

Effect of Cognitive Behavioral Nursing Intervention on Depression and Anxiety among Patients on Maintenance Hemodialysis

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Abstract

Introduction: Chronic kidney disease (CKD) is a growing public health problem worldwide with treatment options of either lifelong hemodialysis or renal transplant. The maintenance hemodialysis patients usually experience high levels of psychological stress result in psychological distress symptoms, such as depression and anxiety.

Aim: This study aimed to assess the effect of applying the Cognitive Behavioral Nursing Intervention on depression and anxiety among patients on maintenance hemodialysis.

Methods: A quasi-experimental research design [pretest -posttest] was used in this study, in the dialysis units of the New Mansoura General Hospital. The instruments used for data collection were Socio-demographic and Clinical Data Structured Interview Schedule, Beck Depression Inventory-II and Beck Anxiety Inventory. Forty one patients completed the study after applying the Cognitive Behavioral Nursing Intervention with 12 weekly sessions.

Results: there was a statistical significant difference in scores of depression and anxiety between pre and post the intervention.

Conclusion: the cognitive behavioral interventions can be effectively utilized for patients on maintenance hemodialysis in order to obtain control over their negative thoughts, thereby reducing levels of depression and anxiety in a desirable way.

Recommendation: Cognitive behavioral interventions should be used in conjunction with usual treatment for hemodialysis patients.

Keywords: Chronic Kidney Disease; Hemodialysis; Cognitive Behavioral Interventions; Depression; anxiety

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I. Introduction

Chronic kidney disease (CKD) is a significant and a worldwide public health problem in current times; it is an irreversible loss of kidney function, structure persisting greater than 3 months (Egbi, Ogunrin, & Oviasu, 2015). The annual incidence of CKD in Egypt is nearly seventy four per million and the prevalence of hemodialysis patients is two hundred sixty four per million (Ahmed & Younis, 2014).

Hemodialysis is a sustained symptomatic treatment that adversely affects patients both physically and mentally resulting in psychological problems, including depression, anxiety, poor life quality, fatigue, and high suicide risk. The global effects of maintenance hemodialysis lead to changes in the patient's social and occupational functions, with feelings of control loss, helplessness, decrease the patient's self-esteem, loneliness, inhibiting coping, fatigue, sleep problem, loss of employment, huge economic burden, social interaction limitation, body image disorder and fear of death (Wang & Chen, 2012; Youssef & Neemat-Allah, 2013). Furthermore, it is also not surprising; hemodialysis patients report high rates of psychological distress. The prevalence of psychiatric hospitalization among them is 1.5-3 times higher compared to other chronic diseases (Baykan & Yargic, 2012).

Depression and anxiety are the most common psychiatric disorder that CKD patients are hospitalized for and have been linked to greater mortality. The prevalence of significant depressive symptoms using self-rating scales in patients on maintenance hemodialysis ranges from 10 to 66 % (Al Zaben et al., 2014). Despite the importance of mental health, health care providers remain unaware of both the presence and severity of psychological disorders among patients on maintenance hemodialysis. (Feroze, Martin, Reina-Patton, Kalantar-

Zadeh & Kopple, 2010). Depression and anxiety are easily neglected and can be seen as patients' response to their loss, including physical abilities, sexual function, and role in their family and employment. Thus, many patients did not identify symptoms of depression and anxiety or the necessity to treat these disorders and they have perceived barriers for medical help (Johnson & Dwyer, 2008).

Hence, it is critical to deepen the knowledge regarding correlates that could identify patients on maintenance hemodialysis who are at increased risk of mental disorder, so that healthcare providers must focus on these contributing factors addressed to develop strategies and improve their quality of life (Wang et al., 2015). Like other mental illnesses, depression and anxiety have both biological and psychological interventions. Psychological interventions include Cognitive Behavioral Therapy (CBT) that aimed to correct false interpretations, strengthen constructive coping skills, create a sense of control over life and improve mental health (Mehrtak, Farzaneh, Rajaei-Khiavi, Arezo, & Aziz, 2016).

Cognitive Behavioral Therapy is a short-term focused psychotherapy for many psychological disorders, including depression and anxiety. The focus of this therapy is on how the client is thinking, behaving, and communicating in the present rather than on childhood experiences (Beck, 2011). Thus, CBT helps patients learn effective self-help techniques that are used in homework assignments that target changes in the way they think, feel, and behave (Hedayati et al., 2016). In addition, CBT was shown to be efficacious as a first line intervention for depression and anxiety in the general population. Moreover, it does not cause the potential side effects associated with common anti-depressant or anxiolytic drugs that may add to the already high pill burden for hemodialysis patients (Hollon & Ponniah, 2010).

