Pharmacophore

ISSN-2229-5402

Journal home page: http://www.pharmacophorejournal.com

Pharmacophore
an International Journal
ISSN 2229-5402

EFFECTIVENESS OF COGNITIVE-BEHAVIORAL GROUP THERAPY ON QUALITY OF LIFE AND RESILIENCE OF BREAST CANCER WOMEN.

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ARTICLE INFO

Received:
03th Jun 2017
Accepted:
29th Nov 2017
Available online:
14th Dec 2017

Keywords: *cognitive behavioral therapy; quality of life; resilience; breast cancer*

ABSTRACT

Background: Breast cancer diagnosis always has a great deal of stress and result in significant changes in the patient's routine life which apart from physical injuries, can lead to losing social roles and increased risk of mental disorders. Therefore the quality of life of these patients is seriously affected. Furthermore a protective factor for Dealing with stressful clinical setting might be the psychological resilience.
Objective: The present study aimed at investigating the effectiveness of cognitive-behavioral group therapy on the quality of life and resilience of women suffering from breast cancer.
Methods: This is a quasi-experimental pre-test, post-test and follow-up with control group design. Twenty women suffering from breast cancer were randomly assigned to an intervention (n = 10) and a control groups (n = 10). The treatment consisted of eight weekly cognitive-behavioral group therapy sessions and follow-up evaluations were carried out two months after treatment. The QLQC-30, QLQBR-23 and CD-RISC questionnaires were applied in this study.
Results: Comparing with control group, significant enhancement was indicated in total and all scales of QlQ-C30, QlQ-BR23 and total of CD-RISC scores in intervention group's post-test. And also no significant differences were evidenced between post-test and follow-up ($P \leq 0.05$) of both groups.
Conclusions: The findings suggested that intervention was effective on the dependent variables and the result preserved over the time. Therefore it could be concluded that cognitive-behavioral group therapy appears to be promising as a therapeutic intervention for improving quality of life and resilience of women suffering from breast cancer.

To Cite This Article: Fatemeh Sadeghi, Fariba Hassani, Suzan Emamipour, Hamidreza Mirzaei, (2017), "effectiveness of cognitive-behavioral group therapy on quality of life and resilience of breast cancer women", ***Pharmacophore, 8(6S),*** *e-1173438.*

Introduction

Similar to many developing countries, the frequency of breast cancer has increased in Iran and the economic burden of it, is estimated about US$ 947,374,468 [1]. On the other hand breast cancer is an inharmonious illness which many factors influence its prognosis and treatment [2]. Many studies have indicated a link between various psychological factors and an intensification risk of cancer. In addition diagnosis and treatment of cancer has been associated with stress and anxiety which leads to more severe symptoms, slower recovery and poorer health outcomes [3]. For example simultaneous psychological symptoms such

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as anxiety [4], depression [5] fear [6], insomnia [7] or distress can be recognized in breast cancer [8]. These patients besides of these problems experience some problems with their helpmate and children and consequently they experience poorer quality of life [9] which is a broad, multidimensional concept reflecting patients' perceptions of both positive and negative aspects of their life. In recent years a branch of quality of life in the name of "quality of life related to health" has attracted the attention of researchers and there is a growing consensus that it should be one of the main components of healing work and research [10]. Also a protective factor in stressful situation might be the psychological resilience. Resilience is the human ability to adjustably respond to difficulties, stressful situation, and adversity without surrender to despair [11]. Therefore, the treatment of cancer inherently requires psycho as well as physical therapies. Fortunately cognitive behavioral therapy (CBT) has been shown to be effective in mitigating various psychosocial impacts from cancer [12]. CBT is a psychotherapeutic approach that emphasizes the significance of how our thinking affects the way we feel [13]. The aim of CBT is to change emotions by first changing thoughts and behaviors. CBT is targeted to change the perceptions of how and what patients think based on the basic principle that says how a person thinks has a tremendous effect on his or her emotions and behaviors [14]. The aim of this study is to examine effectiveness of CBT on quality of life and resilience of women suffering from breast cancer.

