Effect of Nursing Intervention Program on Depressive Symptoms and Feeling of Loneliness among Elderly People

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Abstract

Background: Depression and loneliness are common mental health problems among elderly people and can result from complex interactions of risk factors. **Aim of the study:** To evaluate the effect of nursing intervention program on depressive symptoms and feeling of loneliness among elderly people at Kafr-ElSheikh City in Egypt. **Design:** A quasi-experimental design. **Setting:** The study was carried out at El-Safa Geriatric social club in Kafr-Elsheikh City, Egypt. **Sample:** A purposive sample of 50 elderly. Tools: Three tools were used in the present study; the first tool was a structured interview questionnaire consisted of two parts; the second tool was Beck Depression Inventory-II (BDI-II) and the third tool was UCLA Loneliness Scale Version 3. **Results:** The results revealed post-intervention statistically significant reductions in the score of depressive symptoms (P=0.02) and feeling of loneliness (P=0.01). The results also revealed the presence of a highly positive statistically significant correlation between depression and loneliness among the studied elderly (r=0.86). **Conclusion:** The study intervention was effective on reducing depressive symptoms and feeling of loneliness among the studied elderly. **Recommendations:** Applying the study intervention program for more improvements and other cognitive- behavioral therapies to decrease the risk of depression and loneliness among the studied elderly, with counseling clinics in the geriatric social clubs. Enhancement social interaction and establishing linkages with other governmental institutions.

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I- INTRODUCTION

Aging is a period in human life and it is a social necessity to address the problems and needs of this stage of life. Aging is considered to be a natural, physiological, and time-dependent process beginning at birth and continuing until the end of human life [1]. People around the world live longer. The proportion of the population in the world over 60 years will almost double from 12 to 22 percent between 2015 and 2050. All countries face several challenges to ensure that their health and social systems are prepared to make the most of this demographic shift [2]. In Egypt, the number of elderly people in 2017 reached 6.3 million (3.37 million males, 2.94 million females), 6.7% of the total population of Egypt [3]. Life expectancy in Egypt increased from 66.5 to 71.2 years for males and from 69.1 to 74.0 years for females during the period 2006 to 2018, indicating the enhancement of health services for the elderly [4].

Age is a major determinant of mental health. Decline in physical health, age-related brain changes, loneliness, lack of support from family, and financial dependence are important contributing factors to higher prevalence of old age behavioral and mental disorders. Depression is the biggest burden among the many mental disorders among the elderly [5].

Depression is not a normal part of the aging process. Depression is the most common psychiatric disorder among elderly people and can often be treated successfully, though it is often undiagnosed and untreated. Depression symptoms include: depressed mood, loss of enjoyment in activities, sleep problem, weight loss or gain, decreased energy, feeling of worthlessness and guilt, decision-making problems, slow movement, and recurrent thoughts of death or suicide or suicide attempt. Old age depression results from complex interactions of risk factors such as neurobiological aging changes, stressful life events, and a higher interaction with cognitive decline [6, 7].

Depression can have major medical and social consequences for the elderly's lives and can lead to poor health conditions and high costs of health care. Depression decreases elderly people's quality of life and increases dependence on others and may impair their ability to function and enjoy life. Early diagnosis and effective treatment of depression in old age offer opportunities to improve their quality of life, decrease mortality due to suicide and medical illnesses, reduce health care costs and maintain optimal levels of function and independence [5, 6].

Depression can be treated with pharmacotherapy and psychotherapies. The disadvantages of pharmacotherapies may be common in elderly people and there is a larger likelihood of drug interference. Different non pharmacological interventions as psychotherapies have been reported to decrease depressive symptoms in elderly adults without adverse effects [8].

Loneliness is the discrepancy between people's desired and achieved levels of social relationships. Loneliness is a highly prevalent problem among the elderly people across the world and is an indicator of social wellbeing. Loneliness is associated with old age, female sex, living alone, living in institutional care settings, loss of spouse, childlessness, low level of education, decrease income, poor health, lack of social contact and support, reduced physical activity, and psychological distress. Loneliness is associated with multitude negative physical and mental consequences, which leads to poor quality of life and increased risk of mortality. Loneliness is associated with depression, anxiety, sleep problems, schizophrenia, dementia, and cognitive decline. Loneliness has also been linked with negative physical health outcomes, decreased physical activity and increase in functional decline. Accordingly, there is an urgent and important need to focus on loneliness [9, 10].