One of the primary barriers to appropriate nursing care for depression and anxiety in hemodialysis patients is the additional burden that an additional doctor's appointment imposes. The current study attempted to minimize this barrier, by offering the intervention for these patients. The study acknowledges that reducing efforts required to see a mental health professional, makes mental nursing care accessible to patients who might not have been motivated enough to attend traditional mental health visits.

Significance of the study

Most of the studies that assessed the levels of depression and anxiety in patients on maintenance hemodialysis reported that the prevalence of depression among these patients was 80% included in the category of moderate to severe depression (Hamody, Kareem, Al-Yasri, & Ali, 2013) and the prevalence of anxiety was 46% (Cukor, Coplan, Brown, Peterson & Kimmel, 2008). A considerable number of studies have been undertaken to evaluate and further investigate the psychological problems of patients on maintenance hemodialysis but few studies, especially in Egypt, have been undertaken to manage these psychological problems. Therefore, it is deemed necessary to conduct this study to assess the effect of applying the Cognitive Behavioral Nursing Intervention on depression and anxiety among patients on maintenance hemodialysis.

Aim of the study

This study aimed to assess the effect of applying the Cognitive Behavioral Nursing Intervention on depression and anxiety among patients on maintenance hemodialysis.

Hypothesis

Cognitive Behavioral Nursing Intervention has an effect on decreasing depression and anxiety among patients on maintenance hemodialysis.

II. Subjects and Method

Design

A quasi- experimental research design [pretest -posttest] was used in this study.

Setting

The study was conducted at the Dialysis Units of the New Mansoura General Hospital.

Subjects

Simple random sample method was used to select patients for this study; their numbers amounted to forty four patients after screening of all patients attending hemodialysis units at the beginning of the study (238 Patients). Patients were divided into four groups; two male groups (each group consists of 12 patients) and two female groups (each group consists of 10 patients). However, the final number of the sample size amounted to forty one patient who completed the CBT as three of the original number withdrawn from the study for different reasons (see Figure 1).

Inclusion criteria

1. Patients who had mild, moderate or severe levels of depression and anxiety according to Beck Inventories.
2. Patients who were on maintenance hemodialysis for a period of (3–36) months.
3. Age: from twenty to forty years old.
4. Gender: both males and females.
5. At least 12 years of education.
6. Patients who agreed to participate in the study.

Exclusion criteria

- 1- Patients with scores of < fourteen, i.e., below the threshold validated for depression on the Beck Depression Inventory-II.
- 2- Patients with scores of < eight, i.e., below the threshold validated for anxiety on Beck Anxiety Inventory.
- 3- Receiving any type of psychiatric treatment such as psychotropic drugs or any form of psychotherapy at the time of the study.

