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The Effects of the Solution-Focused Therapy on Postpartum Depression and Anxiety in Nulliparous Pregnant Women

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Quantitative Study

Abstract

Background: In solution-focused models (SFMs), patients are mobilized to achieve better outcomes through their initiative and potential. In this study, the effect of solution-focused therapy on anxiety and postpartum depression (PPD) of nulliparous pregnant women was investigated.

Methods: The study was quasi-experimental, with a pre-test, post-test, and control group. The statistical population of this study was all pregnant women who were referred to be under routine care in the Isfahan Vahid Health Center, Isfahan, Iran, from August to November 2022. In this study, 30 eligible pregnant women were selected and invited to participate purposefully. Then the participants were randomly (tossing) divided into two groups, a solution-focused therapy group (15 people) and a control group (15 people). The solution-focused group received eight 1.5-hour counseling sessions, which were held weekly. The control group received no counseling and only routine healthcare services. Data were analyzed by multivariate analysis of covariance (MANCOVA) and SPSS software.

Results: Solution-focused therapy was effective on PPD ($F = 19.66$, $P < 0.001$) and anxiety ($F = 22.37$, $P < 0.001$) in nulliparous pregnant women.

Conclusion: SFM is a useful tool that can help reduce anxiety and PPD in nulliparous pregnant women. This approach can help nulliparous pregnant women learn skills to reduce PPD symptoms.

Keywords: Solution-focused therapy; Depression, postpartum; Anxiety; Pregnant women

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Introduction

Maternal postpartum depression (PPD) can adversely affect the health of mothers and infants and their bond after birth (Huang, Han, & Hu, 2022). Pregnancy leads to numerous physical and mental transformations in a woman's body, which can cause significant stress. Both mothers and infants can experience negative health effects and a disrupted bond after birth due to PPD (Ponti, Smorti, Ghinassi, Mannella, & Simoncini, 2020). Aside from feeling sad, people with this condition may also lose interest in things and feel tired, have trouble sleeping, be harsh towards themselves, and worry a lot. These symptoms can sometimes lead to thoughts of suicide (Alimi, Azmoude, Moradi, & Zamani, 2022). In the world, there are about 15% of people who suffer from PPD (Mughal, Azhar, & Siddiqui, 2018). The prevalence of this disorder was reported to be between 13.7% and 76% in a systematic meta-analysis of 26 studies published in 2020 (Rezaie-Keikhaie, Arbabshastan, Rafiemanesh, Amirshahi, Ostadkelayeh, & Arbabisarjou , 2020). There is a difference in the incidence of PPD among regions, which may be underestimated due to the differences in economic levels and screening awareness (Zhu, Jin, & Tang, 2022).

Iranian's meta-analysis indicates that Iranians suffer from PPD at a high rate, and other similar studies have revealed the same (Pourkhaleghi, Askarizadeh, & Fazilat-Pour, 2017). Additionally, studying primiparous women is important, since they are more likely to suffer from PPD than multiparas (Wang, Zhang, Li, Ye, Huang, & Zhang, 2021; Xiong, Fang, Huang, Yan, & Zheng, 2022). Iranian researchers conducted a study to identify PPD prevalence and related factors. They found that women who experienced PPD were more likely to have pregnancies they did not want, babies with birth defects, sadness throughout their lives, stressful situations during pregnancy, and a history of abuse at home (Afshari, Tadayon, Abedi, & Yazdizadeh, 2020). Furthermore, a growing number of studies suggest that some factors associated with PPD which could modify depressive symptoms include past depression, anxiety or stress, poor social support, social relationships, low self-esteem, limited access to community resources, marital conflict, physical abuse, and postpartum physical complications (Agrawal, Mehendale, & Malhotra, 2022; Fathi-Ashtiani, Ahmadi, Ghobari-Bonab, Azizi, & Saheb-Alzamani, 2015).

In developing countries, postpartum anxiety occurs in 10%-25% of women (Martini, Petzoldt, Einsle, Beesdo-Baum, & Hofler, et al., 2015). Two studies in Iran evaluated postpartum anxiety using a general anxiety questionnaire and found a prevalence rate of 32.5% and 40% (Zareipour, Sadeghianifar, Amirzehni, Parsnezhad, & Ayuoghi Rahnema, 2018; Sadeghi, Azizi, & Molaeinezhad, 2014). The results of these studies suggest that mothers in Iran experience greater anxiety than mothers in other countries. In addition to promoting the interaction and bonding between mother and infant, breastfeeding promotes a healthy immune system. Children with longer breastfeeding duration had better maternal responsiveness, more attachment security, and less attachment disorganization (Uvnas, et al., 2020). According to the findings, maternal anxiety negatively affects the exclusivity and retention of breastfeeding. To support optimal breastfeeding practices, it is important to monitor and manage maternal anxiety during the postpartum period (Adedinsewo, Fleming, Steiner, Meaney, & Girard, 2014; Jahdi, Mehrabadi, Mortazavi, & Haghani, 2016).

