

Effect of Cognitive Behavioral Nursing Intervention Program on Anxiety among Patients with Cancer

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ABSTRACT

Background: A cancer diagnosis can have a wide-ranging impact on mental health. Cancer patients usually experience high levels of psychological stress result in psychological distress symptoms such as anxiety. Cognitive behavioral therapy is one of the most evidence-based psychological interventions for the treatment of several psychiatric disorders such as anxiety. **Aim:** The purpose of this study is to explore the effect of cognitive behavioral nursing intervention program on anxiety among patients with cancer. **Subjects and Method: Design:** A quazi- experimental design (pre, post, and follow-up evaluation) was used. **Setting:** Oncology unit at Al Shifa Medical Complex in Port Said city. **Subjects:** The study subjects included 63 patients with cancer. **Tools:** One tool were utilized to collect the data, Beck Anxiety Inventory; in addition to personal and clinical data sheet. **Results:** The study revealed nearly one third (35%) of studied patient with cancer had mild level of anxiety at pre intervention, while more than half (53.3%) of them had mild level of anxiety at post intervention. Also, half (50%) of the studied patients with cancer had moderate level of anxiety at pre intervention, while more than one third (36.7%) of them had moderate level of anxiety at post intervention. **Conclusion:** It was verified that, there are highly statistically significant relationship between levels of anxiety among the studied patients with cancer at pre- post nursing intervention. **Recommendations:** Cognitive behavioral nursing interventions should be utilized in combination with standard care for cancer treatment.

Keywords: Anxiety ,Cancer and Cognitive Behavioral Nursing Intervention.

INTRODUCTION

A cancer diagnosis can have profound impact on mental health. Cancer is associated with several psychological problems, which have an essential influence in the severity and prognosis of the disease. Cancer can cause inappropriate psychological responses such as anxiety, depression, and fatigue. Anxiety is extremely common among cancer patients. Among those with no prior psychiatric history, cancer diagnosis is related with heightened incidence of common mental disorders, which may adversely affect cancer therapy and recovery, in addition to quality of life and survival. People who have previously used psychiatric services may be especially vulnerable and at a higher risk of mortality after a cancer diagnosis (Sheikhzadeh, Zanjani & Baari, 2021).

Anxiety at a disorder level is seen in roughly 35% of cancer patients. It can impair good medical decision-making ability, can enhance current medical symptoms and can interfere with cancer treatment. It is shown to coexist in a large number of cancer patients and can range from mild to severe in intensity. In cancer centers, anxiety to a mild degree is present in practically everyone with varying levels, and anxiety is highest during evaluation, surgery, and other treatment/interventions (Ball, Moore & Leary, 2016). Generalized anxiety, social anxiety, specific phobias, obsessive-compulsive disorder, acute stress reaction, and posttraumatic stress disorder are all anxiety spectrum disorder (Venkataramu, Ghotra & Chaturvedi, 2022).

Anxiety is frequently triggered by stress. Cancer is one of the most distressing experiences that person can go through. These problems may obstruct cancer therapy. For example, the patients with untreated anxiety may be less likely to take their cancer treatment medicine and maintain good health practices due to weariness or a lack of enthusiasm. They may also retreat from family or other social support systems, implying that they will not seek the emotional and financial assistance needed to cope with cancer. As a result, stress and feelings of despair may increase (Curtiss, Levine, Ander & Baker, 2021).

Although there is evidence that chemotherapy and radiation treatment are useful in treating cancer, they do not always relieve patients' psychosocial issues. Some patients may even discontinue treatment related to psychological issues. It has been observed that cognitive behavior nursing intervention is substantially more successful than standard

care, which includes cancer treatment based on comprehensive cancer center recommendations (Gautam, Tripathi, Deshmukh & Gaur, 2020).

Cognitive behavior therapy is one of the most successful forms of therapy for anxiety. It can help treat a variety of anxiety disorders, including panic disorder, social anxiety, and phobias. The thought challenging aspect of cognitive behavior therapy is crucial for treating anxiety. Cognitive distortions are frequently responsible for the heightened feeling of anxiety (e.g. Catastrophising, or focusing on the worst-case scenario). The behavioral component of cognitive behavior therapy for anxiety frequently involves graded exposure, which means gradually facing your fears rather than avoiding them, allowing you to regulate and diminish your fear at each step (Kaczurkin & Foa, 2015).

