

The Effectiveness of Group Positive Psychotherapy on Improving the Depression and Increasing the Happiness of the Infertile Women: Clinical Trial

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ABSTRACT

The goal of this study was to investigate the effects of group positive psychotherapy on improving the depression and increasing the happiness of the infertile women. To this end, 36 infertile women were divided into two groups of control and intervention, 18 in each group. The intervention group received six weeks of positive psychotherapy, but the control group's treatment was delayed by six weeks. To gather the data, the Beck depression Inventory II (BDI-II) and Oxford happiness Inventory (OHI) were used. The result demonstrated that, the decline of depression was more in the intervention group than the control group. In addition to this finding, the result also showed that the increase of happiness was higher in the intervention group in comparison to the control one. Therefore, it could be deduced that the positive psychotherapy could be used to treat the infertile women's depression and elevate their happiness.

Key Terms: positive psychology, psychotherapy, depression, happiness, infertility, women

INTRODUCTION

A human being is exposed to many diseases throughout his life. Some of these illnesses such as infertility could impact a person's life in the long run. Infertility is an illness of the reproductive system. It is defined as the inability to achieve clinical pregnancy 12 months after having sexual intercourse without any prophylactic devices [1]. According to many researches, the rate of infertility is reported as being very high. The lifetime rate of infertility is reported to be from 6.6 to 26.4 percent, and 12-month infertility rate is reported as being about nine percent [2]. This disease is considered as a bio-psycho-social crisis [3]. Therefore, it could have many social and psychological consequences. The past studies have shown that the rate of these patients suffering from various psychological problems is higher than the fertile people. The occurrence of sexual dysfunctions among the women suffering from

the primary infertility is reported as being 64.8 %. This percentage rises to 76.5% among the women with secondary infertility [4]. Moreover, 20.7% of the women with infertility problems suffer from eating disorder [5]. The infertile women display a lower sexual arousal and desire [6], suffer from more psychiatric disorders [7, 8] and benefit from a lower health related quality of life [9].

Furthermore, in addition to these problems, depression is a much more prevalent disorder in the infertile women. In various studies, the rate of infertile women suffering from depression has been reported as being, 17.9% [10], 40.8% [11], and 48% [12]. This high rate of infliction shows the necessity of psychological interventions. Despite the fact that no studies have been conducted on the effect of infertility on the happiness of these women, happiness could be another problem which these women have to suffer as they are suffering from depression. One of the reasons for this decline in their happiness could be due to the high cost of infertility treatment, especially in Iran, because studies have shown that the level of happiness is associated with the absolute and relative income of the individuals [13]. Many therapeutic methods to treat depression have been designed and implemented. For instance, interpersonal psychotherapy [14], cognitive behavior therapy (CBT), and supportive psychotherapy [12, 15] have been found to be effective in treating depression in the infertile individuals. However, for the following two reasons, new methods of therapy are needed. First reason being that most of the psychological treatments cost a lot; and considering the high cost of infertility treatments, there is a strong possibility that these people would not seek psychological treatments. The second reason being that in many of the psychological treatment methods, there is no emphasis on the strengths and capabilities of the patients. Instead, the focus is on reducing the negative emotions. As the result, in recent years, a new approach called positive psychology has been introduced. This new approach has been able to compensate for some of these limitations.

Positive psychology has focused its attention on the individuals' positive emotions and strengths. Positive psychology is defined as the scientific study of positive experiences, positive individual trait and institutions which facilitate their growth [16]. [17] define positive psychology as "the scientific study of optimal human functioning". This method is a hope-giving approach for improving the well-being of the patients using positive psychology interventions (PPIs). Positive psychology interventions are certain treatment methods or intentional activities which aim to increase positive feelings, cognitions and behaviors [18]. This emphasis and focus on inducing positive emotions could not only reduce psychological problems in the patients, it could also affect their happiness. A few of the benefits of positive psychology treatments are as follows: (1) it could help those who are not responding positively to drug therapy; (2) it is relatively cheap; (3) it not only takes a short period of time but also produces speedy positive improvement of mood symptoms; (4) no one gets stigmatized; (5) it does not have any side-effects [19]. Therefore, there is a strong possibility that using positive psychotherapy on the infertile individuals could not only help reduce their depression, it also could increase their happiness. Since no research has been conducted on the infertile women with regard to the aforementioned issues, this study aims to investigate the effectiveness of group positive psychotherapy on reducing depression and elevating happiness in infertile women.