Many studies have evaluated the effectiveness of several interventions on loneliness among the elderly. These interventions have used approaches such as conducting recreational activities, physical exercise, improving knowledge and networking with others by using educational, cognitive, and social support programs, reminiscence therapy, social engagement directed discussions, coaching, Internet use, and use of companion robots. Some of these interventions have been shown to reduce loneliness among the elderly [9, 11].

Nurses played a very critical role by educating, guiding, encouraging and monitoring the progress of the elderly with depression and loneliness. Nurses play a unique role in supporting and helping patients; by building dialogue with patients, nurses can begin to understand how elderly view themselves as individuals, what is important to them, and how their relation with others may affect their decisions and their ability to live with those

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decisions during their treatment and progress [12].

SIGNIFICANCE OF THE STUDY

According to World Health Organization, the proportion of elderly population is growing in a higher rate than any other age group worldwide. Mental disorders are widespread in old age and one of the most threats to elderly people mental health is depression. Loneliness is a common problem among the elderly people and has adverse physical and mental health consequences. Depression and loneliness in old age result from complex interactions of risk factors and if left untreated can impair physical, mental and social health of the elderly people and affect their overall quality of life. The numbers of nursing studies on psychological interventions for treating both depression and loneliness in elderly people are scarce especially in Egypt. Therefore, our study was conducted to evaluate the effect of nursing intervention program on depression symptoms and feeling of loneliness among elderly people.

AIM OF THE STUDY:

The aim of the existing study was to evaluate the effect of nursing intervention program on depression symptoms and feeling of loneliness among elderly people attending the El Safa Geriatric social club at Kafr-Elsheikh City, Egypt.

This aim has been achieved through the following objectives: -

1. Assess depression symptoms among elderly people pre and post nursing intervention.

2. Assess feeling of loneliness among elderly people pre and post nursing intervention.

3. Develop and implement nursing intervention program to reduce depression symptoms and feeling of loneliness among elderly people.

4. Evaluate the effect of nursing intervention program on depression symptoms and feeling of loneliness among elderly people.

Research Hypotheses:

1. After implementation of nursing intervention program, depression symptoms among elderly will be reduced.

2. After implementation of nursing intervention program, feeling of loneliness among elderly will be decreased.

II- SUBJECTS AND METHODS

2.1. Research Design: -

A quasi-experimental design was used to evaluate the effect of nursing intervention program on depression symptoms and feeling of loneliness among elderly people.

2.2. Study Setting: -

The study was done at El Safa Geriatric social club in Kafr-Elsheikh City. This club provides leisure and social services at low cost for elderly participants. All elderly can go to this club from 9 AM to 3 PM from Saturday to Thursday.

2.3. Subjects: -

The study sample composed of 50 elderly participants from the above-mentioned setting who fulfilled the following inclusion criteria; (1) Age: 60 years and older, (2) Affected by depression symptoms and loneliness, (3) Not receiving antidepressant drugs, (4) Free from any speech or hearing problems, (5) Attending the club regularly and (6) Not participate in any other interventional study.

Exclusion criteria were; intense suicidal intent, drug dependence, presence of hallucinations or delusions, and cognitive deficits.

Sampling technique: Purposive sampling technique was used in this study.

Sample size calculation: Size of the sample was calculated using (EPI Info software program version 6.04). It was based on prevalence of depression symptoms among elderly in a study conducted in a similar study setting, which was 32.7% [13]. The sample size was 50 assuming that the elderly population attending the geriatric social club is 400 elderly (Based on the records of the geriatric social club), desired precision 90%, and at confidence level 95%.

2.4. Tools for data collection: -

Tool I:_A structured interview questionnaire: It consisted of two parts:_

Part 1: Demographic characteristics of the studied elderly:

Data about demographic characteristic of the study sample as age, sex, educational level, current working status, marital status, etc.

Part 2: History of chronic diseases and medications:

This part included questions about type of chronic diseases as hypertension, diabetes, orthopedic diseases, renal diseases, and cardio-vascular

diseases ...etc. In Addition to, the number of medications used to take daily.

Tool II:*Beck Depression Inventory-II (BDI-II) Scale:*

The BDI-II scale is one of the common widely used screening tools for assessment of depression. The BDI-II is a 21-item self-reported questionnaire that was developed originally to rate the severity of depression. And has good psychometric qualities as a screening tool for assessment of depression. It takes 5-10 minutes to administer. The responses are on 4-point Likert scale according to the level of severity of symptoms of depression from "no symptoms" to "severe symptoms" [14].