Material and Methods

Study Design: A quasi-experimental pre-test, post-test and follow-up (two months) with control group design, was carried out from March 2016 to December 2016 and it took place at the Cancer Research Center of Shohadaye Tajrish hospital which is an academic and governmental hospital affiliated with Shahid Beheshti University of Medical Sciences in the city of Tehran, Iran. The intervention's protocol has been extracted from "Association for Contextual Behavior Science" site and then was approved by the psychological cancer research of Shohadaye Tajrish hospital and department of psychology of Islamic Azad University, central Tehran branch. Each participant was informed to become subjects of the study and was notified of their rights to withdraw from the trial at any time without any interruption in their health care benefits.

Participants: Patients who came for follow-up to the oncology wards of Shohadaye Tajrish haspital in March and April 2016 were potentially eligible to participate, unless they demonstrated unwillingness. The planned sample size was N=20 (10 patients in each groups). All participants were Iranian women treated for breast cancer and we used the following inclusion criteria: 1.Histologically confirmed primary breast cancer (stages: 1 and 2). 2.Aged 18 and above. 3.Fluent in Persian language. 4.Have no history of mental disorder or psychiatric problem. 5.Have no cognitive deficits. 6.Were cooperative with treatments. 7.Completed the initial treatment at least 2 months prior the inclusion. Participants were excluded from the study if 1.They have serious overt physical problems that would preclude them from following the intervention. 2.The absence of more than two sessions of therapy. 3.Participating in concurrent psychological treatment, studies or rehabilitation. Finally, 4 participants were excluded during the examination because they declined to participate or starting to use psychiatric drug

Instruments: Three standard native (Persian) language questionnaires were applied in this research. QLQC-30 (Quality of life questionnaire–core 30) questionnaire is the base module that examining the total quality of life in the course of cancer disease. The questionnaire contains 30 questions consisting of 5 scales, each one evaluating the patient's functioning on the physical, emotional, cognitive, social and economic level. All scales ranged from 0 to 100. In the function scales higher scores represent a better level of functioning while in the case of symptom scales/items higher scores mark a higher level of symptomatology or problems [15]. The EORTC QLQ-BR23 (Quality of life questionnaire–Breast Cancer Module) is a 23-items breast cancer-specific questionnaire about the common side effects of therapy, body image, sexuality, and outlook for the future. In general, the findings indicate that the Iranian version of the EORTC QLQ-C30 and QLQ-BR23 are reliable and valid measurements of quality of life in breast cancer patients and can be used in clinical trials [16]. The Connor-Davidson Resilience scale (CD-RISC) comprises of 25 items each rated on a 5-point scale (0-4). Scale ranged from 0 to 100, with higher scores reflecting greater resilience and findings indicate that the Iranian version of CD-RISC is reliable and valid measurement of resilience and can be used in clinical trials [17].

Ethical Considerations: This study received ethics approval from the Committee on Cancer Research Center, Shohadaye Tajrish Hospital in Tehran. Written informed consent concerning conduct of the survey was obtained from each participant. The privacy of participants was protected in processing personal data and also the confidentiality of records and personal accounts were maintained. It was also suggested to the control group that they can attend to similar CBT sessions which is held by the researcher.

Intervention program: The process of the study was divided into four stages:

1. Collecting samples and carrying out pre-tests: After willingness to engage, patients were asked to participate in a meeting entitled "Assessment and direction". Following issues were discussed in this session: Informing participants of what the course gives them, what was required to attend the course, and also expectations of the participants of the course were proposed. 2. Intervention process: Intervention group received eight sessions of two hours (one day per week) of cognitive behavioral therapy and controls were placed on a waiting list. The description of therapeutic intervention is mentioned below.

First session: Education about cancer. Second session: Relaxation and positive mental imagery. Third session: Goal setting and physical activity. Fourth session: Scheduling pleasant events and Lifestyle management. Fifth session: Problem solving and mindfulness Sixth session: Communication and assertion. Seventh session: Feeling management, Stress management and Coping skill training. Eighth session: monitoring and challenging negative automatic thoughts and Psychological support [18].