Significance of the study

Anxiety is a prevalent problem in cancer patients. Anxiety can make it difficult for cancer patients to manage their illness. Anxiety causes patients to become irritable, unable to concentrate, negative, and pessimistic, all of which can have a detrimental impact on their quality of life. For cancer patients, these psychological disorders not only interfere with quality of life but they can also become barriers to participating in survival treatment. As result, it is crucial to alleviate their anxiety whenever possible (Zhang et al., 2022).

The majority of the studies that assessed the levels of anxiety in patients with cancer indicated that the prevalence of anxiety was 20% (Naser, et al., 2021). Many studies have been undertaken to evaluate and further investigate the psychological problems of cancer patients, but few studies, particularly 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 anxiety among patients with cancer.

AIM OF THE STUDY

This study aims to explore the effect of cognitive behavioral nursing intervention program on anxiety among patients with cancer.

Research objectives

1. Measure severity of anxiety among patients with cancer.
2. Design cognitive behavioral nursing intervention program for patients with cancer.
3. Implement cognitive behavioral nursing intervention program for patients with cancer.
4. Evaluate effect of cognitive behavioral nursing intervention program on anxiety levels among patients with cancer.
5. Determine relationship between clinical characteristics and levels of anxiety among patients with cancer.

Research Hypothesis

Application of cognitive behavioral nursing intervention program will decrease anxiety among patients with cancer.

SUBJECTS AND METHOD

A. Technical design

Study design

A quazi- experimental design with pre, post, and follow-up evaluation was used for the contemporary study.

Study setting

The current study was conducted in the oncology unit at Al Shifa Medical Complex in Port Said city. The hospital is under the supervision of Egyptian health care authority hospital at Port Said government. There are four floors in the hospital. The operating theater, intensive care unit, blood transfusion unit, and administrative offices are located on the first floor. Second floor consists of surgical unit, Oncology unit, orthopedic unit and chemotherapy unit. Third floor consists of medical unit, oncology surgery section. Finally fourth floor consists of residence accommodated for expatriates and doctors and cafe. The oncology unit has a bed capacity of around 27 patients. All of

these beds are always filled. The hospital serves five governorates namely Port Said, El Ismailia, El Suez, North Sinai and South Sinai.

Study sample

A purposive sample comprised of 63 patients with cancer attending oncology units. Patients were separated into four groups; two male groups (each with 18 patients) and two female groups (one group with 13 patients and other with 14 patients). However, the final number of the sample size amounted to 60 patients who completed cognitive behavior nursing intervention as three of the original number dropped from the study.

Inclusion criteria

Patients with cancer, who were diagnosed with a minimum of three months and not exceeding one year, receive chemotherapy and have symptoms of anxiety according to Beck's Inventory.

Sample size

A sample size was determined by using single population proportion formula (Thamposon, 2012) as the following:

$$\text{Sample size (n)} = \frac{N \times p(1-p)}{\left[\left[N-1 \times (d^2 \div z^2) \right] + p(1-p) \right]}$$

Where:

n: Sample size

N: Population size (150)

z : Confidence level at 95% (1.96).

d: Error proportion (0.05)

P: Probability (0.50)

The calculated size of sample was 60 patients with cancer. Because of expected non-participating rate (5%), the final sample size was 63 patients. As expected, the final sample size was 60 patients due to three of studied patients have died after sixth week during implementation of nursing intervention.

Tools of data collection

Beck Anxiety Inventory

The Beck Anxiety Inventory (BAI) was developed by Beck, Epstein, Brown, and Steer, (1988) in an English Language to measure severity of anxiety in patients. It was translated into Arabic language and standardized by Al-Nehar & Al-Zubaidi (2000). It can be used in different populations and it is easy to deploy and interpret. The BAI has 21 items that assess anxiety intensity.

Scoring system

The BAI contains 21 items that assess symptoms intensity from (zero =absent to 3=severe symptoms; almost unbearable). A score of 0-7 indicates to low levels of anxiety; 8-15 indicate mild anxiety, 16-25 indicate moderate anxiety and 26-63 indicate severe anxiety.