Scoring: The BDI-II is scored by summing the 21 items rating scores. Each item is rated on a 4-point scale ranging from 0 to 3 (scored 3 "I often feel this way", 2 for "I sometimes feel this way" 1 for "I rarely feel this way" and 0 for "I never feel this way"). Special consideration must be paid to the scoring of (the Changes in Sleeping Pattern (Item 16) and Changes in Appetite (Item 18) items). The scores of the 21 items are summed up for a maximum total 63. The level of depression is categorized as follows: (Total score of 0-13 is considered minimal range, 14-19 is mild, 20-28 is moderate, and 29-63 is severe).

Tool III: *UCLA Loneliness Scale Version 3:*

UCLA Loneliness Scale Version 3 is a twenty-item scale developed to measure one's subjective feelings of loneliness in addition to feelings of social isolation. UCLA Loneliness Scale Version 3 is a revised version of both the original UCLA Loneliness Scale and the Revised UCLA Loneliness Scale; (the first revision was done to make 10 of the 20 original items reverse scored and the second revision was done to simplify the scale so less educated populations could comprehend it). [15]. The Arabic version of the UCLA Loneliness Scale Version 3 adapted by **Daswqee** [16] was used in this study.

Scoring: The UCLA is a 20 item Likert-type scale in which responses range from 1 (never) to 4 (always). The scale includes; (9 positively worded items (1, 5, 6, 9, 10, 15, 16, 19, and 20) and 11 negatively worded items (2, 3, 4, 7, 8, 11, 12, 13, 14, 17, and 18) randomly distributed throughout the scale). Positively worded items score-reversed (1=4, 2=3, 3=2, 4=1), and the scores for 20 items then summed together. Total score ranges from 20 to 80 with higher score

indicating greater feelings of loneliness [15]. The total score was categorized into three levels, mild (21-40 point), moderate (41-60 point) and severe (more than 60 point).

2.5. Preparatory phase: -

Based on review of literature about depression and loneliness in the elderly using textbooks, web sites, and articles in the scientific periodicals and journals; the researchers prepared the data collection tools including A structured interview questionnaire, Beck Depression Inventory-II (BDI-II) Scale, and UCLA Loneliness Scale Version 3. The review has also helped in a basic framework of the study intervention program.

2.6. Content validity: -

The study tools were translated into Arabic, and then reviewed by experts from the departments of Psychiatric and Mental Health Nursing and Gerontological Nursing at the Faculty of Nursing, Zagazig University and Kafr-Elsheikh University. The tools were assessed for clarity, relevance and comprehensiveness and then all the recommended modifications were done.

2.7. Content reliability: -

Reliability of tools was assessed through estimating test-retest reliability and measuring their internal consistency. Test-retest reliability was done by the researchers through administrating the same tools of data collection to the same participants under similar conditions on two or more occasions. Internal consistency of the tools was assessed by calculating Cronbach alpha coefficients (0.72 for Beck Depression Inventory-II (BDI-II) Scale and 0.84 for UCLA Loneliness Scale Version 3).

2.8. Pilot study: -

Before performing the current study, a pilot study was done on 5 elderlies from the study setting. The pilot was done to test the questionnaire for any ambiguity, and to assess the feasibility and practicability of using the interview questionnaire sheet and to assess the needed time for filling out the sheets (30 to 40 minutes). The necessary modifications were done according to the pilot study results. Subjects in the pilot study were involved in the main study sample.

2.9. Fieldwork: -

The fieldwork was done within 6 months. This included the phases of assessment, planning, implementation, and evaluation of the study intervention program.

- Assessment phase: It included pre-intervention

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program data collected for baseline assessment. Researchers explained the study purpose to the elderly and oral consent for participation was obtained. The researchers read and explained each item of the study scales to the elderly and then recorded his/her response to each item. The time consumed for answering the study tools ranged from 30 to 40 minutes. Data was analyzed to be a basis for building-up the nursing intervention program according to identified needs.