Besides strengthening mothers' avoidance behavior, anxiety can negatively influence mother-infant attachment bonds (Kasamatsu, Tsuchida, Matsumura, Shimao, Hamazaki, & Inadera, 2020; Kiviruusu, et al., 2020; Beato, Albuquerque, Kömürcü Akik, Costa, & Salvador, 2022). These conditions may adversely influence

children's psychological development (Kiviruusu et al., 2020). Anxiety is a strong predictor of PPD and is usually co-occurring (Jahdi, et al., 2016). Diagnosing postpartum anxiety can help prevent later depression. Intervention is required to alleviate this impairment. Psychotherapy and medical treatment are the main therapeutic modalities for PPD, which are similar to those used in conventional depression treatment (Stewart & Vigod, 2019). There is evidence that women with PPD should steer clear of medications that have the potential to interfere with their infant's feeding (Zhu et al., 2022). In addition to the diversity of the Western and non-Western studies in terms of interventions to facilitate symptomatic variation of PPD and postpartum anxiety, some studies found that a solution-focused approach was more useful than other interventions (Huang et al., 2022; Risal, et al., 2020; Ramezani, Khosravi, Motaghi, Hamidzadeh, & Mousavi, 2017). Unlike more traditional approaches such as problem-solving, solution-focused approaches work with patients as experts in their situation to establish future goals (Woodger, Bray, Welsh, & Ng, 2022).

Solution-focused model (SFM) was established in professional psychotherapeutic and clinical applications and gained positive outcomes (Woodger, et al., 2022; Gan, 2020). Rather than focusing on problems, the SFM mobilizes patients' subjective initiative and their abilities by focusing on solutions instead. Additionally, it highlights the importance of patients thinking positively and utilizing their strengths and abilities to solve problems more effectively (Huang et al., 2022). Mousavi et al. (2021) have shown through their research that the solution-focused midwifery approach can effectively address and improve the fear of childbirth and PPD. To manage any potential influences on the study, we chose a specific cohort of women who have not yet given birth.

This research aimed to investigate the potential of solution-focused therapy in alleviating anxiety and PPD symptoms among first-time pregnant women.

Methods

The study was quasi-experimental, with a pre-test, post-test, and control group. The statistical population of this study was all pregnant women who were referred to be under routine care in the Isfahan Vahid Health Center, Isfahan, Iran, from August to November 2022. In this study, 30 eligible pregnant women were selected and invited to participate purposefully. The study included 15 nulliparous pregnant women in each group by use of G*Power software ($\rho = 1.7$, $1-\beta = 0.95$, and $\alpha = 0.05$) (Faul, Erdfelder, Lang, & Buchner, 2007). Randomization was done by the researcher after obtaining participants' consent and participants were assigned to the groups by a coin-throwing method; then the participants were randomly (tossing) divided into two groups: a solution-focused therapy group (15 people) and a control group (15 people).

To be included in this study, women must be pregnant for the first time and free from any pregnancy complications such as placenta previa, eclampsia, or premature rupture of membranes; moreover, they should possess good communication skills and comprehension of the language employed in the research and their score on the Edinburgh Postnatal Depression Scale (EPDS) should surpass nine. Having obtained their approval, participants were currently in the early phases of their third trimester and were taking part in the research. Furthermore, individuals with a history of heart, lung, liver, kidney ailments, as well as severe conditions like gestational diabetes, hypertension (HTN), autoimmune disorders, mental health issues, or a fetus with abnormalities were not part of the group. After visiting the Vahid Medical

Center, explaining the purpose of the research, and getting permission to conduct the research in the mentioned center, the researchers contacted qualified pregnant women if they wanted to support researchers and be employed in the study. First, pregnant women were encouraged to establish specific and feasible goals based on their conditions. The solution-focused therapy group received eight 1.5-hour counseling sessions, which were held weekly. The control group received no interventions.