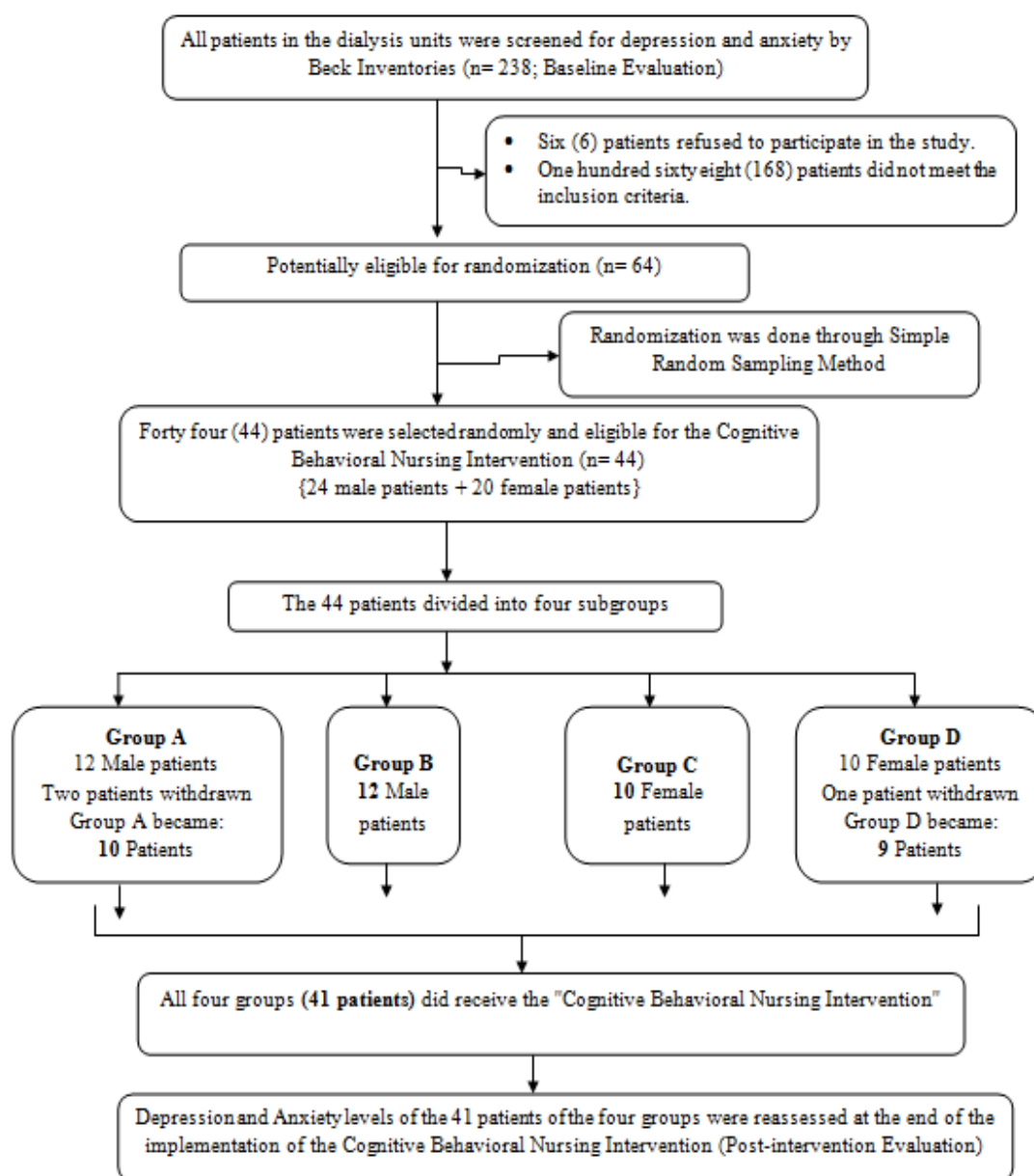


Figure (1). Schematic of Patients Recruitment and Study Procedures as modeled by the Researchers

Tools for data collection

- 1. Socio-demographic and Clinical Data Structured Interview Schedule.** This questionnaire was developed by the researchers to assess demographic and clinical data related to the patients such as: sex, age, marital status, residence, occupation, years of education, duration of hemodialysis and hemodialysis co-morbidity.
- 2. Beck Depression Inventory-II (BDI-II).** This scale was developed by Beck, Steer, and Brown (1996) in response to the American Psychiatric Association's publication of the "Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)". It was translated into Arabic language and validated by Ghareeb (2000). Its t-test- re-test reliability was 0.74 and Alpha reliability was 0.83. This tool consisted of twenty-one items, and the intensity of each item varies according to the degree of symptom severity. A score of 0-13 refers to absence of depression; 14-19 mild depression, 20-28 moderate depression and 29-63 severe depression.
- 3. Beck Anxiety Inventory (BAI).** This scale was originally developed by Beck, Epstein, Brown, and Steer (1988) to measure the symptoms of anxiety in adult patients. It was translated into Arabic language and validated by Al- Nehar and Al- Zubaidi (2000). Its t- test – re- test reliability was 0.83 and Alpha reliability was 0.90. The BAI has 21 items that assess anxiety intensity. A score of 0-7 refers to a minimum level of anxiety; 8-15 mild anxiety, 16-25 moderate and 26-63 severe anxiety.

Pilot study

A pilot study was conducted on 5 patients on maintenance hemodialysis before screening all patients from the dialysis units of the New Mansoura General Hospital for testing clarity, arrangement of content and applicability of items, also to determine the time required to fill in the constructed tools of the research. Subjects who shared in the pilot study were excluded from the study sample.

Method

Permission was granted from the manger of the Health care providers and the head nurse of the dialysis units were informed about the aim of the study, time of data collection and all necessary details to gain their cooperation during the data collection process.

Tool (1) was developed by the researchers after reviewing the related literature. It included socio-demographic and clinical data related to the subjects.

Individually, each patient was interviewed to obtain the required data. The researcher introduced himself to the patient at the beginning of the interview, and discussed the aim of the study.

Applying tools 2&3 to assess patients with depression and anxiety. Patients with mild, moderate and /or severe depression and anxiety were included in the study.

The intervention consisted of twelve semi-structured interview sessions; each session lasted for 30 - 45 minutes along 12 weeks duration. The sessions for all groups were conducted before the dialysis treatment session to avoid patients' fatigue at the patients' lounge. Patients were helped to identify the real benefits that will accrue to them after participating in the intervention to encourage the active participation.

The first session included a written and verbal protocol for cooperation between the researcher and members of each group. This protocol sets the grounded rules of each group and the instructions of the program.