MATERIALS AND METHODS

1.1. Participants and Procedure

This study has been sanctioned by the ethics committee of the Kermanshah University of Medical Sciences. In addition, it is recorded at the Iranian Registry of Clinical Trials (IRCT). The participants in this study consisted of the women who were referred to the "motazedi" hospital in Kermanshah, Iran in the months of April and June of 2013. 121 infertile women completed the Beck Depression Inventory II (BDI-II) of which only 115 of them were acceptable. Then, a clinical psychologist conducted a diagnostic interview with those whose depression marks were mild to moderate using the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR) criteria's. The inclusion criteria for the participants were as follows: (1) obtaining a score of 14 to 28 in the BDI-II (meaning that they suffered from mild to moderate depression). (2) Confirmation of the presence of major depression in individuals based on the major depression criteria mentioned in DSM-IV-TR. (3) not undergoing any other psychological or any forms of psychiatric treatment. (4) Lack of any other psychiatric disorder at the same time. The exclusion criteria consisted of the followings: (1) having any form of physical problems which could hinder the psychotherapy. (2) Intensified depression symptoms throughout the study. 49 people were found to meet the criteria, but only 40 people accepted to participate in the experiment. Out of these 40 participants, 36 of them were randomly placed in two groups of intervention and control, 18 in each group. Ultimately three people from the intervention group and two people from the control group dropped out of the treatment process. The

demographic characteristics of the study groups are displayed in Table 1. Evidently, no significant differences could be observed in any of the subjects within the two groups.

Table 1: demographic Characteristics of the participants

variable	Control group	Intervention group	Total sample	t or χ^2	P
	Mean (S.D.) N (%)	Mean (S.D.) N (%)	Mean (S.D.) N (%)		
age	29.25 (5.65)	32.33 (4.82)	30.49 (5.68)	t=1.62	0.11
husband age	34.63 (6.52)	37.60 (8.36)	35.11 (6.38)	t=1.10	0.27
marriage (year)	7.63 (5.89)	7.07 (5.65)	7.75 (5.36)	t=0.27	0.79
infertility (year)	3.93 (3.13)	5.27 (5.37)	4.45 (4.04)	t=0.83	0.41
BDI-II	21.87 (5.45)	20.87 (5.44)	19.43 (11.97)	t=0.51	0.61
happiness	33.50 (9.96)	36.13 (13.14)	36.85 (12.85)	t=0.63	0.53
education					
Pre-high school	4 (25.0)	5 (33.3)	27 (23.5)	$\chi^2=0.41$	0.81
high school	7 (43.8)	5 (33.3)	53 (46.1)		
higher education	5 (31.2)	5 (33.3)	35 (30.4)		
sum	16	15	115		

1.2. Measures

Beck Depression Inventory II (BDI-II): In this study, to assess the degree of depression, the Beck Depression Inventory II (BDI-II), which contains 21 items and is scored on the scale of zero to three, was used. Each person's total marks can range from 0 to 63 and people could be placed in four groups: a score of 0 to 13 is the lowest, a score of 14 to 19 represents mild depression, a score of 20 to 28 indicates moderate depression and the score of 29 to 63 is indication of severe depression (20). This questionnaire is used in many countries such as Japan (21) and Brazil (22). In this study, the Persian version of the questionnaire was used which has an alpha value of 0.87 and its test-retest reliability was 0.74 (23).

