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The effect of group training of solution-focused stress management on pregnant women's stress

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Abstract

Introduction: Pregnancy is viewed as a stressful experience. Anxiety and excitement at the beginning of pregnancy will have a direct impact on pregnancy outcomes. This study aimed at investigating the effect of group training of stress management with a solution-focused approach on pregnancy stress.

Materials and Methods: This clinical trial conducted on sixty highly stressed pregnant women with the gestational age of 17-20 weeks who referred to healthcare centers in Bojnourd in 2015. Cohen Perceived Stress Scale (PSS-14) was used to screen highly stressed mothers and those who scored above 21.8 were selected for the study and were randomly assigned into two intervention and control groups. The intervention group received group training of stress management for 4 weekly 90-minute sessions. The control group received routine healthcare. Data analyzed through t-test, paired t-test, chi-square and SPSS software.

Results: The mean score of perceived stress in the intervention group significantly decreased on the post test ($P < 0.002$). Comparison of the mean scores of stress before and after the intervention in the two groups showed that the mean of stress score variations in the intervention group was significantly higher than that in the control group.

Conclusion: Considering the effectiveness of solution-focused stress management training in reducing the stress of pregnant women, it is suggested that educational workshops be held during pregnancy to help mothers manage their stress during pregnancy and to promote their mental health during pregnancy.

Keywords: Group training, Pregnant women, Solution-focused approach, Stress

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Introduction

One of the basic health needs is mental health. Mother's mental health is a major issue with social and economic burdens for women, infants, families and the society (1). Pregnancy is associated with highly important psychological changes and despite the pleasure of becoming a mother, it is sometimes accompanied by pathological changes (2). Pregnancy is the most stressful period in a woman's life, so that the stress caused by the firstborn is classified as severe stress in psychosocial stress tables. Some researchers believe that pregnancy is an important psychological experience which causes several psychological changes in women (3). Pregnancy stress factors may range from a weak relationship with the spouse to different social issues in the environment (4). Factors such as physiological and anatomical changes, abandoning sexual activity and feeling guilty about sexual relations during pregnancy, fear of injury to the fetus, and of delivery and birth defects, and having mixed feelings about the birth and maintenance of the child also have negative effects on pregnant women and ultimately endanger the mental health of the family (2,5). The results of a study by Punamaki indicated that women who were extremely anxious and worried during pregnancy were more likely to give birth to premature babies. The high anxiety of the mother reduces blood flow to the arteries of the uterus, and this may result in a low birth weight and due to their low birth weights, such babies are more likely to die (4-6). Evidence suggests that the increase in IgE levels in pregnant mothers can sensitize the fetus to allergies and can increase the risk of atopy (which is an increased skin and mucosal sensitization to environmental materials and may be related with an increase in immunoglobulin E level or its pharmacologic response) in the nursing. The chronic stresses of the mother have detrimental effects on the sympathetic and adreno-medullary systems, on the hypothalamus-pituitary-adrenal axis, and disrupt the immunizing activities which are regulated by these systems. This issue may lead to asthma. Apparently, the rise in the number of Th2 cells which is caused by stress hormones in early life is due to the direct effect of these hormones on the production of cytokines (7). Stress can even cause abortion and prolonged and

hard labor (2). Neonatal mental health is the cornerstone of adult mental health (8). The results of a study by Punamaki and colleagues in 2006 showed that the level of anxiety during pregnancy and the clinical problems both reduce the health of the baby. (4) Research has confirmed the effects of pregnancy stress on the incidence of diseases such as diabetes (9) and coronary diseases in adulthood (10). The results of numerous studies show that people who are more capable of solving problems are less likely to develop depression, are less exposed to stress, have high social skills, and less anxiety levels than others (11). The solution-focused approach is one of the post-modern counseling approaches developed by De Shazer and it is known as the hope counseling. This approach has been useful in addressing behavioral and emotional problems, and in promoting social and communication skills among different clients. People feel more secure and more relaxed in cases who have the same problems and they are more willing to discuss their concrete personal and family issues and take advantage of their experience in a trusted atmosphere, and this facilitates the process of coping with the crisis and adaptation to change (12). Shakarami in a study which aimed to investigate the effectiveness of solution-focused brief therapy on reducing marital stress among women found that it significantly reduced the marital stress of women (13). Comparing solution-focused group counseling and conventional counseling, Corcoran concluded that group counseling had more impact on reducing stress and improving attitudes and behaviors. (14). The results of a study by Barandeh and Ghodsi also showed that solution-focused group counseling moderately reduced the occupational stress of female employees (15). Considering the importance of mental health during pregnancy and the prevention of maternal and fetal stress, and with an emphasis on the need for more attention of healthcare planners to the mental health of pregnant women, and noticing the importance of stress management during pregnancy, this study was conducted to investigate the effect of group training of stress management with a solution-focused approach on pregnancy stress.