At the beginning of each session, the researcher welcomed the patients of each group, reassured them, assessed their physical and emotional status, and setting goals for each session that included the discussion of the prior homework from the last session and how to achieve the purpose of each session. Homework of each session provided in simple language supported by training during the sessions using case studies and illustrations.

Immediately, after the implementation of the cognitive behavioral nursing intervention at the end of the 12th session, the researcher reassessed the studied patients using the study tools 2&3. The study started from April 2016 to July 2016.

Ethical consideration

An approval from the Research Ethical Committee of the Faculty of Nursing, Mansoura University was obtained. Patients' informed consent to voluntarily participate in the study was obtained after explanation of the research aim. Patients were reassured that they have the right to drop out the study at any stage without any negative consequences. Patients were reassured that the collected data would be treated with confidentiality and it would be used only for the purpose of the research. Patients' privacy was respected.

Statistical design

Data were investigated by SPSS version 21. The data normality was firstly tested by one-sample "Shapiro-Wilk test". Continuous variables were described using "Mean \pm SD (standard deviation)" for

parametric data. The pre and post data were compared using "Paired Sample t test" (parametric data). For all statistical tests, the threshold of significance is fixed at "5%" level (p-value)".

Cognitive Behavioral Nursing Intervention Sessions

Session one: Mutual understanding and rapprochement.

Procedure:

- Ice breaking can be an effective method of beginning a training session or team building event.
- Develop a written and verbal protocol for cooperation between the researcher and members of each group.

Homework:

- Develop easy homework assignments aiming to recognizing the patients' problem orientation like creating a stress list.

Session two: Psycho-education about Depression and anxiety.

Procedure:

- Group discussion and psycho-education.
- Practice identifies thoughts and may rate emotions accompanied with life stresses.

Homework:

- Establish self-monitoring homework assignments for the patients so that they may practice identifying cognitions and may rate emotions associated with life stressors.

Session three: Identification of automatic thoughts and cognitive distortions.

Procedure:

Train patients to use the daily thought record technique to reframe their thoughts. **Homework:**

- Practice the daily thought record technique between sessions for using the written form.

Session four: Relaxation techniques.

Procedure:

- Train patients on three relaxation techniques; Diaphragmatic deep breathing, pursed-lips breathing and mindfulness meditation.

Homework:

- Practice the learned techniques between sessions at home with written feedback.

Session five: Dealing with cognitive distortions.

Procedure:

- Train patients on "Examine the Evidence" record technique.

Homework:

- Practice to challenge the distortions of cognitions which present as barriers to autonomy and social roles through using "Examine the Evidence" record technique at home.

Session six: Using of systematic desensitization to overcome anxiety.

Procedure:

- Train patients on systematic desensitization technique.

Homework:

- Continue practicing the learned relaxation techniques as well as systematic desensitization technique between sessions at home.

Session seven: Problem solving skills training.

Procedure:

- Train patients on generating alternatives record technique and steps of problem-solving.

Homework:

- Recommend that each patient applies problem-solving skills by following the steps of problem solving and by using the Generating Alternatives record technique for at least two problems between sessions at home.

Session eight: Behavioral activation.

Procedure:

- Train patients on Activity Schedule using the activity record technique.

Homework:

- Guide patients to record and rate at least 1 or 2 activities each day on the Activity Schedule using the activity record technique.
- Ask each patient practice problem solving strategies, using the Generating Alternatives record technique.

Session nine: Reevaluating and prioritizing stressors and coping strategies.

Procedure:

- Train patients on Coping with Stressors Worksheet.

Homework:

- Recommend utilizing the Coping with Stressors Worksheet at home to recognize a small part of the stressful event with which adaptation can begin to evaluate the solution.

Session ten: Self-control triad and Guided Imagery training.

Procedure:

- Train patients on self-control triad and Guided Imagery techniques.

Procedure:

- Train patients on self-control triad and Guided Imagery techniques.

Session eleven: Maintaining mental health.

Procedure:

- Psycho-education and group discussion.

Homework:

- Recommend that the patient continues practicing the learned Hemodialysis Cognitive Behavioral Nursing Intervention Program techniques.

Session twelve: The terminating session.

III. Results

Table (1). In relation to the socio-demographic data of the studied patients, the study results demonstrated that more than half of the studied patients (53.7%) were males while 46.3% were females. As regards to the age, the majority of the studied patients (80.5%) were 30 - 40 years. Concerning the residence, around two thirds of the studied patients (65.9%) was living in rural areas. In relation to the marital status, the majority of the studied patients (85.4%) were married. Regarding the years of education, around two thirds of the studied patients (65.9%) were educated for 12 years. Concerning the occupation, more than half of the studied patients (56.1%) were working patients.

