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THE EFFECTIVENESS OF FORDYCE BEHAVIORAL-COGNITIVE HAPPINESS TRAINING METHOD ON OPTIMISM AND LIFE QUALITY OF WOMEN WHO SUFFERING FROM CANCER

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ABSTRACT

Purpose: The purpose of this study is to determine the effectiveness of Fordyce behavioral-cognitive happiness training method on optimism and life quality of women who suffering from cancer

Methodology: Present research is trial and experimental study which has been done in the intervention form. The population of present study is all patient women who suffer from cancer and attend to Imam Khomani Hospital for treatment during second part of year in the city of Tehran in 2013. Sampling method was random assignment for both experimental and control group. Oxford standardized optimism and happiness questionnaire of life quality was used. Descriptive and inferential statistical methods were used for data analyzing.

Results: Training of Fordyce behavioral-cognitive happiness method is effective on optimism of women who suffering from cancer. Training of Fordyce behavioral-cognitive happiness method is effective on life quality of women who suffering from cancer. The efficacy of Fordyce behavioral-cognitive happiness training method on optimism of women who suffers cancer is more than control group. The efficacy of Fordyce behavioral-cognitive happiness training method on life quality of women who suffers cancer is more than control group.

Keywords: Happiness, Fordyce, Life Quality, Cancer.

INTRODUCTION

Cancer is one of the common diseases in our country which threats physical and mental health of those who suffer from it and has heavy expenses for family and medical system. Thus identifying efficient methods which reduce the concerns of such patients is important. Women who suffer from cancer may are not aware of their disease because of lack awareness of cancer sign and symptom. Women with illness cancer have different psychological difficulties. Happiness is one of the variables that have been center of attention in the recent years. Studies which have been done in this field confirmed direct relation of happiness with body immune recovery system (Maslow quoted by Scholtes 2007).

Silberman (2000 quoted by Moradi, 2008) Believes that personnel should consider joy and happiness at treatment of serious and difficult diseases, because

the happiness is the product of balanced, varied and satisfied life which basic human needs are met in it. On the other hand, many researchers including Argil valve (2005), Coast & Mack Cari (2007), Farnham and Cheng (2006) and Myers and Danyer (2005) believe that happiness is one of personality characteristic which can play constructive role in the treatment of many psychological disorders especially chronic, serious and difficult ones.

Happiness term bring some several different concepts to the mind (for example, happiness, satisfaction, joy and fun) so the number of psychologists refer to mental well-being as covering structure that includes variety of evaluation that person provides for his . her life (Dayner ,2002) these evaluations include cases such as life satisfaction, positive mood and excitement and lack of depression

and anxiety, and various aspects of it, is in cognitive and emotional form(Dayner and Sah, 1997).

Large capacity of empirical evidence has shown that optimism and pessimism have opposite effects on well-being, physical and psychological adjustment. Pessimistic people compare to optimistic ones have more psychological problem when facing medical intervention and other life stressors. For instance a study on patients who had undergone heart bypass surgery show that patients who are pessimistic were less satisfied with the quality of their life, less job satisfaction, lower positive mood and had more physical pain after bypass surgery compare to the optimistic ones(Fitzgerald, Thonin, Aflok and Pransky 1993; King, Rove, Kimbel and Servik, 1998) Fordyce (1997) as one of the happiness psychology theory makers presents a training program which has 14 components and called it "happiness increasing program". He believes that happiness is one of the important needs of patients who suffer from cancer which can play major role in physical and mental improvements of these individuals. Lango believes that presentation of happiness and positive psychology programs can improve the life quality of cancerous patients and change their attitude toward life. Psychological approaches that focus on happiness program can promote the levels optimism between patients who suffer from serious illness (Steen and et al . 2008 and Morley 2006)

Considerable evidence which has been collected by Williams et al (2007) during a decade of clinical activity confirmed the efficacy of happiness program in the improving optimism condition. According to Andersick (2009) biological factors cannot increase physical vulnerability in the cancerous patients lonely, also the type and level of pessimism or optimism in the individual toward illness can be accounted as an important factor.