In addition to Personal and Clinical Data Sheet; it was created by the researcher after review of literature in Arabic language. Personal characteristics included gender, age, residence, marital status, educational level, working status and monthly income. Clinical characteristics included cancer types, duration of chemotherapy treatment and physical disease associated with cancer.

B. Operational design

Tool's validity

This scale was developed by Beck, Epstein, Brown, and Steer, (1988) in an English Language. It was translated into Arabic language and standardized by Al-Nehar & Al-Zubaidi (2000). It can be used in different populations.

Tool's reliability

The scale proved to be reliable with test-retest reliability of 0.83 and Alpha reliability of 0.90 (Toledano et al., 2020).

Field work

After taking pilot study, researcher discontinued the study for three months due to outbreak of the Corona virus disease (COVID-19). The researcher interviewed the director of Al Shifa Medical Complex to introduce herself and establish the purpose of the study, who sent her to the director of human resources and then to the head nurse in the oncology unit. Prior to beginning the field work, the overall number of cancer patients attending the oncology unit at Al Shifa Medical Complex was gathered from head nurse in the unit in order to estimate the sample size. Preparation, data collection, planning, implementation, and evaluation of nursing intervention lasted for 11 months from the first of January 2021 to the end of November 2021.

To acquire the necessary data, each patient was interviewed individually. At the start of the interview, the researcher introduced herself to the patient and stated the study's purpose, Applying tools to assess patients with anxiety. The study comprised patients with mild, moderate, and/or severe anxiety. The intervention comprised of 12 semi-structured interview sessions; every session lasting for 30 - 45 minutes over 12 weeks duration. To reduce patient tiredness in the patients' lounge, all groups' sessions were held prior to the chemotherapy session. The intervention comprised of 12 semi-structured interview sessions lasting 30 - 45 minutes over the course of 12 weeks. To reduce patient tiredness in the patients' lounge, all groups' sessions were held prior to the chemotherapy session.

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 intervention. At the beginning of each session, the researcher welcomed the patients of each group, reassured them 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.

The study tools were given to the studied patients with cancer. They filled in them using self- report technique, which allows individuals to fill in their responses on

their own. After finishing, the researcher reviewed that all items in the tools were checked. The studied patients with cancer were acknowledged for their cooperation and time. Immediately, after the implementation of cognitive behavior nursing intervention at the completion of the 12th session, the researcher reinvestigate the studied cancer patients utilizing tools of the study, and as well as after 3 months for follow up.

Pilot study

Before beginning the actual study, a pilot study was conducted on 10% of the study sample which included seven patients chosen at random. The pilot study was conducted to determine the clarity, feasibility, and applicability of the study tools, estimate the time required for filling in the tools and to identify barriers during data collection. Studied patients who participated in the pilot study were eliminated from the entire sample of research work; based on the findings of pilot study. The tools were applicable and understandable based on the outcomes of the pilot study. As a result, no changes were made. It lasted from the first of September till the end of September 2020.

Ethical considerations

The study was accepted by the Scientific Research Ethics Committee of the Faculty of Nursing, Port Said University; code no NUR (6/8/2023) (28). After explaining the aim of the study, patients with cancer were asked to give their informed consent to share in the study. Patient' voluntary participation was confirmed as they were informed that they had the right to withdraw from study at any time. Confidentiality of the collected information was confirmed and anonymity was ensured.

C. Administrative design

Before beginning any stage in the study, an official letter was sent from the Dean of the Faculty of Nursing Port Said University, to the director of the above mentioned hospital requesting his permission and cooperation to carry out the study after explaining the aim of the study.

D. Statistical design

Data were collected, organized, tabulated and statistically analyzed using SPSS version 22.0. Quantitative data were expressed using the means, and standard deviations.

Qualitative data were expressed using numbers and percentages. Qualitative categorical variables were compared using chi-square test. ANOVA test was used to compare between more than two groups. P value ≤ 0.05 was considered to be statistically significant, and highly statistically significant at P value ≤ 0.01 .

Cognitive Behavioral Nursing Intervention Program

Aim of the Cancer Cognitive Behavioral Nursing Intervention Program

This program aims to decrease levels of anxiety levels among patients with cancer.