Table 1. Socio-demographic characteristics of the studied patients (n=41)

Socio-demographic characteristics		Number	%
Sex	Male	22	53.7
	Female	19	46.3
Age in years	20 - (< 30)	8	19.5
	30 - 40	33	80.5
	Mean ± SD = 34.36 ± 3.92		
Residence	Rural	27	65.9
	Urban	14	34.1
Marital status	Single	4	9.8
	Married	35	85.4
	Divorced	2	4.9
Years of education	= 12 Years	27	65.9
	> 12 Years	14	34.1
Occupation	Jobless	18	43.9
	Working	23	56.1

Table (2). Regarding the clinical data, the study findings showed that more than two fifths of the studied patients (43.9%) undergone hemodialysis for a duration from 3 months to less than one year, while 31.7% of the studied patients undergone hemodialysis for duration 24 – 36 months. In relation to the hemodialysis co-morbidity, more than half of the studied patients (63.4%) had hemodialysis co-morbidity such as diabetes mellitus, thyroid disease, hypertension, cardiac diseases and hepatitis B or C.

Table 2. Clinical data of the studied patients (n=41)

Clinical Data		Number	%
Hemodialysis duration in months	3 – (< 12)	18	43.9
	12 – (< 24)	10	24.4
	(24 – 36)	13	31.7
	Mean (Duration in months) ± SD = 15.97 ± 8.52		
Hemodialysis co-morbidity	No Co-morbidity	15	36.3
	Co-morbidity	26	63.4

Table (3). Regarding the patients' depressive levels, the current study showed that, only 12.2% of the studied patients had no depression post the intervention. The moderate level of depression was the highest level, which was reported by more than two fifths of studied patients (43.9%) pre the intervention. The mild level of depression was the highest level that also reported by more than two fifths of studied patients (41.5%) post the intervention. With respect to the severe level, pre the intervention, 17.1% of the studied patients had severe level of depression. This percent declined slightly to 14.6% post the intervention.

Table 3. Frequency and percent distribution of levels of depression, according to Beck Depression Inventory-II pre and post the intervention (n=41)

Levels of Depression	Pre		Post	
	Number	%	Number	%
Absence of Depression	0	0	5	12.2
Mild	16	39	17	41.5
Moderate	18	43.9	13	31.7
Severe	7	17.1	6	14.6

Table (4). As regards to anxiety scores, the study findings showed that post the intervention, 7.3% of the studied patients were at the minimum level of anxiety. Pre the intervention, the moderate level of anxiety was the highest level as reported by nearly half of studied patients (48.8%). Post the intervention, the mild level of anxiety became the highest level as reported by more than two fifths of studied patients (43.9%). Pre the intervention, the severe level of anxiety was scored on 19.5% of the studied patients. This percent, slightly declined to 14.6% post the intervention.

Table 4. Frequency and percent distribution of levels of anxiety according to Beck Anxiety Inventory pre and post the intervention (n=41)

Levels of Anxiety	Pre		Post	
	Number	%	Number	%
Minimum	0	0	3	7.3
Mild	13	31.7	18	43.9
Moderate	20	48.8	14	34.2
Severe	8	19.5	6	14.6

Table (5). The study results revealed that there was highly statistically significant difference in scores of depression between pre and post the intervention (P<0.001). The study findings also showed that there was a statistical significant difference in scores of anxiety between pre and post the intervention (P= .021).

Table 5. Differences in depression scores between pre and post the Intervention:

The studied variable	Pre	Post	t	P
	Mean ± SD	Mean ± SD		
Depression	21.75±5.53	19.92±5.85	4.725	≤0.001*
Anxiety	20.24±7.56	18.58±7.65	2.406	0.021*

(*) Statistically significant at p < 0.05

IV. Discussion

Despite the positive effects of hemodialysis on CKD, patients face many psychological problems needing alternative treatment, special education, and rehabilitation. However, researches examining the efficacy of either pharmacological or psychological interventions for these psychological problems are limited (Marvi, Bayazi, Rahmani & Deloei, 2011).

The current study findings regarding the effect of the Cognitive Behavioral Nursing Intervention on depression showed that the average mean score of depression is declined at the end of the CBT program showing a significant difference between pre and post-test scores. Patients with depression tend to create cognitive distortions, which result in a negative mood status and inadequate behavior. The Cognitive Behavioral Nursing Intervention uses well-structured techniques to promote the reorganization of negative thoughts, mood status, and adjustment of behaviors. The significant decrease in depressive symptoms was most probably

because of the Cognitive Behavioral Nursing Intervention techniques encouraged patients to express their thoughts, instructed to identify and reorganize those thoughts that might be interfering with their mood status and daily behaviors.