Table 1 displays the structure of solution-focused therapy (Stams, Dekovic, Buist, & De Vries, 2006). Receiving outcomes 15 days after delivery have been measured. The Ethics Committee of the Islamic Azad University, Isfahan Branch, approved the study (IR.IAU.KHUISF.REC.1401.118). The Consolidated Standards of Reporting Trials (CONSORT) flow diagram is shown in figure 1.

EPDS: The EPDS contains 10 self-assessment items (Cox, 1987). Each item was rated on four levels: 0- never, 1- occasionally, 2- frequently, and 3- always. Total scores range from 0 to 30 points. The EPDS has been confirmed to check for depression in women and men during pregnancy and after giving birth. The Chinese version of EPDS has been found to accurately identify depression after childbirth (Wang, Guo, Lau, Chan, Yin, & Chen, 2009). A score of 9/10 indicates the presence of depression. The findings of the study indicated that those afflicted with severe PPD achieved scores above 12 (Kheirabadi, Maracy, Akbaripour, & Masaeli, 2012). The EPDS scale had a Cronbach's alpha value of 0.81 in this study.

Table 1. Structure of solution-focused therapy (Stams, et al., 2006)

Session	Content
1	Orientation stage: Introducing and getting to know the group members, discussing the importance of problem-solving skills, determining people's orientation towards problem-solving, and determining whether they are problem-oriented or emotion-oriented.to complete the questionnaires after delivery
2	Strengthening the orientation stage: Exercise to identify the type of people's coping with problems, explanation about automatic negative thoughts and discussion and dialogue in this field, and explanation of the principle of stopping thoughts
3	Exact definition of the problem: Discussing the need to define the problem more precisely, dividing complex problems into simple parts and prioritizing them, clarifying ambiguous issues, and avoiding long-term and unattainable goals
4	Preparing a list of different solutions: Generating different solutions for a problem without judging its correctness or incorrectness, explaining the technique of brainstorming, fluidizing the mind, and noting all the possible solutions
5	Evaluating proposed solutions and choosing the best solution: Teaching the method of choosing one of the suitable solutions by comparing them, teaching the method of if...then..., general screening and discarding the weak solution, the chosen solution should be following the person's beliefs and values, and its practicality should also be taken into consideration
6	Making a decision and implementing the chosen solution: Discussion about the decision to choose a way and its implementation, explanations about reacting to conflicts and differences between people, and training in the field of interpersonal relationships
7	Emphasis on objective instrumental thinking and evaluation: Cognitive organization of the steps that have been taught so far, explanation, description, and review of the steps - passed from beginning to end, explanation of the evaluation method after choosing a solution and its consequences, in case of failure from applying the selected solution, going back to the previous step or steps and trying again to solve the problem
8	Review of the previous stages: The performance of the subjects in using thinking as a means to an end is examined, practiced, and encouraged, presenting a half-finished story and finishing it by people, reviewing all the stages of problem-solving concerning the story presented