Objectives of the Cancer Cognitive Behavioral Nursing Intervention Program

Specific Objectives

- Patients will be able to identify the nature of the CBNI program and the rules of the participation.
- Patients will be able to recognize symptoms of anxiety related to distress.
- Patients will be able to understand the difference between feeling and thoughts, including how these relate to behaviors.
- Patients will be able to identify automatic thoughts and cognitive distortions which contribute to the portion of activity restriction.
- Patients will be able to master stress management relaxation techniques.
- Patients will be able to challenge any cognitive distortions.
- Patients will be able to overcome anxiety and life stressors through systematic desensitization technique
- Patients will be able to use problem solving strategies effectively in identifying the best technique for dealing with difficulties or situations related to cancer illness.
- Patients will be able to improve their mood through increasing behavioral activation.
- Patients will be able to identify advantages and disadvantages of the options for dealing with the stressors related to cancer disease.
- Patients will be able to recognize the warning signs for cognitive or behavioral regression.

Cognitive Behavioral Nursing Intervention Program Sessions

Session one: Mutual understanding and rapprochement.

Procedure

- Ice breaking can be an excellent way to start a training session or team building event.
- Create a written and verbal protocol for collaboration between the researcher and each group's member.

Homework

Create simple homework assignments aimed at recognizing the patients' problem orientation such as making a stress list.

Session two: Psycho-education about anxiety.

Procedure

- Group discussion and psycho-education.
- Practice identifies thoughts and rates emotions associated with life stresses.

Homework

Give patients self-monitoring homework tasks so they can practice detecting cognitions and rate emotions connected with life stressors.

Session three: Identification of automatic thoughts and cognitive distortions.

Procedure

Teach patients to use the daily thought record technique to reframe their thoughts.

Homework

Between sessions, practice the daily thought record technique for using the written form.

Session four: Relaxation techniques.

Procedure

- Teach patients three relaxation techniques; deep diaphragmatic breathing, pursed-lips breathing and mindfulness meditation.

Homework

Between sessions, practice the learned techniques at home with written feedback.

Session five: Dealing with cognitive distortions.

Procedure

- Teach patients on “Examine the Evidence” record technique.

Homework

Use “Examine the Evidence” record technique at home to practice challenging cognitive distortions that present as barriers to autonomy and social roles.

Session six: Using systematic desensitization to overcome anxiety.

Procedure

- Train patients on systematic desensitization technique.

Homework

Between sessions, continue using the learned relaxation techniques as well as the systematic desensitization process.

Session seven: Problem solving skills development.

Procedure

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

Homework

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

Session eight: Behavioral activation.

Procedure

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

Homework

- Assist patients in recording and rating at least one or two activities per day on the Activity Schedule using the activity record technique.
- Have each patient use the Generating Alternatives record technique to practice problem-solving strategies.

Session nine: Reevaluating and prioritizing stressors.

Procedure

- Show patients how to use Coping with Stressors Worksheet.

Homework

Recommend using the Coping with Stressors Worksheet at home to identify 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

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

Home work

Teach 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 Cognitive Behavioral Nursing Intervention Program techniques.

Session twelve: The terminating session.

- Enhance self-instruction or coaching to maintain progress in reducing anxiety symptoms and to prevent relapse.

RESULTS

Table 1; shows personal characteristics of the studied patients; it is clear that, more than half of the studied patients (56.6%) are male; it is noticed that nearly half of the studied patients (48.3%) are in the age group of 40 to less than 50 years old. Also, more than three quarters of studied patients (76.7%) are married; approximately two thirds of the studied patients (66.7%) have finished secondary education; less than two thirds of the studied patients (61.7%) are working. Also, it is founded that, only less than one third of the studied patients (31.7%) report that, their monthly income are adequate.

Table 2; illustrate that 73.3% studied patients have benign cancer. Looking at number of sessions of chemotherapy, more than one third of studied patients (40.0%) have taken from six to less than nine sessions. Regarding presence of disease associated with cancer, it notices that 46.7 % of studied patients have physical diseases associated with cancer.