These study results are congruent with Weiner, Kutner, Bowles, and Johnstone (2010) who stated that the patients attending CBT showed significant improvement in depression scores, compared to the control group. Another study proved that applying CBT program for these symptoms resulted in the reduction of depression levels (ValSaraj, Bhat & Latha, 2016). Additionally, Cukor (2007) also found that the average mean of depression on the BDI-II declined from 28.9 to 18.5 at the end of CBT program.

In a comparative study, Hosseini, Espahbodi, and Goudarzi (2012) compared psychological training with an antidepressant medication (citalopram) in patients on maintenance hemodialysis with symptoms of depression and anxiety. They reported that there was a significant decrease in the scores of depression and anxiety in the two groups and there was no significant difference between the two groups. Overall, the instructions of Cognitive Behavioral Nursing Intervention were found to be effective in increasing self-esteem, social adjustment and reducing depression symptoms resulting in increasing the level of compatibility and mental health in dialysis patients after Cognitive Behavioral Nursing Intervention (Toozandehjani & Zadeh, 2015).

The minimum level of depression that was required to enter the study was the mild level (≥ 14 on the BDI-II). The study results demonstrated that 17.1% of the studied patients had severe depression pre the intervention while 14.6% of them had a severe depression post the intervention. These results could be explained that most of the studied patients with severe levels of depression did not achieve a moderate range of symptoms at the post intervention phase, while most of them who started the Cognitive Behavioral Nursing Intervention with moderate symptoms, achieved a mild range of symptoms at the post intervention phase. Also, the studied patients who started the Cognitive Behavioral Nursing Intervention with mild symptoms, most probably not reach the threshold validated for depression on the BDI-II at the post intervention phase.

Accordingly, the Cognitive Behavioral Nursing Intervention might be recommended for the treatment of mild to moderate levels of depression. Patients who were more severely depressed, might be more hopeless, had higher levels of dysfunctional attitudes, or had a lower level of pleasant events in their lives as those studied patients who were at the beginning of hemodialysis treatment, were either divorced or single patients, or jobless, or suffering from hemodialysis co-morbidity. Hence, these patients who had severe level of depression are probably better suited for more intense therapist administered treatments or pharmacotherapy or need a combination between the Cognitive Behavioral Nursing Intervention and medication. The severity of symptoms was an obstacle to the effectiveness of the Cognitive Behavioral Nursing Intervention. Thus, identifying patients who are most likely to benefit from cognitive behavioral interventions as well as patients who are likely to deteriorate during such intervention will be an important target for future research.

These study results are in agreement with the American Psychiatric Association's guidelines for the treatment of depression that indicated that it is conceivable that psychotherapy combined with anti-depressant medications has a higher treatment effect mainly for the severely depressed patients (APA, 2010).

In the same way, Powell, Abreu, de Oliveira, and Sudak (2008) reported the results of a large, multi-centered trial of CBT versus anti-depressant medication (Imipramine) that conducted by that the National Institute of Mental Health's Treatment of Depression Collaborative Research Project. CBT performed as well as imipramine in cases with mild to moderate depression, but in cases with more severe depression, Imipramine gave better results. In addition, Ormrod, Kennedy, Scott, and Cavanagh (2010) found that severe symptoms of depression, decreased to the moderate range after applying CBT, showcasing the benefit of treating those with severe symptoms. In contrast, DeRubeis et al. (2005) reported that CBT can be as effective as anti-depressant medications for the initial treatment of moderate to severe major depression.

The current study findings regarding the impact of the Cognitive Behavioral Nursing Intervention on anxiety showed that the average mean of anxiety declined at the end of the intervention showing a significant difference between pre- and post-test scores. Anxiety symptoms could possibly be explained by that, Cognitive Behavioral Nursing Intervention used well-structured techniques to overcome anxiety symptom such guided imagery training, diaphragmatic deep breathing, pursed-lips breathing and mindfulness meditation. These techniques can reduce anxiety and increase feelings of relaxation and emotional well-being. These study results are congruent with several studies which reported that patients on maintenance hemodialysis suffer considerable amount of anxiety symptoms. Applying CBT for these symptoms resulted in reduction of anxiety levels (ValSaraj et al., 2016).

Notably, the minimum level of anxiety that was required to enter the study was the mild level (≥ 8 on BAI). The study findings revealed that 7.3% of the studied patients were at the minimum level of anxiety post the intervention program. As well as, it was observed increasing the percentage of patients with the mild level as a result of the marked decline in the percentage of patients in the moderate level and the slight decline of the severe level post the intervention program.