3. Carrying out the post-test.
4. Carrying out the follow-up after two months and data collections.

Result and Discussion

In this section the results of data analysis, has been reported in the form of descriptive (i.e., absolute and relative frequency, mean and standard deviation) and inferential (i.e. Sphericity mauchly's test and Anova) statistics. Since this is a quasi-experimental, pretest-posttest and follow-up with control group design the statistical method of Anova with repeated measure is used. Based on the normality of the variables which is test by Kolmogorov-Smirnov test, parametric tests were used and SPSS software version 16 was used. Significant level was considered less than 0.05 ($P \leq 0.05$).

Examination of hypothesis:
A: Cognitive-behavioral group therapy is effective on the quality of life of women with breast cancer.
QLQ-30: According to the obtained "F" value, the mean's difference in three tests is 3.34 and also the mean's difference of between groups is 3.21. Therefore, there are significant differences in the quality of life scores in three tests and also between intervention and control groups ($P \leq 0.01$). The results indicate that quality of life score increased significantly during the trial and also the difference between post-test and follow up-test was not significant ($P \leq 0.01$). Therefore it could be concluded that intervention was effective and the result preserved over time. On the other hand these scores trend in the control group remains constant in per-test, post-test and follow up (table 1).
QLQ-Br23: According to the obtained "F" value, the mean's difference of three tests is 32.59 and also the mean's difference of between groups is 74.53. Therefore, there are significant differences in the quality of life scores in three tests and also between intervention and control groups ($P \leq 0.01$). The results indicate that quality of life score increased significantly during the trial and also the difference between post-test and follow up-test was not significant ($P \leq 0.01$). Therefore it could be concluded that intervention was effective and the result preserved over time. On the other hand these scores trend in the control group remains constant in per-test, post-test and follow up (table 1).
In accordance with the obtained Chi-squared which is significant in some scales (functional and global health scales in QLQ-C30 and symptom scales in QLQ-Br23) Hoyn Flat correction was used, in these scales the variance between all the matrix combinations of variance-covariance of the studied groups is not the same. According to the obtained "F" value which is significant in the means of all scales except global health scale ($P \leq 0.01$), there are significant differences in the scales of quality of life scores in three tests and also between intervention and control groups ($P \leq 0.01$). The results indicate there is a significant differences in scales of quality of life score in pre-test and post-test and also the difference between post-test and follow up-test was not significant ($P \leq 0.01$) so it could be concluded that intervention was effective and result preserved over time. On the other hand these scores trend in the control group remains constant in per-test, post-test and follow up (table 2).
B: Cognitive-behavioral group therapy is effective on the resilience of women with breast cancer.
In accordance with the significant obtained Chi-squared as a result of Mouchly test it could be concluded that the variance between all the matrix combinations of variance - covariance related to the resilience of the studied groups is not the same, therefore the Hoyn Flat correction was used. According to the obtained "F" value, the mean's difference of three tests is 178.26 and also the mean's difference between groups is 56.48. Therefore, there are significant differences in the resilience scores in three tests and also between intervention and control groups ($P \leq 0.01$). The results indicate that resilience score increased significantly during the trial and also the difference between post-test and follow up-test was not significant ($P \leq 0.05$). Therefore it could be concluded that intervention was effective on the dependent variable and the result preserved over time. On the other hand scores trend in the control group remains constant in per-test, posttest and follow up (table 3).