Table 3; reveals comparison between levels of anxiety among studied cancer patients throughout pre, post and follow-up of nursing intervention. As shows in the table, there is increase in the percentage of patients who have minimum or mild level of anxiety at post nursing intervention 53.3%, which slightly decreases during follow-up nursing intervention to 51.7%. Additionally, this table shows that, half of studied patients (50.0%) have moderate level of anxiety at pre intervention, which the percentage decreases to be 36.7% at post

intervention. Also, it shows that only 15.0% of studied cancers patients have sever anxiety at pre intervention and the percentage decreases to be 10.0% at post intervention to slightly decrease and reaches to 8.3% during follow-up nursing intervention. The table also clarifies that, there are highly statistically significant relationship between degrees of anxiety among the studied patients pre- post nursing intervention ($p = .000^{**}$), although there aren't statistically significant relationship between levels of anxiety among the studied patients post and follow-up nursing intervention.

Table 4; show that, there were highly statistically significance relationship between diagnosis of cancer and total level of anxiety at pre, post, and also at follow up intervention where P value= (0.003**, 0.004**, 0,006**) respectively. Also, there were highly statistically relationship between duration of treatment with chemotherapy and total level of anxiety at pre, post, and also at follow up intervention where P value= (0.004**, 0.001**, 0,003**) respectively. While, there was statistically significance relationship between presences of physical disease associated with cancer and total level of anxiety at pre, post, and also at follow up intervention where P value= (0.031*,0.029*,0,028*) respectively.

Table 1: Number and percentage distribution of the studied patients with cancer according to their personal characteristics (n=60).

Personal characteristics	N	%
Gender		
Male	34	56.6
Female	26	43.3
Age		
20 - < 30 year	4	6.7
30 - < 40 year	12	20.0
40 - < 50 year	29	48.3
≥50	15	25.0
Mean± SD	44.16±1.06	
Range of age	20 – 58	
Residence		
Rural	38	63.3
Urban	22	36.7
Marital status		
Single	7	11.7
Married	46	76.7
Divorced/Widow	7	11.6
Educational levels		
Not read and write /Basic education	5	8.3
Secondary education	40	66.7
University education / Postgraduate	15	25.0
Working status		
Working	37	61.7
Not working	23	38.3
Monthly income		
Adequate	19	31.7
Inadequate	41	68.3

Table 2: Number and percentage distribution of the studied patients with cancer according to their clinical characteristics (n=60).

Clinical characteristics	N	%
Type of cancer		
Benign Cancer	44	73.3
Malignant Cancer	16	26.7
Duration of chemotherapy		
Less than three sessions	10	16.7
Three to less than six sessions	11	18.3
Six to less than nine sessions	24	40.0
Nine sessions and more	15	25.0
Physical diseases associated with cancer		
Yes	28	46.7
No	32	53.3
If the answer is yes, what is the type of disease n=28		
Diabetes	10	35.7
Hypertension	12	42.9
Heart diseases	5	17.8
Kidney diseases	1	3.6

Table 3: Comparison between the studied patients with cancer at pre, post and follow up intervention according to their anxiety levels (n=60).

Anxiety levels	Pre		Post		Follow up		Pre-post	Pre-follow-up	Post-follow-up
	No	%	No	%	No	%			
Minimum/ Mild Anxiety	21	35	32	53.3	31	51.7	13.44 0.000 **	9.205 0.010*	1.1 0.072
Moderate Anxiety	30	50	22	36.7	24	40			
Severe Anxiety	9	15	6	10	5	8.3			
χ^2 = Chi-square *Significant at p <0.05. **Highly significant at p <0.01. Not significant at p>0.05									

Table 4: Relationship between clinical characteristics of studied patients with cancer and their total levels of anxiety (n=60).