These results could be explained that few number of the studied patients who started Cognitive Behavioral Nursing Intervention with severe symptoms of anxiety, achieved a moderate range of symptoms at the post intervention phase, while most of them who started Cognitive Behavioral Nursing Intervention with moderate symptoms, achieved a mild range of symptoms at the post intervention phase. Also, the studied patients who started Cognitive Behavioral Nursing Intervention with mild symptoms, most probably not reach the threshold validated for anxiety on Beck Inventories at the post intervention phase.

The comparison of these studies showed that the Cognitive Behavioral Nursing Intervention is effective to bring down depression and anxiety among the hemodialysis patients in a desirable way, thus, the objective to check the effectiveness of the Cognitive Behavioral Nursing Intervention in this study was achieved. Nonetheless, the severity of symptoms was an obstacle to the effectiveness of Cognitive Behavioral Nursing Intervention. Thus, identifying patients who are most likely to benefit from Cognitive Behavioral Nursing Intervention as well as patients who are likely to deteriorate during such intervention will be an important target for future research.

V. Conclusion

The data presented in the current study supported the proposition that application of Cognitive Behavioral Nursing Intervention reduces levels of depression and anxiety in patients on maintenance hemodialysis, as well as Cognitive Behavioral Nursing Intervention was less effective in patients suffering from severe levels of depression and anxiety.

VI. Recommendations

Health care providers should consider a holistic approach in treating hemodialysis patients to identify, assess and manage psychosocial problems of these patients. Cognitive behavioral interventions should be used in conjunction with usual treatment for hemodialysis patients because these patients face many emotional stresses.

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References

- [1]. Ahmed, S. E. S., & Younis, G. A. (2014). The effect of relaxation techniques on the quality of sleep in patients with end-stage renal failure undergoing hemodialysis. *International Journal of Innovative and Applied Research*, 2(7), 1–12.
- [2]. Al Zaben, F., Khalifa, D. A., Sehlo, M. G., Shohaib, S. Al, Shaheen, F., Alhozali, H., ... Koenig, H. G. (2014). Depression in patients with chronic kidney disease on dialysis in Saudi Arabia. *International Urology and Nephrology*, 46(12), 2393–2402. <http://doi.org/10.1007/s11255-014-0802-2>
- [3]. Al-Nehar, T., & Al-Zubaidi, A. (2000). The Psychometric Properties of the Arabic Version of Beck Anxiety Inventory in United Arab Emirates. *Journal of the Educational Research Center*, 18, 87-106.
- [4]. American Psychiatric Association. (2010). *Practice guidelines for the treatment of patients with major depressive disorder: Third Edition*. Arlington, VA: APA
- [5]. Baykan, H., & Yargic, I. (2012). Depression, anxiety disorders, quality of life and stress a strategies in hemodialysis and continuous ambulatory peritoneal dialysis patients. *Bulletin of Clinical Psychopharmacology*, 22(2), 167–176. <http://doi.org/10.5455/bcp.20120412022430>
- [6]. Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, 56(6), 893–897. <http://doi.org/10.1037/0022-006X.56.6.893>
- [7]. Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- [8]. Beck, J. S. (2011). *Brief Cognitive Behavior Therapy: Basics and Beyond: Second Edition*. The Guilford Press, New York London.
- [9]. Cukor, D. (2007). Use of CBT to treat depression among patients on hemodialysis. *Psychiatr Serv*, 58(5), 711–712. <http://doi.org/10.1176/appi.ps.58.5.711>
- [10]. Cukor, D., Coplan, J., Brown, C., Peterson, R. A., & Kimmel, P. L. (2008). Course of depression and anxiety diagnosis in patients treated with hemodialysis: A 16-month follow-up. *Clinical Journal of the American Society of Nephrology*, 3(6), 1752–1758. <http://doi.org/10.2215/CJN.01120308>
- [11]. DeRubeis, R., Hollon, S., Amsterdam, J., Shelton, R., Young, P., & Salomon, R. (2005). Cognitive therapy vs medications in the treatment of moderate to severe depression. *Arch Gen Psychiatry*, 62(4), 409–416.
- [12]. Egbi, O. G., Ogunrin, O., & Oviasu, E. (2015). Prevalence and determinants of cognitive impairment in patients with chronic kidney disease: a cross-sectional study in Benin City, Nigeria. *Annals of African Medicine*, 14(2), 75–81. <http://doi.org/10.4103/1596-3519.149877>
- [13]. Feroze, U., Martin, D., Reina-Patton, A., Kalantar-Zadeh, K., & Kopple, J. D. (2010). Mental health, depression, and anxiety in patients on maintenance dialysis. *Iran J Kidney Dis*, 4(3), 173–180. <http://doi.org/359/196>
- [14]. Ghareeb, A. G. (2000). *Manual of Arabic BDI-II*. Alongo Press. Cairo Inventory: The author's twenty -five years of evaluation. *Clinical Psychology Review*; 8: 77-100.
- [15]. Hamody, A. R. T., Kareem, A. K., Al-Yasri, A. R. S., & Sh Ali, A. A.-H. (2013). Depression in Iraqi hemodialysis patients. *Arab Journal of Nephrology and Transplantation*, 6(3), 169–172. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/24053743>