- Planning phase: Based on the results obtained from the data analysis of the assessment phase, and in view of the pertinent literature about depression and loneliness, the researcher developed the nursing intervention program and sessions contents according to the elderly needs and the study objectives. Identified needs, requirements and deficiencies were translated into aim and objectives of the nursing intervention and set in the form of a booklet. The nursing intervention program consisted of six sessions. The first session was for giving the basic knowledge about depression and loneliness and their effects on physical health, the second session of the intervention program was focused on social interaction facilitation which involved shared interest topics as well as friendships building, the third session addressed recreational activities development such as reading ,watching TV, playing exercise and listening to radio, the fourth session included mindfulness and stress reduction techniques, the fifth session involved cognitive therapy to change ruminative thoughts, and the sixth session implicated improve elderly self-esteem.

- Implementation phase: The intervention program was offered to the studied elderly in the form of six sessions for small groups to give more chance for discussions, interactions, and practical training. The total sample was divided into small groups (6 to 8 elderly in each group). All groups received the same content using the same teaching methods, media, discussions, and the same booklet. The length of each session was variable according to elderly's responses and active participation, as well as the time available, and the content of each session. To ensure that the studied elderly understand the content, every intervention program session started by a summary of previous session and the objectives of new session. Motivation, reinforcement and simple language were used to enhance active

participation and foster learning. The sessions were aided by using pictures, posters, as well as the booklet.

- Evaluation phase: The evaluation of the effectiveness of the study nursing intervention program was done after its implementation. A post-test was carried out after two months of completion of the intervention. This was done using the same data collection tools of the pre-test.

2.10. Ethical Considerations: -

For participation in the study, an informed consent was taken verbally from each of the elderly subjects after explaining the study purpose. They were notified that they could withdraw at any time and that any information taken from them was for the research purpose only and also would be confidential. The researchers' phones numbers and all possible communicating methods were identified to the participants to return at any time for any explanation.

2.11. Administrative Design: -

An official permission for data collection and implementation of the study intervention program was done by official letters issued from Dean of the Faculty of Nursing at Kafr-Elsheikh University to the director of El Safa Geriatric Club in Kafr-Elsheikh City. Researchers visited the director of the Geriatric Club and explained the study purpose and importance.

2.12. Statistical Design: -

Data were organized and statistically analyzed using SPSS version 19 (Statistical Package for Social Studies, created by IBM, Illinois, Chicago, USA). Data was presented in the form of frequencies and percentages for qualitative variables and means and standard deviations for quantitative variables. For detecting statistical differences between variables; chi square test was used (when chi square test was not suitable due to presence of observations with small number, Monte Carlo exact test was used). Correlations between the studied variables were calculated by Pearson's correlation coefficient variables. For determining the reliability of tool of data collection by their internal consistency; cronbach alpha coefficient was calculated. Statistical significance was considered at (p-value < 0.05).

III- RESULTS

Table 1 demonstrates that 68% of the elderly their age ranged between 60 to less than 70 years, the mean of age was 65.9±5.9 years. As regard to

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gender and marital status, 52% and 50% of the studied elderly were females and widowed, respectively. Concerning the educational level of the elderly, 32% of them were illiterate and 48% of them had primary education. Almost all of the studied elderly were not working (92) and residing in urban areas (92%).

Table 2 shows that 92% of the elderly were having chronic diseases and 66% of them were receiving medications regularly for these chronic diseases. According to the table the most common diseases as mentioned by the studied elderly were hypertension (60%), GIT problems (58%), and arthritis and osteoporosis (44%).

Table 3 illustrates statistically significant reductions in levels of depression symptoms among the studied elderly pre and post intervention (P=0.02).

Table 4 demonstrates statistically significant decreases in levels of loneliness among the studied elderly pre and post intervention (P=0.01).

Figure 1 displays the correlation between the scores of depression and loneliness among the studied elderly. It implies the presence of a highly positive statistically significant correlation between the scores of depression and loneliness among the studied elderly (r=0.86).

Table 5 demonstrates statistically significant associations between depression among the studied elderly and their age, marital status and educational level at P< 0.05. It is evident that the scores of severe depressive symptoms were increasing with elderly aged 70 years and more, widowed and divorced elderly, and illiterate and primary educated elderly. No statistically significant relations could be found with the other demographic characteristics.

Table 6 indicates highly statistically significant associations between feeling of loneliness among the studied elderly and their residence and marital status at P< 0.01. It is evident that the scores of severe loneliness were increasing with widowed elderly and elderly residing in urban areas. No statistically significant relations could be found with the other demographic characteristics.

