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Original Article

Psychiatry Section

The Effect of Stress Management Based on Group Cognitive-Behavioural Therapy on Marital Satisfaction in Infertile Women

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ABSTRACT

Introduction: In the developed world, infertility is on rise and has become a social concern. This is considered as a serious stress in life and exerts a severe psychological impact on the couple.

Aim: This study was conducted to study the efficacy of stress management based on group cognitive-behavioural therapy on marital satisfaction in infertile women.

Materials and Methods: This was a quasi-experimental study with a pretest-post-test design and control group. The study sample consisted of 40 infertile women enrolled based on convenience sampling and randomly assigned to two groups: experimental and control, of 20 each. Then, the experimental group underwent 10 two-hour stress management sessions per cognitive-behavioural therapy. The instruments used in this study were marital satisfaction inventory ENRICH and a checklist of demographic characteristics. Immediately and three months after completion of the intervention, the instruments were administered to the participants. The data was analysed by analysis of covariance in SPSS 18.

Results: There was a significant difference in marital satisfaction between the experimental and control groups in both post-test (p=0.001) and follow-up (p=0.001).

Conclusion: The stress management based on cognitive-behavioural therapy could contribute to increasing marital satisfaction in infertile women. The effect could remain stable three months after the last interventions (follow-up).

Keywords: Infertility, Psychology intervention, Psychosocial function

INTRODUCTION

Infertility has been associated with negative psychosocial function and infamy [1]. This condition has been related to psychological outcomes including depression and lack of self-efficacy [2]. World Health Organization defined infertility as failure to conceive after usual unprotected sexual intercourse for 12 months or longer [3]. Infertility is an important disorder that has major impact on the individual and community health. Although reliable data is not available on infertility, approximately more than 70 million couples suffer from infertility worldwide [4]. Infertility is a prevalent reproductive health problem in developing countries [5]. The rate of infertility is varied among populations and during different periods. The prevalence of primary infertility in Iran was reported to be 20.2%, which is significantly higher than the global average [6]. Infertility could cause feelings of guilt, aggressiveness, anxiety, obsession and psychosomatic complaints [5,7]. Stressful experience of infertility is associated with a wide range of existential, physical, emotional, interpersonal and marital stressors [8,9]. The psychological problems, divorce and financial costs borne by couples experiencing infertility are other consequences of infertility [10-12]. Negative social and mental effects of infertility on women are more frequently seen in women than men so that this problem influences all dimensions of the women's life, decreases intimacy and leads to separation and divorce [13,14]. Also, this disease affects women's different aspects of sexual life and their family's mental health [15]. Marital and sexual satisfaction can be declined in infertile women and marital compatibility decreases in infertile women over time [9,16,17]. Women have more negative mental stressors due to infertility than men and hence they need psychological interventions [9].

There are various therapeutic methods of dealing with the psychological reactions caused by infertility. Some experts recommend cognitive-behavioural methods of treating infertility because these approaches are believed to be appropriately parallel with the needs of infertile couples and hence should be always the first measure to take [18-20]. Although cognitive behavioural approaches can be effective treatments for infertility stress in women, they are not the only reliable procedure of infertility treatment [21]. In another study, the cognitive behavioural stress management was effective on marital satisfaction in infertile women [22].

As infertility has a greater adverse effect on women than men, and leads to psychological complications and diseases and decreases the standard marital quality and satisfaction in most couples, special therapeutic practices particularly psychological interventions need to be conducted on these patients so that fewer psychosocial damages may be observed in these couples and their families.

AIM

Therefore, the aim of the present study was to investigate the efficacy of stress management based on group cognitive-behavioural therapy on marital satisfaction in infertile women.

MATERIALS AND METHODS

This was a quasi-experimental study with a pretest-post-test design and control group. Overall, this study was conducted within five months, a two-month intervention and a three-month follow-up. Study population consisted of all infertile women in Shahrekord County who were referred to Gynaecology Clinic of Hajar Hospital. Sample size included 40 infertile women enrolled by convenience sampling based on gynaecologist's diagnosis, clinical interview and WHO diagnostic criteria, failure to conceive after frequent unprotected sexual intercourse for 12 months or longer [1]. The participants were randomly assigned to two experimental and control groups of 20 each by random number table. Further, all the women who filled out the informed written consent before the study were enrolled. The ethics committee approved the study protocol. Sample size was estimated based on test power using Cohen's

Table. Accordingly, if α=0.05 and the effect size=0.50, enrollment of 20 individuals in each group will yield a test power of 0.88 [23].

After assignment of the two group and prior to psychological intervention, the research tests were administered to the two groups. Then, the experimental group underwent 10 two-hour stress management training sessions per cognitive-behavioural therapy. The control group were allowed to do their daily activities and no intervention was conducted on them. After the intervention, the instruments were administered to the participants in the two groups. Three months after completion of the intervention, the instruments were readministered to the participants of both groups to assess the stability of training intervention as follow-up. The tests in the experimental group were required to practice the methods of psychological intervention throughout the study as home assignment.

The used instruments in this research were a test and a checklist of demographic characteristics.

