscing about the activities activates lingering procedural memory. In addition, it is hypothesized that the combination of psycho-educational and reminiscence interventions has a synergistic effect on the functional abilities of elderly adults with moderate to severe dementia. Impaired cognitive and non-cognitive behaviors are clearly contributing to difficulties with daily living activities.

The lack of therapies specifically designed to enhance performance on tasks related to everyday life served as inspiration for our own attempt to create one. It seems to reason that a person's mental condition would improve if they were able to learn to accomplish a life-related action that had previously been difficult or impossible for them. In fact, our research shows that as people's moods improve, they tend to do better on tasks (Nakamae et al., 2014).

These outcomes are consistent with those of Thomas and Sezgin (2021) who studied a systematic review and meta-analysis: Effectiveness of reminiscence therapy in

reducing agitation and depression and improving quality of life in Ireland and cognition in long-term care residents with dementia and considered that the use of reminiscence and psychoeducational program to prevent cognitive decline, depressive symptoms, and poor life quality because it explicitly helps people validate their remaining cognitive abilities, especially their memory capacities, and to improve their self-esteem and interpersonal skills in patients with dementia.

The findings are consistent with Gonzalez et al. (2015) who studied reminiscence therapy and its effects in older patients with dementia in Spain and revealed that the combination of psychoeducational and reminiscence therapy can decrease depressive symptoms and increase psychological well-being, improving the life quality in patients with dementia. In addition, reminiscence therapy has some positive effects on depression, quality of life, and cognition in elderly people with mild to severe dementia who are admitted to long-term care institutions. While the outcomes of the present study are inconsistent with those of Duru-Aşiret and Kapucu (2016), who studied the effect of reminiscence therapy on cognition, depression, and activities of daily living for patients with Alzheimer disease in Turkey and revealed that reminiscence therapy alone did not differ between the intervention and control groups in terms of mobility, personal hygiene, eating, sleeping, and dressing in dementia patients.

The present study findings showed that psycho-educational program with reminiscence therapy more effective to alleviate depression symptoms than apply psycho-educational therapy alone, but in the follow up after 3 months of implementation of the program, the percentage increased, but it was no longer to before implementing the program, This may be attributed to the least period, many pressures and tension because of covid-19 and their mental and health consequence lead to increase in depression symptoms, all over there were evidenced to the effectiveness of program.

CONCLUSION:

Based on the results of this study, it can be concluded that psycho-educational program combined with reminiscence therapy were more effective in alleviating depression and in improving non-cognitive and cognitive behaviors among patients with dementia than psycho-educational program alone.

RECOMMENDATION:

This study's findings recommended that:

- Comprehensive management care plan concerning a combination of reminiscence therapy and psychoeducational program should begin with dynamic caregivers at an early stage of the disease for improving depressive symptoms, cognitive skills, task performance, and life quality for patients with dementia.
- Emphasizing the psychiatric nurses' roles on applying reminiscence therapy and psychoeducation therapy as therapeutic tools for patients with dementia in health organizations.
- Creating a national public health priority for patients with dementia, increasing societal awareness, changing professional attitudes about dementia, and implementing dementia policies and programs to help careers.
- Governmental and non-governmental organizations should incorporate reminiscence and psychoeducation therapy into dementia rehabilitation programs for the elderly persons.

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تاثيرات برنامج تثقيف نفسي منفردا ومدمجا مع علاج الذكريات على الاكتئاب والسلوكيات المعرفية وغير المعرفية لدى المرضى المصابين بالخرف

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الخلاصة

الخلفية: يعد الخرف حالة انتكاسة عصبية تدريجية تتميز بالتغير في العمليات المعرفية والسلوكية و العاطفية التى تحد من القدرة على تطوير أنشطة الحياة اليومية. **الهدف:** تهدف الدراسة إلى استكشاف تاثيرات برنامج تثقيف نفسي منفردا ومدمجا مع علاج الذكريات على الاكتئاب والسلوكيات المعرفية وغير المعرفية لدى المرضى المصابين بالخرف. **منهجية الدراسة: التصميم:** استخدمت دراسة شبه تجريبيه حيث اجريت الدراسة في قسم العيادات الخارجية بمستشفى الطب النفسي والصحة العقلية في ميت خلف بمحافظة المنوفية، مصر. من بداية نوفمبر 2021 حتى نهاية يونيو 2022. تم تصنيف عينة مستهدفة من 60 مريضًا تم تقسمهم بطريقة عشوائية إلى مجموعتين. ثلاثون مريضًا في مجموعة برنامج التثقيف النفسي منفردا و ثلاثون مريضًا في برنامج التثقيف النفسي مدمجا مع العلاج بالذكريات. **أدوات جمع البيانات:** استمارة الخصائص الشخصية، ومقياس كورنيل للاكتئاب المصاحب للخرف (A-CSDD) ومقياس تقييم مرض الزهايمر (ADAS) يستخدم لتقييم السلوكيات المعرفية وغير المعرفية لدى مرضى الخرف. **النتائج:** كشفت الدراسة أن المرضى في برنامج التثقيف النفسي مدمجا مع العلاج بالذكريات لديهم انخفاض أعلى في متوسط الدرجات الإجمالية في A-CSDD (٦٧.١٦ قبل، ٤٨.٧٣ بعد، ٥٠.٢٦ للمتابعة) و ADAS (٢٥.٠٣ قبل، ١٤.٤٣ بعد، ١٧.٨٠ للمتابعة) عن المرضى في برنامج التثقيف النفسي منفردا. و كان الفرق بين المجموعتين بعد الاختبار ذات دلالة إحصائية ($p\leq0.000$). **الخلاصة:** برنامج التثقيف النفسي مدمجا مع العلاج بالذكريات أكثر فاعلية في تخفيف الاكتئاب و تحسين السلوكيات المعرفية وغير المعرفية بين المرضى المصابين بالخرف عن البرنامج التثقيفى النفسي منفردا. **التوصيات:** يجب أن تبدأ خطة العلاج الشاملة التي تتضمن مزيجًا من العلاج بالتثقيف النفسي والعلاج بالذكريات مع مقدمي رعاية فعال في المرحلة المبكرة من الخرف.

الكلمات المرشدة: السلوكيات المعرفية، الخرف، الاكتئاب، السلوكيات الغير معرفية، برنامج تثقيف نفسي، و علاج بالذكريات