Clinical Characteristics		Anxiety	X2 P- Value	Anxiety	X2 P- Value	Anxiety	X2 P- Value
		Pre Mean ± SD		Post Mean ± SD		Follow up Mean ± SD	
Diagnosis	Benign	42.38±12.69	8.765 .003**	19.76±4.5	7.012 .004**	17.25±3.6	6.999 .006**
	Malignant	48.12±10.36		26.70±3.7		21.04±4.5	
Duration of chemotherapy treatment	Less than three sessions	39.19±8.90	8.234 .004**	17.3±1.87	9.777 .001**	16.4±3.6	8.045 .003**
	Three to less than six sessions	41.32±9.38		19.6±2.5		18.1±2.3	
	Six to less than nine sessions	44.47±11.05		21.8±3.6		20.6±4.6	
	Nine sessions and more	49.00±7.9		27.5±4.8		24.5±3.2	
Physical diseases associated with cancer	Yes	47.41±9.23	3.677 .031*	19.66±5.0	4.51 .029*	20.73±3.4	3.999 .028*
	No	42.32±8.76		17.49±6.7		16.53±2.9	
*Significant at p <0.05. **Highly significant at p <0.01. Not significant at p>0.05							

DISCUSSION

Anxiety persists in cancer patients, adding to the burden of treatment and making management and control more difficult, compliance throughout treatment, length of hospitalization, and finally, rate of survive. Anxiety symptoms are common among cancer patients. A cancer diagnosis can cause the following feelings, fear of cancer treatment or fear of treatment-related side effects, such as discomfort, changes in body, or the inability to do routine activities, as well as fear of cancer returning or spreading after treatment (Naser et al., 2021).

Notably, the minimal anxiety levels that were needed to participate in the study were the mild level. The results showed that, half of cancer patients have moderate level of anxiety pre intervention compared to slightly more than one third at post intervention and the percentage increase within follow up intervention. Furthermore, it was observed decrease in the percentage of patients who have severe anxiety post intervention compared to pre intervention.

These findings might be explained through, small numbers of the patients who began cognitive behavior nursing intervention program with severe anxiety symptoms, attained a moderate levels of symptoms at the post intervention period, whereas the majority of those who began cognitive behavior nursing intervention program with moderate levels, achieved a mild level of symptoms at the post intervention period. Furthermore, patients who began cognitive behavior nursing intervention program with mild symptoms, are unlikely achieve the criteria for anxiety on Beck Inventories during post intervention phase.

The current study findings related to the effect of cognitive behavior nursing intervention program on anxiety revealed that, percentage of anxiety decreased at the final phase of the intervention, indicating a significant relationship between pre- post test scores. Symptoms of anxiety could be explained by this, cognitive behavior nursing intervention used well-structured approaches to reduce symptoms of anxiety such as training of guided imagery, deep breathing using diaphragm, breathing by using pursed-lips and mindfulness meditation. These approaches may decline anxiety and increase relaxation feelings.

In this respect, Sun et al. (2019) conduct study and stated that anxiety level were lower in patients who received cognitive behavior therapy compared to controls who didn't receive cognitive behavior therapy. This is in the same track with Sheikhzadeh, et al., (2021) who found a significant declining in anxiety level in cognitive behavior therapy and mindfulness-based cognitive therapy groups. In an equivalent direction, by Pedram, Mohammadi, Nazari, and Ayenparast (2011) who reported that percentage of anxiety was decreased in patients treated with breast cancer after implementation of cognitive behavior therapy program.

As well as, Tregnago et al., (2019) observed that, after application of cognitive behavior therapy program, the levels of anxiety was decline between cancer patients. This was congruous by the study of Sun et al. (2019) who stated that anxiety levels improved in cognitive behavior therapy patients compared to controls who did not get cognitive behavior therapy. As well as, Liu et al. (2021) observed that, patients in the cognitive behavior therapy group showed significantly less depression and anxiety than patients in the treatment as usual group. Also Sutanto, Ibrahim, Septiawan, Sudiyanto and Kurniawan (2021) conducted study and reported that; incidence of anxiety had significant

difference between before and after intervention. This was incongruous by Serfaty et al. (2020) who reported that, no advantage for using cognitive behavior therapy and there was no therapy impact for utilizing cognitive behavior therapy.

The results of the current study revealed that there were highly statistical significant relations between total levels of anxiety within pre, post and follow- up intervention and clinical characteristics in relation to diagnosis of cancer and duration of treatment of chemotherapy. This is contract with Borji et al.,(2017) who studied positive effects of cognitive behavioral therapy on depression, anxiety and stress of family caregivers of patients with prostate cancer and found that, diagnosis of cancer and duration of treatment had no association with levels of anxiety. This may be related to lack of social support from spouse or family, lack of feeling of psychological security and also may be related to lack of hope of recovery from cancer disease. Furthermore, cancer is linked to death among people. Once cancer is diagnosed, a person experiences a bad psychological state regardless type of diagnosis.