A. Marital Satisfaction Inventory ENRICH: This test as a diagnostic instrument is used for measuring the rate of couples' marital satisfaction. The genuine version of this test has 115 items from which shorter versions have been obtained. In this study, a 47-item version, standardized by Solaimani A [24], was used. The reliability of this test was obtained 0.93 for men and 0.94 for women by Pearson correlation coefficient and test-retest with a one-week interval. The dimensions of marital satisfaction in this test are personality issues; relationship; conflict resolution; financial management; leisure activities; sexual relationship; parenting; family and friends; and religious orientation. The scoring was based on Likert scale and a higher score demonstrated a higher level of higher marital satisfaction [24].

B. Checklist of demographic characteristics: This checklist consisted of first name and surname (optional), age, education, place of residence, occupation, duration of marriage and duration of infertility. The data were analysed by descriptive and analytical (analysis of covariance) statistics in SPSS 18.

RESULTS

Mean age of all the women was 29.4 (range: 22-47) years. Mean age of the women in the control group was 28.01 (range: 23-49) years. There was no statistically significant difference in age between the two groups (p<0.05). In the experimental and control groups, 70% vs. 73% of the women had secondary and diploma education, 25% vs. 23% had BSc/BA and 5% vs. 4% had MSc/MA and higher education, respectively. In the experimental and control groups, 65% vs. 61% of the women were housewives and 35% vs. 39% of them were employed, respectively. In the experimental and control groups, 55% vs. 58% lived in villages and 45% vs. 42% lived in cities, respectively. There was no statistically significant difference in the above demographic characteristics between the two groups (p<0.05).

Duration of marriage was 4-6 years for 40% of the women (the highest frequency) in the experimental group. Also, duration of infertility was 6-10 years in 55% of the women (the highest frequency) in the experimental group.

The mean score of marital satisfaction increased in the experimental group compared to the control group in both post-test and follow-up, such that it was 163.12 in the post-test and 158.65 in the follow-up while it was 129.4 in the pretest [Table/Fig-1]. The difference in mean score of marital satisfaction was significant in the experimental and control groups in post-test (p=0.001). In other words, the stress management based on group cognitive-behavioural therapy contributed to increasing marital satisfaction in the infertile women. The effect size was 0.62, meaning that 62% of the difference between the two groups was due to the therapeutic interventions [Table/Fig-2].

Research steps / Variable(Group)	Pretest	Post-test	Follow-up
	Mean±SD*	Mean±SD*	Mean±SD
Control	121.47±16.73	119.21±14.37	120.70±15.64
Experiential	129.4±19.87	163.12±22.51	158.65±23.79

[Table/Fig-1]: Mean±standard deviation of marital satisfaction scores in two groups at three steps of study. (* Standard deviation)

Indices of Statistics/ Sources	df	Mean square	F	p-value	Eta	Statistical Power
Pretest	1	10534.65	76.48	0.001	0.431	1
Group Membership	1	3504.22	118.15	0.001	0.627	1

[Table/Fig-2]: Results of the analysis of covariance relevant to the effect of group membership on marital satisfaction in the two groups in post-test.

Indices / Sources	df	Mean square	F	significance	Eta	Test Power
Pre-test	1	8453.62	38.80	0.001	0.322	1
Group Membership	1	2937.17	89.54	0.001	0.486	1

[Table/Fig-3]: Results of the analysis of covariance relevant to the effect of group membership on marital satisfaction in the two groups in follow-up.

The difference in mean score of marital satisfaction was significant in the experimental and control groups in the follow-up (p=0.001). In other words, the stress management based on group cognitive-behavioural therapy contributed to increasing marital satisfaction in the infertile women. A 48% of the difference between the two groups was due to the therapeutic interventions (the effect size) [Table/Fig-3].

DISCUSSION

The results indicated that there was a significant difference in marital satisfaction between the experimental and control groups in both post-test and follow-up. In other words, the stress management based on cognitive-behavioural techniques led to a significant increase in marital satisfaction in infertile women, such that the effect persisted till three months after the last intervention. The findings of this study are consistent with other studies [21,22].

The above works studied the effect of psychological interventions on the marital satisfaction and compatibility and the obtained findings indicated the positive effect of these interventions on the marital satisfaction and compatibility in the infertile women. Another finding of the present study was that 55% of the infertile women had an infertility duration of 6-10 years. This indicates that as the duration of infertility increases, the marital satisfaction and compatiblity declines. Consistently, Valsangkar et al., and Cserepes et al., indicated that the marital satisfaction and compatiblity declined as the infertility continued [17,25].

Therefore, it is necessary to conduct psychological interventions on infertile women to prevent the complications and outcomes due to infertility, the most important ones of which are disturbed mental health and declined marital satisfaction and compatibility. This contributed to increasing both mental health and marital satisfaction, as Gulseren et al., Willmott et al., and Hämmerli et al., demonstrated that psychological interventions led to fertility in some infertile women with no obvious physical injury [26-28].

The results of the present study indicated that the stress management based on cognitive-behavioural techniques could contribute to increased marital satisfaction in the infertile women. The effect could remain stable three months after completion of the interventions (follow-up). Regarding these results, gynaecologists can interact constructively with psychologists and psychiatrists to prevent the mental and social outcomes due to infertility, which endangers the community health and causes a waste of time and economic losses for infertile women and their families.

CONCLUSION

The stress management based on cognitive-behavioural techniques could contribute to increased marital satisfaction in the infertile women. The effect could remain stable three months after completion of the interventions (follow-up). Regarding these results, gynaecologists can interact constructively with psychologists and psychiatrists to prevent the mental and social outcomes caused by infertility, which threatens the community health and causes time-related and economic losses for infertile women and their families.

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