Despite the fact that the efficacy of happiness on life quality and optimism of cancerous patients has been proved in numerous foreign research but in our country scarce researches have been done in this field. Considering the fact that the number of cancer patients will increase each year and also this issue should not be forget that cancer illness can affect the performance of individual and family and even the society and it incurred a lot of mental, economic, physical and social losses and damages for patients and their families, so it is critical to identify ways to treat this problem. Therefore the question of present research will be determined in the two basic forms whether the training of happiness can be effective in

creating and enhancing the life quality of cancer patients?

METHOD

Present research is trial and experimental study which has been done in the intervention form. In this study Fordyce behavioral-cognitive happiness training method is considered as independent variable and optimism and life quality as dependent variable. Also variables such as age, education and income are considered as control variables and variables such as social status, marital status and the number of children are considered as moderator variables. The population of present study is all patient women who suffer from cancer and attend to Imam Khomeini Hospital for treatment during second part of year in the city of Tehran in 2013.

Among those who attend hospital 32 individuals who received high scores in the GHQ-28 test were selected randomly and divided into two control and experimental groups. Sampling method was purposeful and subjects were women with breast cancer who were willing to cooperate voluntary in research and they were similar and homogeneous in variables such as age, marital status, education, gender and social class and status. For data analyzing base on research hypothesis and variables, descriptive statistics including frequency, percentage, mean and standard deviation and inferential statistics include multivariate analysis of covariance according to the normal distribution and homogeneity of group variance were used. Also the T test was use for comparing the effectiveness of happiness training on women who suffer from cancer and normal ones. Data was analyzed through SPSS software version 15.5.

TOOLS

Oxford Happiness Standardized Questionnaire

The Oxford happiness standardized questionnaire was used for measuring. This questionnaire is standardized test that consisted of 29 questions, each question has 4 scoring option that the score of question one is zero and the score of question two is one and the score of question three is two and the score question four is three. Finally the total scores will be totalized for each person. The validity of the questionnaire has been proved via repeated investigations by Seligman (2008), Vienna Hoven (2007), Argil (2007) and Ahmad Pur through content validity. The questionnaire has five subscales that its reliability coefficient was reported 0.91.

Shearer and Caro optimism questionnaire

Shearer and Caro (1985) for evaluation natural optimism designed life orientation test (LOT) that later were revised (Shearer et al., 1994). LOT evaluates one personality trait that its features are person's future expectations in the future. (Kar 2004, translated by Najafi zand and Pasha Sharifi 2006) . LOT consisted of 8 articles which 4 articles show optimism mood and 4 articles show pessimistic mood. Examinees answer to sentences for measuring the rate their successes or failures. The features of test psychometrically were appropriate but the only criticism is that the optimistic and pessimistic sentences items haven't high internal consistency. (Aliwerz 1994, Marshall and lang 1990). Moreover, some of the test's items do not meet exact expectation of person in the future. (Bord, 1998). So the revised version of LOT-R has been placed instead of LOT(Shepear et al., 1994) . Revised version of LOT was shorter than its original form and consisted of 6 articles which 3 articles present optimism and 3 ones presents pessimism. The internal consistency of revised version is more than its original form and because of its advantages today in most studies is used.(Carver 2005) .Reliability and validity of test has been confirmed by Biedermann et al. (2005) and Rezapour and Abedi (2008) studies.

Life Quality Questionnaire

This questionnaire contains 15 questions that measure people's life quality; its subscales include prevention, physical activity and recreation, stress management and social and interpersonal relationships. The reliability and validity of the questionnaire has been proved by Tahqiq Sayedi (2008) and Neshat dost (2009) research.

RESULT

In this study for investigation the effectiveness of Fordyce behavioral-cognitive happiness training method on optimism and life quality of women who suffering from cancer descriptive statistics such as mean , standard deviation and inferential statistics were used. Acquired results have been presented in the following tables separately. So at first descriptive statistical questions then inferential statistical questions were answered.

A) Descriptive data

Table: 1. Age status of experimental and control groups.

Groups Age	Experimental		Control	
	Number	Percent	Number	Percent
20-25	6	30	6	30
26-30	6	30	6	30
31-35	6	30	6	30
36and above	2	10	2	10
Total	20	100	20	100

The data of above table shows that the age distribution of both groups is similar and good homogeneity can be seen in this field.