Oxford happiness inventory (OHI): to assess the happiness of the patients, the Oxford Happiness Inventory, which was built by Argyle, Martin, & Crossland in 1989, was used. This questionnaire has 29 items and scores range from zero to three (24). For the Iranian population, alpha was 0.91 for this questionnaire and its other properties were appropriate (25).

1.3. Intervention

In this study, those who were placed in the intervention group underwent six sessions of group positive psychotherapy. To this end, three groups of six were formed and the interventions were carried out by an MA clinical psychology major student who had been trained in the area of positive psychotherapy. The sessions contained the following activities: Using their Strengths, Gratitude Visit, Active-Constructive Response, Counting Blessings, Savoring, and Biography. Considering the fact that this method of therapy is exercise oriented, during each session a set of exercises were given to the participants, which they had to complete them by the following session (26, 27).

1.4. Statistical Analysis

To compare the demographic information, the pre-test scores of depression and happiness in two groups, independent-samples t test and Chi-square were used. Furthermore, to study the differences between the pre-tests and the post-tests of the two variables, depression and the happiness in the two groups of intervention and the control, the paired-samples t-test was used. Finally, to investigate the difference between depression and the happiness between the two groups, the control and the intervention, the Analysis of Covariance (ANCOVA) was carried out.

RESULTS

The results showed that in the intervention group, depression in the posttest compared to the pretest was significantly lower ($P < 0.003$). Moreover, depression showed a significant decrease in the control group ($P = 0.003$). In addition, happiness showed a significant increase in the intervention group when the results of the post-test and the pre-test were compared. However, this increase was not significant in the control group (table 2).

Table 2: paired-samples t-test for studying the difference between the variables in the pre-test and the post-test results of control and the intervention group

Measure	group	Pre test		Post test		t	p
		Mean	S.D.	Mean	S.D.		
BDI-II	intervention	20.87	5.44	12.93	6.71	6.67	P<0.001
	control	21.87	5.45	18.56	5.48	3.61	0.003
OHI	intervention	36.13	13.14	46.87	12.77	4.82	P<0.001
	control	33.50	9.96	36.06	10.87	1.51	0.153

Note: BDI-II= Beck Depression Inventory II; OHI= Oxford Happiness Inventory.

Another finding of this study showed that depression displayed a significant decrease in the intervention group in comparison to the control one ($p=0.003$). Moreover, in this study, happiness in the intervention group showed significantly a higher increase in comparison with the control group (table 3).

Table 3: Analysis of Covariance (ANCOVA) for comparing the differences between the control and the intervention group after controlling pre-test

Measure	source	SS	df	MS	F	P	Eta Squared	Observed power
BDI-II	Pre-test	605.08	1	605.08	35.61	P<0.001	0.56	
	Group	175.59	1	175.59	10.33	0.003	0.27	0.87
	Error	475.78	28	16.99				
	Total	9103.01	31					
OHI	Pre-test	2482.38	1	2482.38	44.09	P<0.001	0.61	
	group	578.68	1	578.68	10.28	0.003	0.26	0.87
	Error	1576.28	28	56.29				
	Total	57814.38	31					

Note: BDI-II= Beck Depression Inventory II; OHI= Oxford Happiness Inventory.

DISCUSSION

Infertile individuals, especially infertile women, may be exposed to many psychological problems such as depression and lowered happiness. This study was the first to investigate the effectiveness of group positive psychotherapy on reducing depression and elevating the happiness level in the women suffering from infertility. The first finding of this research showed that in the intervention group, during the posttest, depression had a significant decline. Moreover, with respect to the depression variable, the intervention group showed a significant decline in comparison with the control group. This finding has been verified by different studies [27-30]. Depression is a common disorder for which many causes have been introduced. However, the more recent studies offer new factors which could justify and explain the effectiveness of positive psychology interventions. Wood and Joseph (2010) conducted a study on 5566 individuals, ranging in age 51 to 56. These individuals were again tested at the ages of 63 to 67 to determine whether the lack of positive well-being constituted an additional unique risk factor for depression. The results showed that those with a low rate of positive well-being were more likely to suffer from depression ten years after the first test. Wood and Joseph believe that the findings of their study supports using interventions, which improve the positive well-being of the patients, could be used as a preventive and therapy method for treating depression [31]. Cognitive, behavioral and interpersonal approaches focus on the symptom of depression [19]. However, the positive psychotherapy, which Seligman and colleagues, at the University of Pennsylvania, introduced as a method for treating depression, is based on a hypothesis. The hypothesis states that depression not only could by lowering the negative symptoms of depression be treated effectively, but also it could be treated directly, and in the first place, by inducing positive emotions, character strengths and meaningfulness [27]. This is exactly what the positive psychotherapy exercises are after. In other words, it may be possible to reduce depression by improving well-being of the patients.