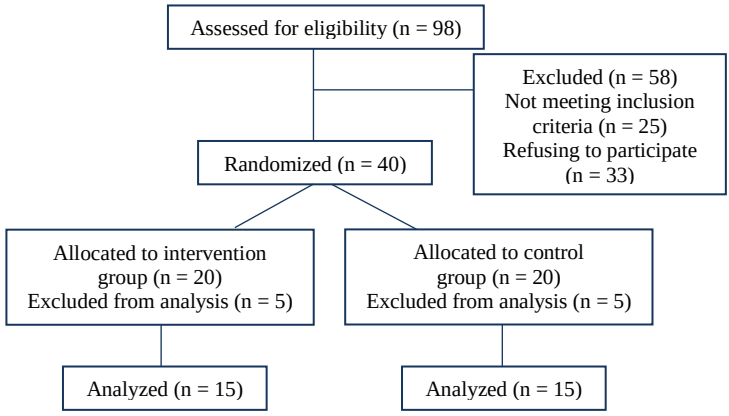

Figure 1. Consolidated Standards of Reporting Trials (CONSORT) model

Hamilton Anxiety Rating Scale (HAM-A): The HAM-A is a clinician-rated scale that is intended to provide an analysis of the severity of anxiety in adults, adolescents, and children (Hamilton, 1959). It is given a score based on a combination of fourteen different ratings. Each thing is given a separate score using a scale with five levels. A rating of 0 means that the patient does not feel the emotion. When rating it as 1, the patient perceives the feeling to a small extent. A rating of 2 indicates the moderate prevalence of the feeling in the patient, 3 indicates the severe prevalence of the feeling in the patient, and 4 indicates a very severe prevalence of the feeling in the patient. This calculation will yield a comprehensive score in the range of 0 to 56. A score of 17 or less indicates mild anxiety severity. A score of 18 to 24 means that a person has moderate anxiety. Finally, a score of 25 to 30 shows that the level of anxiety is between moderate and severe. The HAM-A test has a Cronbach's alpha value of 0.77. The HAM-A evaluation has different criteria to determine if someone has anxiety. If the score is less than 7, it means that there is no anxiety. If the score is between 7 and 20, it indicates that they might have anxiety. If the score is between 20 and 29, it means that they have anxiety for sure. Scores above 29 mean that they have severe anxiety. The internal consistency value ranged from 0.56 to 0.81 (Risa et al., 2020).

The data were analyzed in SPSS software (version 23, IBM Corporation, Armonk, NY, USA) using two statistical methods, descriptive and inferential. The researchers employed the Kolmogorov-Smirnov test to determine the normality of the data. Furthermore, Levene's test was employed to confirm that the variances were homogeneous. Multivariate analysis of covariance (MANCOVA) was used to examine the significance of the differences in variable scores between the two experimental and control groups.

Results

This study examined the information about demographic and contextual variables of nulliparous women. The mean ± standard deviation (SD) of the mothers' age in the intervention and control groups was 24.43 ± 3.56 and 24.32 ± 4.80 years, respectively. Furthermore, the mean duration of marriage was 3.01 ± 1.40 and 3.76 ± 1.41 years in the control and intervention groups, respectively. Gestational age based on weeks in the experimental and control groups was 39.23 ± 1.41 and 39.44 ± 1.08, respectively.

Table 2. Mean and standard deviation (SD) of anxiety and depression of nulliparous women in experimental and control groups

Variable	Groups	Statistical index	Mean ± SD
Anxiety	Pre-test	Experimental	25.21 ± 6.32
		Control	25.17 ± 6.12
	Post-test	Experimental	11.39 ± 8.48
		Control	25.27 ± 6.71
Depression	Pre-test	Experimental	17.74 ± 6.67
		Control	17.29 ± 6.43
	Post-test	Experimental	12.71 ± 4.25
		Control	16.64 ± 5.84

SD: Standard deviation

Results from table 2 show that the mean (± SD) of the total anxiety score for the experimental and control groups in the pre-test was 25.21 ± 6.32 and 25.17 ± 6.12, respectively, and in the post-test, it was 11.39 ± 8.48 and 25.27 ± 6.71, respectively. Besides, according to table 2, the mean and SD of the depression score for the experimental and control groups were 17.74 ± 6.67 and 17.29 ± 6.43 in the pre-test and 12.71 ± 4.25 and 16.64 ± 5.84 in the post-test, respectively.

Before analyzing the data, to ensure that the data of this research meet the underlying assumptions of the covariance analysis, they were examined. The linearity of the relationship between each dependent variable and its covariate was tested. The linear significance level of women's anxiety was obtained as r = 0.65 and anxiety r = 0.63 in the pre-test and post-test (both correlation coefficients were significant at the $P < 0.05$ level). The results of the tests of homogeneity of variances (Levene's test) showed that they were insignificant in the variables of anxiety ($F = 0.41$, $P = 0.48$) and depression ($F = 0.36$, $P = 0.33$). According to the Kolmogorov-Smirnov test, the assumption of normality of the distribution of the variables was greater than 0.05; therefore, this assumption has been met. P-value less than 0.05 was considered to be statistically significant.

Considering dependent variables, table 3 shows a significant difference between the test group and the control group at a level of $P \geq 0.001$. As a result, at least one of the dependent variables differs significantly between the two groups (anxiety and depression). In MANCOVA context, two covariance analyses were conducted to determine this difference. In the experimental and control groups, 58% of the variances were explained by the independent variable, based on the calculated effect size.

According to the contents of table 4, the $F_{1.28} = 19.66$, the effect of SFM protocol on the anxiety variable was significant at the $P < 0.001$ level. Moreover, based on the contents of table 4, the $F_{1.28} = 22.37$, the effect of SFM protocol on depression was confirmed at the $P < 0.001$ level.

In addition, it can be seen that the largest influence was related to the depressive variable ($\eta = 0.624$), showing that 62% of the total variance of the experimental and control groups in the depressive variable was because of the influence of the independent variable (solution-oriented therapy).