Table: 2. Academic status of experimental and control groups

Groups Education	Experimental		Control	
	Number	Percent	Number	Percent
Under Diploma	6	30	6	30
Diploma and post diploma	6	30	6	30
BA and Upper	8	40	8	40
Total	20	100	20	100

The above data show that the most frequency is for women who have bachelor and post graduate degree (40%).

Table: 3. Duration of illness in the experimental and control groups.

Groups Duration of illness	Experimental		Control	
	Number	Percent	Number	Percent
1-5	6	30	6	30
6-10	6	30	6	30
11 and upper	8	40	8	40
Total	20	100	20	100

Based on the above data the number of women with 11 years and upper duration of illness is more than other groups (40%).

B. Inferential Statistics

First hypothesis: Training of Fordyce behavioral-cognitive happiness method is effective on optimism of women who suffering from cancer

Table: 4. Total score mean of optimism in the experimental and control group.

Group Test	Experimental		Control	
	Pre test	Post test	Pre test	Post test
Statistical index	Mean	Mean	Mean	Mean
Optimism	41.40	48.91	39.45	40.75

Table: 5. SD of optimism total score in the experimental and control group.

Group Test	Experimental		Control	
	Pre test	Post test	Pre test	Post test
Statistical index	SD	SD	SD	SD
Optimism	8.79	6.5	1.42	1.86

One of the pre assumptions of covariance analysis is internal consistency of variances, so Levine's test was used for determination of variance consistency and equality.

Table: 6. Variance equality pre assumption on the Levine test in the experimental and control groups for optimism.

F value	Degree of freedom 1	Degree of freedom 2	Significant level
6.361	1	38	0.015

The results of table 6 show that the variances consistency pre assumption was approved so covariance analyzing was done according with variances equality pre assumption.

Table: 7. Covariance analyzing of Fordyce behavioral-cognitive happiness training method is effective on optimism of women who suffering from cancer

Source	Total squares	Degree of freedom	Mean squares	F value	Significant level	Effect coefficient
group	5721.674	1	5721.674	34.928	0.004	43.7

The results of table 7 show the significant difference between optimism score mean of women who suffer from cancer in experimental and control group(Sig <0.05) at posttest stage. So first hypothesis, the training of Fordyce behavioral-cognitive happiness method is effective on optimism of women who suffering from cancer has been approved. Second hypothesis: Training of Fordyce behavioral-cognitive happiness method is effective on life quality of women who suffering from cancer

Table: 8. Total score mean of life quality in the women who suffer from cancer in experimental and control group.

Group	Experimental		Control	
Test	Pre test	Post test	Pre test	Post test
Statistical index	Mean	Mean	Mean	Mean
Life quality	255.52	298.95	238.08	229.12

Table: 13. Total score of life quality multivariate covariance (Manko) in the control and experimental group.

Source	Statistical index Depend ant variable	Total squares	Degree of freedom	Mean squares	F value	Significant level	Effect coefficient
Group	Prevention	944.399	1	944.399	27.062	0.001	39.2
	Physical activity and recreation	29.424	1	29.424	22.958	0.001	35.3
	Stress management	56.521	1	416.521	37.103	0.001	46.9
	Social and interpersonal relation	88.149	1	88.149	6.612	0.014	13.6

Table: 9. Total scores of SD progress motivation in the control and experimental groups.

Group	Experimental		Control	
Test	Pre test	Post test	Pre test	Post test
Statistical index	SD	SD	SD	SD
Optimism	47.96	47.78	34.33	34.47

Table: 10. Levine's test life quality variances and equality pre assumption in the experimental and control group.

F value	Degree of freedom 1	Degree of freedom 2	Significant level
15.06	1	38	0.000

Table: 11. Covariance analysis of Fordyce behavioral-cognitive happiness training method on life quality of women who suffering from cancer

Source	Total squares	Degree of freedom	Mean squares	F value	Significant level	Effect coefficient
group	40306.73	1	40306.73	36.02	0.000	44.5

The results of table 11 show the significant difference between life quality score mean of women who suffer from cancer in experimental and control group(Sig <0.05) at posttest stage. So second hypothesis, the training of Fordyce behavioral-cognitive happiness method is effective on life quality of women who suffering from cancer has been approved.