These studies shown that the cognitive behavior nursing intervention program is useful in reducing anxiety in cancer patients in a good way; hence, the goal of this study to investigate effectiveness of the cognitive behavior nursing intervention program in this study was met. But, symptoms severity hindered the efficacy cognitive behavior nursing intervention program. So, recognizing patients who are most prone to gain advantage from cognitive behavior nursing intervention program and also patients who are most likely to decline during that intervention is going to be an essential topic for research in future.

CONCLUSION

The finding implies that, it can be determined that, there was highly statistically significant relationship between levels of anxiety among the studied patients with cancer at pre and post cognitive behavior nursing intervention program. Furthermore, the results showed there aren't statistically significant relationships between levels of anxiety among the studied patients with cancer post and follow-up nursing intervention.

RECOMMENDATIONS

In the light of the results of the present study, the following recommendations were suggested:

- Cognitive behavior nursing intervention should be the basis for nurses in providing comprehensive nursing intervention to patient with cancer who having psychological problems.
- Nursing interventions and cognitive behavior therapy should work together to provide a comprehensive and a holistic approach to mental health treatment for patient with cancer patients to manage their psychosocial problems by combining chemotherapy treatment, assessment, monitoring, health education and providing support and encouragement.
- Nurse should conduct assessments and monitoring patients with cancer to identify changes in symptoms or behaviors.
- Nurses can educate patients with cancer about cognitive behavior therapy and the strategies used in the therapy.

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تأثير البرنامج التدخلي التمريضي المعرفي السلوكي على القلق لدى المرضى المصابون بالسرطان

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الخلاصة

تؤثر الإصابة بمرض السرطان على الصحة النفسية بنطاق واسع . حيث يعاني مرضى السرطان عادة من مستويات عالية من الضغط النفسي مما يؤدي إلى ظهور أعراض ضائقة نفسية مثل القلق. يعد التدخل التمريضي المعرفي السلوكي أحد أكثر التدخلات النفسية المساندة لعلاج العديد من الاضطرابات النفسية مثل القلق. **الهدف:** استكشاف أثر تطبيق برنامج التدخل التمريضي المعرفي السلوكي على مستويات القلق لدى المرضى المصابون بمرض السرطان. **طرق البحث:** استخدمت هذه الدراسة المنهج شبه تجريبي للبحث (الاختبار القبلي والبعدي). **المكان:** قسم الاورام بالمجمع الشفاء الطبي بمدينة بورسعيد **العينة:** قد اجريت هذه الدراسة على 63 مريض من مرضى السرطان. **أدوات جمع البيانات:** تم استخدام أداة لتجميع البيانات وهي مقياس أرون بيك واخرون للقلق بالإضافة الى استمارة البيانات الشخصية والاكلينيكية. **النتائج:** تشير الدراسة أن ما يقارب من ثلث (٣٥%) مرضى المصابون بمرض السرطان كان لديهم مستوى بسيط من القلق في مرحلة ما قبل تطبيق البرنامج ، بينما كان يعاني اكثر من نصفهم (٥٣.٣%) من مستوى بسيط من القلق في مرحلة ما بعد تطبيق البرنامج. كذلك ، نصف مرضى السرطان (٥٠%) الذين شملتهم الدراسة كانوا يعانون من مستوى متوسط من القلق في مرحلة ما قبل تطبيق البرنامج ، بينما كان أكثر من ثلثهم (٣٦.٧%) يعانون من مستوى متوسط من القلق بعد تطبيق البرنامج. **الخلاصة:** خلصت الدراسة الى وجود علاقة ذات دلالة إحصائية عالية بين درجات القلق لدى المرضى الخاضعين للدراسة عند المقارنة بين قبل وبعد تطبيق البرنامج . **التوصيات:** لذلك ، يجب استخدام التدخلات التمريضية المعرفية السلوكية جنباً إلى جنب مع العلاج المعتاد لمرضى السرطان .

الكلمات المرشدة: السرطان، القلق، التدخل التمريضي المعرفي السلوكي.