Materials and Methods

This randomized pretest-posttest with control group trial aimed at investigating the effectiveness of solution-focused group training on pregnancy stress management. This study was registered with the code of ir.shmu.rec.1394.51 by the Ethics Committee of Shahrood University of Medical Sciences and it was also registered in the Iranian Registry of Clinical Trials with the registration number of IRCT2015062022828N1.

The target population of this study concluded pregnant women who referred to healthcare centers and bases in Bojnourd in 2015. To select the sample, volunteer mothers were first debriefed on the research objectives and they were assured that questionnaires would be filled out anonymously and their personal information would be kept confidential.

They were also reassured that they could freely leave the study at any stage they wanted. Then written informed consents were obtained from the mothers.

The criteria for entering this study were the desire to participate in the study, the minimum maternal age of 18 years (a criterion set by the PSS-14), the gestational age of 17 to 20 weeks (because in the second trimester of pregnancy mothers experience the lowest tension caused by hormonal and physical changes), gaining a score above 21.8 on the PSS-14, not receiving formal counseling before entering the study, having no known psychological illness and receiving no treatment with tranquilizers.

Withdrawal criteria also included the death of a relative or other stressful events during the study, the need for prescribing any medication or psychotherapy counseling during the study and the lack of regular attendance in the solution-focused group counseling sessions.

Taking Shakarami and colleagues' study (13), which confirmed the effect of solution-focused counseling on women's stress, into account (mean difference of 6 points between the two groups and power of 80% and the type 1 error of 0.05 and the probability of 10% sample drop-out rate), the sample size was estimated to be 60.

At the first stage, a demographic questionnaire and the Perceived Stress Scale were filled out for all eligible mothers. For those who were not able to fill out the questionnaires themselves, the questionnaires were completed through interviewing. Among these, sixty mothers with

high stress levels were selected and based on blocks of four they were randomly divided into two experimental and control groups (each group consisted of 30 mothers).

Intervention: To conduct the group training, the mothers of the experimental group were divided into two groups of 15 people, and each group participated in four 90-minute sessions at weekly intervals. To make it convenient for the mothers, the sessions were held in a counseling office in the downtown where mothers could commute more easily. Table 1 summarizes the contents of the training sessions.

The control group received only routine pregnancy cares. To observe ethical principles, at the end of the study, the recorded videos of the sessions were provided to the control group mothers, too.

After the final training session, both the experimental and control groups completed the Perceived Stress Scale for the second time. To observe ethical principles, when the control group came to fill in the scale, they were given the CD which included the full content of the sessions of stress management with a solution-focused approach.

Research instruments

A)The demographic questionnaire: It is consisted of 18 items on the bio data of the participants.

B)Cohen Perceived Stress Scale: It is included 14 Likert type items on a five-point scale which ranged from never (0) to many times (4). Items 4-5-6-7-9-10 and 13 were scored in reverse.

The statements on the scale examined the amount of thoughts and feelings of people during the last month. The total score could range from zero to 56. Cut-off point of 21.8 and a higher score represented more perceived stress. The Perceived Stress Scale is significantly correlated with life events, depression and physical symptoms, provision with healthcare services, anxiety and low life satisfaction.

Cronbach's alpha reliability of 86% was reported for the scale among the American population and Ghorbani and colleagues found a reliability of 81% among the Iranian sample.

The reliability of the Persian version has been calculated by Bastani and colleagues through the internal consistency method, and the Cronbach's

alpha coefficient of 0.74 has been reported (16). Table 1 shows the content of the training sessions (17-19).

Table 1. Content of training sessions

Session 1	Introduction and engagement, statement of goals and rules of the group, definition of the problem by the members, defining the assignment
Session 2	Reviewing assignments, prioritizing problems with a scale of 0 to 10, finding possible solutions by participants, defining assignments
Session 3	Reviewing assignments, using the miracle question, finding a positive story, defining assignments
Session 4	Reviewing assignments, summarizing, reassessing problems, reviewing group experiences and drawing conclusions, implementing the post-test

Given the non-normalization of the data distribution in this study ($P>0.05$), the Mann-Whitney U test was employed to determine the difference between the two groups in terms of the

variable of interpretation bias towards vague faces. The results of the given test were presented in Table 2.