- [16]. Hedayati, S. S., Daniel, D. M., Cohen, S., Comstock, B., Cukor, D., Diaz-Linhart, Y., ... Mehrotra, R. (2016). Rationale and design of A Trial of Sertraline vs. Cognitive Behavioral Therapy for End-stage Renal Disease Patients with Depression (ASCEND). *Contemporary Clinical Trials*, 47, 1–11. <http://doi.org/10.1016/j.cct.2015.11.020>
- [17]. Hollon, S. D., & Ponniah, K. (2010). A review of empirically supported psychological therapies for mood disorders in adults. *Depression and Anxiety*, 27(10), 891–932. <http://doi.org/10.1002/da.20741>
- [18]. Hosseini, S. H., Espahbodi, F., & Goudarzi, S. M. M. M. (2012). Citalopram versus psychological training for depression and anxiety symptoms in hemodialysis patients. *Iranian Journal of Kidney Diseases*, 6(6), 446–451.
- [19]. Johnson, S., & Dwyer, A. (2008). Patient perceived barriers to treatment of depression and anxiety in hemodialysis patients. *Clinical Nephrology*, 69(3), 201–6. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18397719>
- [20]. Marvi, A., Bayazi, M. H., Rahmani, M., & Deloei, A. K. (2011). Studying the effect of cognitive behavioral group training on depression in hemodialysis patients. *Procedia - Social and Behavioral Sciences*, 30, 1831–1836. <http://doi.org/10.1016/j.sbspro.2011.10.353>
- [21]. Mehrtak, M., Farzaneh, E., Rajae-Khiavi, A., Arezo, A., & Aziz, K. (2016). The effectiveness of teaching cognitive-behavioral techniques in enhancing resilience in hemodialysis patients. *Global Journal of Health Science*, 9(4), 59–68
- [22]. Ormrod, J. A., Kennedy, L., Scott, J., & Cavanagh, K. (2010). Computerised cognitive behavioural therapy in an adult mental health service: a pilot study of outcomes and alliance. *Cogn Behav Ther*, 39(3), 188–192. <http://doi.org/10.1080/16506071003675614>
- [23]. Powell, V. B., Abreu, N., De Oliveira, I. R., & Sudak, D. (2008). Cognitive-behavioral therapy for depression. *Revista Brasileira de Psiquiatria*, 30(Suppl II), 73–80.
- [24]. Toozandehjani, H., & Zadih, S. A. (2015). The Investigation of Relative Effectiveness of Group Cognitive Therapy on Dialysis Patient's Mental Health. *Bulletin of Environment, Pharmacology and Life Sciences*, 4, 123–128.
- [25]. Valsaraj, B. P., Bhat, S. M., & Latha, K. S. (2016). Cognitive Behaviour Therapy for Anxiety and Depression among People Undergoing Haemodialysis: A Randomized Control Trial. *Journal of Clinical and Diagnostic Research: JCDR*, 10(8), VC06-VC10. <http://doi.org/10.7860/JCDR/2016/18959.8383>
- [26]. Wang, I. K., Cheng, Y. K., Lin, C. L., Peng, C. L., Chou, C. Y., Chang, C. T., ... Hsu, C. Y. (2015). Comparison of subdural hematoma risk between hemodialysis and peritoneal dialysis patients with ESRD. *Clinical Journal of the American Society of Nephrology*, 10(6), 994–1001. <http://doi.org/10.2215/CJN.08140814>
- [27]. Wang, L., & Chen, C. (2012). The psychological impact of hemodialysis on patients with chronic renal failure, *Renal Failure - The Facts*, Dr. Momir Polenakovic (Ed.), ISBN: 978-953-51-0630-2, In Tech, Available from: <http://www.intechopen.com/books/renal-failure-the-facts/the-psychological-impact-of-hemodialysis-on-patients-with-chronic-renal-failure>
- [28]. Weiner, S., Kutner, N. G., Bowles, T., & Johnstone, S. (2010). Improving psychosocial health in hemodialysis patients after a disaster. *Social Work in Health Care*, 49(6), 513–525. <http://doi.org/10.1080/00981380903212107>
- [29]. Youssef, D. M., & Neemat-Allah, M. A. A. (2013). Hemodialysis in children: Eleven years in a single center in Egypt. *Iranian Journal of Kidney Diseases*, 7(6), 468–474.

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