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Table 1: Frequency distribution of studied elderly according to their demographic characteristics (n=50).

items		N	%
Age	60-	34	68
	70+	16	32
	Mean ± SD 65.9±5.9		
Sex	Male	24	48
	Female	26	52
Residence	Rural	4	8
	Urban	46	92
Marital status	Single	6	12
	Married	11	22
	Divorced	8	16
	Widowed	25	50
Education	Illiterate	16	32
	Primary	24	48
	Secondary	6	12
	University	4	8
Current Working	Working	5	10
	Not	45	90
Children	1-2	10	20
	3-4	30	60
	5	4	8
Living	Wife	11	22
	Children	15	30
	Relatives	10	20
	Alone	14	28
Source of income	Pension	23	46
	Social Support	17	34
	Relatives	10	20
Income	Not Enough	20	40
	Enough	26	52
	Enough and more	4	8

Table 2: Frequency distribution of the studied elderly according to their medical history and medication (n=50).

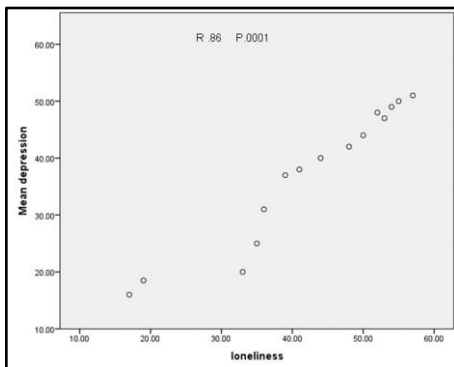| Items		N	%
Chronic diseases	Yes	46	92
	No	4	8
Types of chronic diseases	Hypertension	30	60
	Diabetes	14	28
	Cardiac diseases	11	22
	Arthritis and osteoporosis	22	44
	Renal	0	0
	Chest	7	14
	GIT problems	29	58
Follow medication regimen	Yes	33	66
	No	17	34

Table 3: Total levels of depression symptoms among the studied elderly pre intervention versus post intervention (n=50).

Depression Symptoms	pre		Post		X²	P
	n	%	n	%		
Mild	13	26	14	28		
Moderate	11	22	22	44	7.3	0.025
Severe	26	52	14	28		

Table 4: Total levels of loneliness among the studied elderly pre intervention versus post intervention (n=50).

Feeling of loneliness	pre		Post		X²	P
	n	%	n	%		
Mild	7	14	19	38		
Moderate	12	24	13	26	9.02	0.01
Severe	31	62	18	36		

Figure 1: Correlation between depression score of the studied elderly and their score of loneliness (n=50).

Table 5: Association between demographic characteristics of the studied elderly and their level of depression (n=50).

items	Mild		Moderate		Severe		X²	P
	N	%	N	%	N	%		
Age								
60-	12	35.3	9	26.5	13	38.2	8.36	.015
70+	1	6.3	2	12.5	13	81.2		
Gender								
Male	6	25	8	33.3	10	41.7	3.6	.1
Female	7	27	3	11.5	16	61.5		
Residence								
Rural	2	50	1	25	1	25	1.59	.45
Urban	11	24	10	21.7	25	54.3		
Marital Status								
Single	2	33.3	3	50	1	16.6		
Married	6	54.5	4	36.3	1	9.2	18.7	.004
Divorced	1	12.5	2	25	5	62.5		
Widowed	4	16	2	8	19	76		
Education								
Illiterate	2	12.5	3	18.7	11	68.7		
Primary	4	16.6	6	25	14	58.4	12.1	.04
Secondary	4	66.6	1	16.6	1	16.6		
University	3	75	1	25	0	0		

Table 6: Association between demographic characteristics of the studied elderly and their total level of loneliness (n=50)

items	Mild		Moderate		Severe		X²	P
	N	%	N	%	N	%		
Age								
60-	4	11.8	7	20.6	23	67.6	1.4	.48
70+	3	18.8	5	31.2	8	50		
Gender								
Male	5	20.8	7	29.2	12	50	3.1	.2
Female	2	7.7	5	19.2	19	73.1		
Residence								
Rural	2	50	2	50	0	0	10.1	.006
Urban	5	10.9	10	21.7	31	67.4		
Marital Status								
Single	1	16.7	1	16.7	4	66.6		
Married	4	36.4	5	45.4	2	18.2	19.8	.002
Divorced	1	12.5	4	50	3	37.5		
Widowed	1	4	2	8	22	88		
Education								
Illiterate	1	6.3	3	18.7	12	75		
Primary	2	8.3	6	25	16	66.7	9.1	.1
Secondary	2	33.3	2	33.3	2	33.3		
University	2	50	1	25	1	25		