Table 3. Results of multivariate analysis of covariance (MANCOVA) on variables

Test statistic	Value	F	df	df error	P-value	Effect size
Pillai's trace	0.653	47.68	2	28	0.001	0.58
Wilks' lambda	0.217	47.68	2	28	0.001	0.58
Hotelling's trace	6.430	47.68	2	28	0.001	0.58
Roy's largest root	5.260	47.68	2	28	0.001	0.58

df: Degree of freedom

The smallest effect size was associated with anxiety in pregnant women without childbearing (η = 0.561), showing that 56% of the total variance of the experimental and control groups in the changing anxiety of pregnant women who had not given birth was due to the effect of the independent variable (solution-oriented therapy).

Discussion

The purpose of this study was to investigate the effects of solution-focused therapy on anxiety and PPD in nulliparous pregnant women. Because many research projects have been conducted on the effect of psychological treatment of PPD, this study was designed at the first level to prevent and also reduce anxiety and PPD through counseling. According to the findings, the effect of the SFM protocol on the depression and anxiety variable was significant. The results of numerous studies are in line with findings of this study. In a study done in 2022, researchers found that SFM was better at reducing anxiety and depression and improving sleep compared to the control group (Huang et al., 2022). Farjamfar, Mortazavi, Nazari, & Goli (2020) found that solution-focused therapy improved pregnancy and childbirth outcomes for women who attended counseling sessions compared with a control group.

The results of the study conducted by Ramezani et al. (2017) showed that cognitive-behavioral and solution-focused counseling had an effective impact on preventing maternity blues and PPD, and the effectiveness of these methods in healthy people during the sensitive period of pregnancy was indicated. According to the results of their study, cognitive-behavioral and solution-oriented counseling have been effective in reducing maternity blues and PPD (Ramezani et al., 2017). Dashti-Zadeh et al. concluded from their study that implementing a brief, targeted strategy could effectively alleviate women's feelings of sadness (Ramezani et al., 2017).

Although there are several interventions for PPD, SFM emphasizes success, strength, and orientation to the future as opposed to other interventions. Various clinical areas could benefit from its application to increase patient satisfaction and self-management abilities. The SFM played a role in supporting patients and their families during brain injury rehabilitation programs (Gan, 2020). According to Gharisaadati, Ghorban Shiroudi, & Khalatbari. (2022), SFM decreased the expression of thoughts, thinking, depression, and ruminant responses to have a significant impact on post-test and follow-ups (Gharisaadati et al., 2022). Pervious researchers demonstrated that solution-focused consultation was an effective way to reduce pregnant women's concerns about maternal health, delivery, and family relationships, and could be used in conjunction with pregnancy care (Farjamfar et al., 2020). Furthermore, the labor pain and anxiety scores of nulliparous pregnant women were significantly different between stages (Mohiti, Salehin, Nazari, Goli, & Zamani, 2022).

This treatment aims to change people's attitudes and expression from problems to solutions, and by emphasizing the abilities and possibilities that can be used in people's lives, help them to change their attitude toward problems (Risal et al., 2020). The past is directed toward the future. Emphasizing the spirit of hope and expectation of progress and highlighting the client's abilities, which is an integral part of this treatment, leads to an increase in their self-confidence and self-efficacy, and gives them the possibility to accept and become aware of their abilities (Ramezani et al., 2017).

This attitude includes not only the attitude toward themselves but also the attitude toward others. Besides, its emphasis on encouraging the person to express beneficial and effective experiences to find their abilities in the past that can be repeated in their future life distinguishes this treatment from other treatments. It is

not solving the difficulty, and it is guided by the discovery of the current forces of the authorities and hope for the future, not the discussion about the existing concerns and their causes in the past; instead of emphasizing the shortcomings and inabilities of people, this approach emphasizes the capabilities and successes of the people. It focuses on people and building supportive relationships during the treatment process (Habibi, 2015).

Among the limitations of this research is that it was conducted on a small sample of mothers, which may not be generalizable to the entire community of mothers. In regards to exclusion criteria, excluding women with psychological problems and the refusal of women with pregnancy problems can limit the application of this study. Due to a limited number of similar studies on this sample group, further large-scale, rigorously designed studies are recommended for the generalization of the results of this study.

Conclusion

SFM could potentially help reduce anxiety and PPD in first-time pregnant women. It could help mothers acquire abilities to prevent or relieve the symptoms of PPD and then improve the health of mothers and their families.

Conflict of Interests

Authors have no conflict of interests.

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