Table 2. Results of Mann-Whitney U test to evaluate the significance of differences between groups

Test	Test results
Mann-Whitney U test	273
Z	-5.123
Level of significance	0.0001

Using SPSS, the data were analyzed through t-test, paired t-test and Chi-square test.

Results

In this study, 60 mothers with high stress scores were studied in both experimental and control groups. Comparison of demographic characteristics of mothers including mothers' age, education, occupation, number of children, economic status, and type of residence showed no significant difference between the two groups. Since mothers with high stress scores were selected for the study and they were randomly

divided into intervention and control groups, the results of the study showed that there was no significant difference between the two groups' mean scores of stress before the intervention (pre-test) ($P= 0.96$), but there was a significant difference immediately after the training (post-test) and the mean score of stress in the intervention group was lower ($P= 0.002$). Comparison of the mean stress scores before and after the intervention in the two groups showed that the mean of stress score variation in the experimental group was significantly higher than that in the control group ($P= 0.002$) (Table 2).

Table 2. Comparison of mean scores of pregnancy stress before and after training in experimental and control groups

Group Pregnancy stress	Experimental	Control	Independent samples t-test
	Mean and Standard deviation	Mean and Standard deviation	
Before training	29.11 ± 5.61	29.20 ± 7.77	$t= -0.049$ $P=0.96$
After training	19.85 ± 7.38	27.43 ± 10.12	$t= -3.2$ $P=0.002$
Mean difference before and after	-9.25 ± 6.30	-1.76 ± 6.20	$P<0.001$ $t=4.52$

Discussion

This study showed that group training with a solution-focused approach significantly reduced the perceived stress of pregnant mothers. Reviewing the literature, no study was found to investigate the impact of such training on managing pregnancy stress, but studies were detected which showed the impact of such training on other related areas. The findings of this study are consistent with the results of Wettersten and colleagues research in which the solution-focused brief therapy could positively change clients' level of stress and satisfaction (20). They are also in line with the findings of Clayton and Brownlee who, using a solution focused approach, were able to reduce physical and stress symptoms of cancer patients (21). They also confirm the results of Shahbazi and Shaykhi's study, which showed that the problem-solving training program had a positive effect on student stress tolerance (11). Believing that clients are able to identify goals and find effective solutions to problematic situations, solution-focused brief therapy focuses only on the empowerment and flexibility of clients by discovering solutions and prior exceptions and on encouraging clients to repeat the effective behaviors that form the basis for the realization of goals (13). In a study that aimed to investigate the effect of solution- focused approach on marital satisfaction of couples who were both employed, Nazari concluded that psychosocial solution-based therapy could reduce aggression and sexual problems among couples and improve the time they were together, and could help them agree on financial issues (22). This is consistent with the results of this study that the solution-focused approach helps clients to solve their problems. This approach has almost been applied to all behavioral disorders in all treatment patterns. Brief focus is especially useful for the treatment of mild impairments and adjustment disorders (Prochaska and Norkras as cited in Seyyed Mohammadi) (14). Vahed and Mousazadeh found that there was a significant difference between perceived stress and happiness of women with uterine fibroids and those of healthy women (23), and in a study which aimed to compare the relationship between spiritual development and perceived stress with happiness in fertile and infertile women in Tehran, Khani and colleagues concluded that there was a significant negative relationship between

perceived stress and happiness among fertile and infertile women (23). Moreover, the results of a study by Adibi, which aimed at investigating the impact of solution-focused group training on the happiness of deprived-of-father teenage girls, showed that after the training intervention, the experimental group reported a higher level of happiness compared to the control group and a solution-focused method could be used to increase the happiness of deprived-of-father teenage girls (24). Taking the results of these studies and the results of the present study into account, it can be said that there is a significant relationship between solution-focused group training and perceived stress in pregnant mothers and the results of these studies are in line with each other. Moreover, the findings of this study are consistent with the results of Wear, who states that solution-focused therapy brings about positive mood in participants and increases their self-esteem and a rapid relieving of their pains and sufferings (25). The solution-focused therapy is part of brief therapy approaches that provide faster treatment outcomes for clients. Therefore, it is very useful for those clients who want a swift recovery and want to reach more favorable conditions.

Conclusion

The results of this study showed that solution-focused group training could reduce stress and could help pregnant women to manage their stress better. Reducing pregnancy stress in the experimental group can confirm the necessity of educational interventions to reduce and control stress in vulnerable and critical pregnancy conditions. Stress management training with solution-focused approach can be used as an easy and cost-effective intervention in pre-pregnancy and during pregnancy counseling by midwifery counselors in health care centers so that mothers who refer to these centers are screened for stress levels and, if necessary, this intervention along with routine care is made to control pregnancy stress and reduce its complications.

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