IV- DISCUSSION

A review identified a wide range of health outcomes associated with loneliness and social isolation including depression, cardiovascular disease, general health and quality of life, cognitive function and mortality [17]. Older people are particularly vulnerable to loneliness owing to deteriorating physical health, death of spouses, living alone, and decrease meaningful relationships [18]. The present study aimed to evaluate the effect of nursing intervention program on depressive symptoms and feeling of loneliness among elderly people at Kafr-ElSheikh City in Egypt.

The study was carried out on 50 elderly people. More than two thirds of the elderly age ranged between 60 to less than 70 years; with a mean 65.9±5.9 years. This is consistent with the fact that older adults are defined as those age 60 years old and above. The finding is incongruence with previous studies such as **Sayied et al.** [19] who stated that more than two thirds of the studied group aged less than 70 years and **Sayied and Abd-Elaziz** [20] who carried out a study in Assuit city in Egypt, found that most of the participants were 66.3±4.8 years. In contrast a comparative study in Egypt by **Abd Allah et al.** [22] demonstrated that the institutionalized elderly was significantly more aged, with mean age 75.2 years compared to 72.6 years in non-institutionalized ones.

According to the present study, more than half of the elderly were females and almost all living in urban areas. This finding might be attributed to the

setting of data collection. Furthermore, the culture of the civil society differs from rural society because it considers the sons ungrateful to their parents when entering them to geriatrics social clubs. This is goes on line with **Sayied and Abd-Elaziz** [20] study in Assiut city in Egypt, the results revealed that all of the participants are women and from urban areas. On contrary, a comparative study in Egypt by **Abd-Allah et al.** [22] found equal gender distribution in the two groups.

In the present study, about one-half of the studied elderly were widow and primary educated, one-third of them living alone and almost all not working. A possible explanation for that may be due to with advancing age, it's inevitable that people lose connection with friendship and they find it more difficult to actively participate to their working. This is inconsistent with the findings reported by **Sayied and Abd-Elaziz** [20], who stated that about three quarters of the studied groups were widow, less than half of the studied groups living alone and less than one- third of them have secondary school. Nonetheless, the present findings are partially supported by **Nikmate et al.** [21] in Malaysia, who reported that 58.2% of the participants were single or separated and 56.4% having primary school education.

The ultimate goal of the present study was to reduce depressive symptoms and loneliness feeling among elderly people. The present study findings demonstrated slightly more than half of the elderly people had a severe depressive symptom at the pre intervention phase. This is an alarming result given the negative effect on elderly personal and lifestyle. The severe level of depressive symptoms is certainly related to that the elderly looks to the all-unpleasant events in his /her own mind such as being lived alone, loss of significant person in ones' life, unable to work and become dependent on their sons and society. Therefore, these ruminative thoughts led to feeling of disappointed, hopeless and helplessness.

Incongruence with this, **Nikmate et al.** [21] study in Malaysia, indicated that 80% of the older adults having major depression and feeling very socially isolated. In another study on elderly population in Egypt by **Abdallah et al.** [22], showed that more than two thirds of the institutionalized elderly had moderate to severe depression, compared with only around a half of the non- institutionalized ones. On the other hand, **Sayied and Abd-Elaziz** [20] reported that 76% of the older adults in the intervention group and 68% in the control group had moderate depression level.

The implementation of the current study intervention led to significant reduction in elderly subjects' depressive symptoms level, which confirms the set research hypothesis. The success of the present study intervention was due to helping elderly people to express their feelings, change their negative thoughts and increase their self-confidence, which results in change in their depressive symptoms, isolated behavior and to be alone. On the same line, **Sayied and Abd-Elaziz** [20] study on the effect of counseling sessions as a nursing intervention on depression and loneliness among elderly at Assiut city in Egypt, demonstrated a highly statistically significant reduction in depression among the studied elderly people.

Moreover, **Abd Allah et al.** [23] in a study in Zagazig city in Egypt on pre-retirement employees, found slightly less than half of the participants had a severe level of depression symptoms at the pre intervention phase, these were reversed at post intervention to only one participant; these improvements were statistically significant.