Conclusion

In the necessities of group psychotherapy of patients suffering from cancer it is declared by Irvin Yalom that they are suffering from pessimistic thoughts, hopelessness, despair, loneliness and Fear of death because of suppressing their feelings about their illness. Consequently their participation in group psychotherapy sessions and dealing with their feelings can lead to different perspective to the human's life meaning [19]. And also all aspects of their life are influenced by the traumatic psychological experience of breasts' losing which are the attributes of femininity. It is confirmed that cognitive-behavioral group therapy caused an improvement in patients' quality of life and resilience by the findings of this research which is in line with Khayam and et al (2012)[20], Wojtyna and et al (2007)[21], Dirksen and Epstein (2008)[22]. Similarly, the results showed that the cognitive-behavioral group therapy leads to the rise of resilience among breast cancer patients which is in line whit the studies' of Padesky and Mooney's model (2012)[23], Fava and Tomba published (2009)[24], Hutnik, Smith and Koch (2016)[25]. To explain these findings it can be concluded that Cognitive-behavioral therapy enable people to establish a biological, mental and social balance in risky situations of their life and consecutively resilience and its resistance would increase at different situations. This sequentially will cause satisfaction, competence, strong invective, and better adaptation with different situations of life. In fact training of variety of techniques of cognitive behavioral therapy to people helps them to consider the current condition from different points of view without losing behavioral and emotional control. Also they can solve their problems in rational and suitable ways.

Acknowledgments

First and foremost authors would like to extend an enormous amount of gratitude and appreciation to the professional staff and all participants in this trail. This study was supported and funded by Cancer Research Center, Shahid Beheshti University of Medical Sciences in Tehran. The funders were independent from the conduct and outcomes of this study.

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Table 1: Anova with repeated measurement of effectiveness of cognitive- behavioral group therapy on quality of life.

questioners	Statistical Indicators	Sum of squares	df	Mean of Square	F	Sig	Partial Eta Squared
QLQ-C30	tests	283.63	2	141.81	3.34	0.01	0.75
	Groups	130.27	1	130.27	3.21	0.04	0.71
	Group*test	381.22	2	190.61	3.11	0.05	0.69
QLQ-Br23	tests	894.30	2	424.65	32.59	0.0001	0.71
	Groups	2107.44	1	2107.44	74.53	0.0001	0.85
	Group*test	960.96	1	480.48	36.88	0.0001	0.73

Table 2: Anova with repeated measurement of effectiveness of cognitive- behavioral group therapy on quality of life's scale (QLQ-C30 and QLQ-Br23).

questioners	Statistical Indicators	Sum of squares	df	Mean of Square	F	Sig	Partial Eta Squared
Functional scales (QLQ-C30)	Tests	4858.55	1.35	3577.13	57.95	0.0001	0.81
	Groups	2270.29	1	2270.29	14.77	0.0001	0.53
	Groups*tests	2595.47	1.35	1910.92	3096	0.0001	0.70
symptom scales (QLQ-C30)	Tests	3265.87	2	1632.89	43.39	0.0001	0.76
	Groups	3553.98	1	3553.98	60.22	0.0001	0.82
	Groups*tests	4665.61	2	1232.80	32.76	0.0001	0.71
global health scales (QLQ-30)	Tests	1670.65	1.44	1155.99	4.67	0.03	0.27
	Groups	104.70	1	104.70	2.12	0.16	-
	Groups*tests	569.64	1.44	394.16	1.59	0.22	0.10
functional scales (QLQ-Br23)	Tests	477.48	2	238.74	4.85	0.01	0.29
	Groups	368.93	1	368.93	2.75	0.05	0.23
	Groups*tests	531.69	2	265.84	0.01	0.31	-
symptom scales (QLQ-Br23)	Tests	7059.19	1.06	6642.74	120.15	0.0001	0.90
	Groups	1095.98	1	1095.98	16.01	0.002	0.49
	Groups*tests	754.59	1.06	710.07	12.84	0.003	0.49

Table 3: Anova with repeated measurement of effectiveness of cognitive- behavioral group therapy on resilience.

Statistical Indicators Source of Changes	Sum of squares	df	Mean of Square	F	Sig	Partial Eta Squared
Tests	8282.95	1.20	6902.47	178.26	0.0001	0.82
Groups	5450.40	1	5450.40	56.48	0.0001	0.82
Tests*Groups	2866.39	1.20	2388.66	61.69	0.0001	0.81