The next finding of the research indicated that in the intervention group being treated, in the post-test, happiness showed a significant increase. Furthermore, this increase in happiness in the intervention group in comparison with the control group was also significant. Even though researches which have targeted happiness are rare, there are similar studies that have investigated other aspects of the patients' well-being. Sin and Lyubomirsky (2009) conducted a meta-analysis to study the effectiveness of the positive psychology interventions on increasing the well-being and improving the depression symptoms. They reviewed 51 researches and found out that these interventions

improve well-being of the patients significantly and reduce the symptoms of depression [18]. In another study, in 2013, 55 students were placed in two groups, an intervention group of 28 and a waiting list of 27. The intervention group underwent a 10 week-long Wellness Promotion Intervention. The life satisfaction of these students showed significant improvement in the posttest; whereas, the well-being of the students in the waiting list showed a decline; even though, this decline was not significant [32]. These findings are in line with the findings of this study. Happiness consists of three elements: pleasure, engagement and meaning [33]. Therefore, it is natural that those interventions which aim to improve these factors, would lead to improved happiness. The exercises of the positive psychotherapy are such that, in the first place, focus on increasing positive emotions and happiness. Mental health does not just mean having no mental or psychological illnesses and disorders. The person should display certain positive indicators such as well-being [32]. Therefore, inducing positive emotions could not only be effective in preventing mental disorders and their treatment, but also could be considered as the main goal. This is a goal which could be achieved through positive psychotherapy.

In conclusion, Depression and lowered happiness are problems which could endanger the infertile women's mental health. Even though, there are many drug and psychological therapies for treating depression, positive psychotherapy holds many more benefits. This therapy is carried out in a self-administrative manner and includes certain exercises which are to be completed by the patients between the sessions. As the result of this, it is both time and cost effective. However, the most important and the biggest advantage of this form of therapy could be its focus on positive emotions and strengths of the patients, which leads to increased well-being and happiness as it treats their mental disorders. Ultimately, it should not be ignored that the findings of positive psychology try to supplement what is known about the human pain, weaknesses and disorders and not substitute them [29]. Utilizing positive psychology and positive activities are supplements to the existing drug and psychological treatments [19].

Limitations and direction for future studies

There were certain limitations in this study. The first is that the length of the intervention period was only six weeks. Despite the fact that shortness of the intervention period could make the study cost effective and time saving, it could, on the other hand, lead to some patients not benefiting from the treatment. If the intervention period were to be longer, there was the probability of obtaining better results. Moreover, there is the possibility of the effects of the intervention decreasing in the long run, but in this study, there was not an opportunity to assess it, because, due to the condition of the fertility center and the existing resources, there was no chance for follow up observations.

Positive psychology is a new approach which has been introduced recently in the field of psychology; therefore, many more studies will be conducted in this area in the coming future. Duckworth et al. (2005) believe that there are, at least, 100 positive interventions. It is natural that not all of these interventions are experimentally valid, and in the future researches more effective treatments must be introduced. On the other hand, infertility which is a relatively common problem has many negative consequences. It is possible to eliminate some of these consequences through positive psychotherapy. This issue should be investigated in the future studies.

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Informed consent

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all patients for being included in the study.

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