Likewise, the present study findings demonstrated that less than two thirds of the studied elderly had a severe loneliness feeling at the pre intervention phase. This may be due to the loss of a significant person in ones' life or as a result of dysfunction of communication and close family tie. This is consistent with the findings reported by **Nikmat et al.** [21] in Malaysia, who stated that the mean score of loneliness was 8.5 indicating that the participants in this study were very isolated. Moreover, **Abd-Allah et al.** [22] demonstrated a high prevalence of moderate to severe loneliness among both institutionalized and non-institutionalized ones.

Also, the implementation of the present study intervention was successful in significantly decreasing the feelings of loneliness among the studied elderly. This success may be attributed to providing the elderly people with supportive and comforting environment that enhances the communication and interactions with other people who have similar concerns and experiences. In agreement with this study, **Sayied and Abd-Elaziz** [20] in Assiut city found a highly significant difference between mean scores of the intervention and control group. This result suggests that

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counseling sessions was effective on reducing loneliness among elderly people. Also, **Heo et al.** [24] stated that a higher internet use was a predictor of higher levels of social support and reduced loneliness.

On the same line, **Cresswell et al.** [25] who used mindfulness and stress reduction intervention and **Saito et al.** [26] who used cognitive and social support intervention were all helpful in decreasing loneliness significantly. On the other hand, a study which used a psychological group rehabilitation intervention did not show decreasing in loneliness, but found enlargement in numbers of friendships in study intervention group [27].

The foregoing present study also demonstrated a highly significant positive correlation between depressive symptoms scores and loneliness scores among elderly people. Indicating thereby that when loneliness feelings rising, the depressive symptoms increasing. This might be due to lack of social contact and decrease an emotional attachment from a partner or a friend leading to poorer mental health including depression. In accordance with these findings, a study in Assuit city in Egypt by **Sayied and Abd-Elaziz** [20] who found that there was statistically significant highly positive correlation between depression and loneliness.

On the same line, **Nikmat et al.** [21] study in Malaysia, revealed that depression and loneliness are interrelated and influence each other. Also, they indicated that there was a positive correlation between depression and loneliness. Moreover, another study in the United States by **Teo et al.** [28] who found that the in-person social contact with friends and family predicts risk of depression in elderly. In contrast, **Abd Allah et al.** [22] study in Egypt found that the scores of depression had statistically significant negative correlation with the scores of loneliness among older people.

Concerning the demographic characteristics that could influence the depressive symptoms, as well as loneliness feelings, the present study revealed that depressive symptoms increased with elderly aged 70 years and more, widowed and divorced elderly, and with illiterate and primary educated elderly. This could be because of the lack of social support due to death of spouses or partners. In addition, the older adults more likely to live alone, this led to increase feelings of sadness and depression. On the same point, **Nikmat et al.** [21] in Malaysia, found that depression was strongly associated with age, education and moderate association with marital status. Also, **Chauhan** [29] study in India, showed that age older than 70 years was associated with a significant increase in the prevalence of depression.

As regard loneliness feelings, the present study revealed that loneliness increased in elderly residing in urban areas and widowed and single elderly. It might be explained that civil society is characterized by lack of mixing and friendliness, this increases feelings of loneliness among elderly people. Unlike our results, a study by **Abd Allah et al.** [22] on loneliness and depression among institutionalized and non-institutionalized elders in Egypt, revealed that elderly's income was the only statistically significant independent positive predictor of loneliness.Meanwhile, religious practices and numbers of visiting were negative predictors. Similarly, **Nikmat et al.** [21] study in Malaysia, stated that age, financial condition and cognitive impairment were moderately associated with loneliness and social isolation.

V- CONCLUSION

It was concluded that the study intervention program was effective on reducing depressive symptoms and feeling of loneliness among the studied elderly. The results revealed post-intervention statistically significant improvements in the score of depressive symptoms and feeling of loneliness. There was a highly positive statistically significant correlation between depression and loneliness among the studied elderly.

VI- RECOMMENDATIONS

It is recommended to apply the study intervention program for more improvements and other cognitive-behavioral therapies to decrease the risk of depression and loneliness among the studied elderly, with counseling clinics in the geriatric social clubs. Enhancement social interaction and establishing linkages with other governmental institutions. It is recommended to repeat this intervention program to verify the findings. Further research is required to assess to what extent nursing interventions and educational programs to improve depression and loneliness can have positive effects on the quality of life of the elderly.

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