Table: 12. The results of the multivariate covariance test between the experimental and control groups at life quality.

Source	Weaker's Lambda	F value	Significant level
Group	0.427	13.097	0.001

Based on multivariate covariance analysis, the difference between the experimental and control group in the life quality of women who suffer from cancer is significant.

Table: 14. The results of the T test – Evaluation of Fordyce behavioral-cognitive happiness training method effectiveness on optimism of cancerous women.

Statistic Index	experimental group			Control group		
Happiness effectiveness	number 20	Mean 152.47	SD 28.23	number 20	mean 141.52	SD 26.78
T test	Df:38 T:12.85					
T distribution	0.01 2.36			0.05 1.98	DF 78	
comparison	Significant level :0.95 Significant level : 0.99			1.98<12.85 2.36<12.85		
result	The assumption is confirmed					

Table: 15. The results of the T test - Evaluation of Fordyce behavioral-cognitive happiness method effectiveness on life quality of cancerous women.

Statistic Index	experimental group			Control group		
	number	Mean	SD	number	mean	SD
Happiness effectiveness	20	114.30	20.21	20	111.22	17.66
T test	Df:38 T:6.66					
T distribution	0.01 2.36			0.05 1.98	DF 78	
comparison	Significant level :0.95 Significant level : 0.99			1.98<6.66 2.36<6.66		
Result	The assumption is confirmed					

The results of table 13 show the significant difference between life quality score mean of prevention(Sig <0.05), physical activity and recreation(Sig <0.05), stress management(Sig <0.05) and social and interpersonal relation (Sig <0.05) in the experimental and control group.

The third hypothesis: The effectiveness of Fordyce behavioral-cognitive happiness training method on optimism of cancerous women is more than control group. Base on DF 38 we can realize that acquired T is bigger than observed t at level of 0.99 and bigger than observed t at level 0.95. So assumption is confirmed.

The fourth hypothesis: The effectiveness of Fordyce behavioral-cognitive happiness training method on life quality of cancerous women is more than control group. So base on the above score the assumption is confirmed.

DISCUSSION AND CONCLUSIONS

Base on achieved results first hypothesis, the effectiveness of Fordyce behavioral-cognitive happiness training method on optimism of cancerous women has been tested and confirmed. This findings

are in same path with Mehrabi,s (2013) results . Mehrabi in his research concluded that happiness can have a positive influence on the hope and confidence of the individuals so it is sign of optimism. Second hypothesis, the effectiveness of Fordyce behavioral-cognitive happiness training method on life quality of cancerous women has been tested and approved. This finding is in same path with Morgan (2012) research. Morgan believes that happiness can determine the style and life quality of people's lives. As Wolf and others (1987) stated, there is no unique definition of life quality under certain conditions which experienced by all individuals similarly. The measure of desires satisfaction, responsibilities and pain that experienced by different people varied prominently. Furthermore, there are numerous studies on gender differences and happiness. Wood et al (1989) analyzed 93 studies which most of them had been done in America. They found that women normally are happier than men (not much with 7% standard deviation), have a little more positive affection (7%) and a little more life satisfaction (3%) (Novelen, Heksoma and Rasting 1999)

Women have more positive and negative affection rather than men. This may be because women have more self-expression in their social relations or have more social connection. Sout Cliff and Holmes (1991) focused on the opinions of author's expression at different times. They quoted from "D. Hayes" and "Nipen Berg" that existences definitions differ in two respects: first, some measure life quality with general evaluation of life, and others focus on factors such as satisfaction degree and demands that form life quality. Other authors such as Horn Koist emphasize on mental and internal nature of evaluation. On the other Liu investigate the issue form objective (external) aspect (Hayes and "Nipen Berg quoted by Sout Cliff and Holmes, 1991).

Raston (1995) considers life quality in five components : natural life, happiness, success for seeking personal purposes, usefulness for society and natural capacity. First part focuses on the ability for enjoying natural life. Natural life can be without sickness and also accordance with new successes and experiences despite of illness. Second part focused on happiness and satisfaction. Happiness is positive emotion which its duration is short, while satisfaction referred to life positive experience that its duration is long. Also happiness can be part of satisfaction.

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