

The effect of group counseling based on emotional intelligence in the prevention of postpartum depression

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Abstract

Context: Postpartum depression (PPD) is one of the most common psychological conditions in the postpartum stage. PPD negatively affects the baby, family, and mother's life.

Aims: This study aimed to survey the effectiveness of group counseling based on emotional intelligence (EI) in the prevention of PPD.

Setting and Design: In this semi-experimental study, one hundred cases were selected among pregnant mothers who were referred to health centers of Tehran, Iran, during June–September 2019.

Materials and Methods: Four health centers were allocated to the intervention and control group by simple randomization and participants were recruited by convenience sampling. Participants in the intervention group attended an educational program based on EI during five weekly sessions (each 90 min). The control group did not receive any intervention. All participants completed demographic questionnaires, Beck Depression Inventory, Bar-On EI Inventory, and Edinburgh PPD Inventory. Follow-up was done 8 weeks after delivery.

Statistical Analysis Used: Data were analyzed through descriptive (mean, standard deviation, and frequency) Chi-square and independent *t*-test.

Results: The intervention group reported significantly lower PPD than the control group eight weeks after delivery (11.71 ± 3.16 and 14.47 ± 3.65 , respectively, $P < 0.001$). The scores of EI were significantly ($P < 0.001$) higher 8 weeks after delivery in the intervention group (234.60 ± 8.94) compared with the control group (211.41 ± 9.62).

Conclusion: According to the findings of the current study, EI program is effective in preventing PPD, so it is recommended that counseling services along with medical services be provided to improve the mental health of mothers to prevent PPD.

Keywords: Counseling, Emotional intelligence, Depression, Postpartum

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INTRODUCTION

Mother's life changes suddenly after childbirth. These changes require the mother's quick adjustment.^[1] Most of the mothers adjust rapidly to the new situation although some face with difficulties such as postpartum depression (PPD).^[2] In a systematic review, the prevalence of global PPD was estimated about 17.7%.^[3] In an Iranian systematic review, the prevalence of mild, moderate, and severe PPD was reported about 23.71%.^[4] Symptoms of PPD lasted more than 6 months among 25%–50% of those affected.^[5] The consequences of PPD affect all aspects of maternal quality of life, including physical pain, general health, emotional role constraints, social functioning, vitality, and emotional health.^[6] The immediate effects of this disorder are the mother's inability to self-care and the risk of serious self/child harm. Long-term effects are manifested in the form of persistent depression, marital problems, difficulties with the child-mother attachment, and child care.^[7,8] Several environmental and psychological etiology factors are involved in the maintenance of symptoms.^[9] Cognitive and emotional abilities such as emotional intelligence (EI) play a protective role in preventing PPD.^[10,11] EI models include concepts related to empathy, assertiveness, stress management problem solving, the ability for managing relationships, and conflict resolution.^[12] In fact, EI is the ability to understand emotions and regulates behavior or emotions to cope with stress.^[13] New mothers face plenty of stressful situations.^[14] People with low EI have less flexibility of regulating emotions to cope with the difficulties and challenges; therefore, they are more likely to be vulnerable to disorders such as depression.^[8] A negative relationship has been reported between EI and its components with suicidal ideation and depression.^[15,16] Due to specific physiological conditions and breastfeeding, mothers are not recommended to use medications in PPD.^[17] Therefore, it is recommended to preventing and early education-based programs. Evidence showed the effectiveness of EI-based programs on depression.^[18-20] Regulating and managing emotions reduces the risk of PPD.^[21] In one study, a PPD management training program was presented individually in three short sessions for the first 10–14 days and 6 and 8 weeks after delivery. The results showed that the presentation of this program reduced the risk of PPD in the intervention group.^[22] However, no study was found aimed at the prevention of PPD through emotional education-based programs. Mainly, previous studies have focused on PPD therapy rather than prevention. Due to the high prevalence and complications of PPD in the family and society, prevention or reduction of PPD risk should be a priority for maternal health. Therefore, the present study

aimed to investigate the effectiveness of group counseling based on EI in the prevention of PPD.

MATERIALS AND METHODS

This semi-experimental study with a control group included all pregnant mothers who were referred to health centers of Tehran, Iran, during June–September 2019. The research project was approved at Arak University of Medical Sciences with ethical cod of 199.1398 IR. ARAKMU. REC.

Participants

Four health-care centers were selected by simple randomization from South, North, West, and East in the Tehran city and through simple randomization replaced in the control (two centers) and the intervention groups (two centers). The pregnant mothers who met criteria based on their electronic files were selected through aim-oriented method and completed Beck Depression Inventory (BDI) after signing the written consent form.

The sample size was calculated based on a similar study^[23] according to the values of Edinburgh PPD Questionnaire in the intervention (4.96 ± 2.70) (and control group (7.96 ± 3.19)) through Cochran's formula with $\alpha = 0.05$ and $\beta = 0.020$ for each group of 50 people.

Inclusion criteria: Inclusion criteria included score <13 in BDI,^[24] age 18–45 years old, Iranian nationality, minimum diploma education, normal pregnancy without infertility interventions, first marriage, no addiction to cigarettes/drugs/alcohol, gestational age 20 to 30 weeks according to reliable last menstrual period or ultrasound, single pregnancy, not chronic illnesses such as diabetes/high blood/cardiovascular disease, bearing a healthy fetus according to a routine screening test, no threat of preterm delivery, no history of psychiatric treatment or hospitalization, and no trauma experienced in the past year. **Exclusion criteria:** Unwillingness to cooperate; Inaccessibility during follow-up; incomplete sessions, premature birth, hospitalization of mother or baby during the study, medical condition or abnormality of the baby, trauma experience during the study.

Measurements

The questionnaire was completed in two stages, pretest and posttest. In pretest stage, demographic questionnaire (age, economic status, education, number of pregnancies, number of births, number of children, and occupations), Beck's Depression Questionnaire (BDI-II), and Bar-On Emotional Quotient Inventory (EQ-i) were completed.

The posttest administered with EQ-I and Edinburgh PPD Scale (EPDS) 8 weeks after delivery.

The Persian version of Beck's Depression Questionnaire (BDI-II) was used to diagnose depression in pregnant mothers before sample selection. The mothers who reported scores >13 were excluded from the study. This scale included 21 items each item rated in the 4-point (0–3) The total score ranges between zero to 63.^[25] 0–13: minimal depression; 14–19: mild depression; 20–28: moderate; depression 29–63: severe depression. In the pilot study, the internal coefficient through Cronbach's alpha was 0.84. Test–retest for reliability showed a significant correlation after 2 weeks ($r = 0.70$).^[26] In Iran, the factor structure of the BDI-II-Persian was confirmed through confirmatory factor analysis. The BDI-II showed high internal consistency (Cronbach's alpha = 0.87) and acceptable test–retest reliability ($r = 0.74$).^[27]

The Persian version of the Bar-On Emotional Quotient Inventory (EQ-i) includes 90 phrases and 15 subscales.^[28] The answers to the questionnaire are arranged on a 5-point scale in the Likert form.^[1–5] Subscales of the questionnaire include emotional self-awareness, self-expression, self-esteem, self-actualization, independence, empathy, social responsibility, interpersonal relationships, realism, flexibility, optimism, problem solving, happiness, self-control, and resiliency. Some questions score conversely. A higher score on this test indicates a person's success on the scale in question or on the whole test and vice versa. The validity of scale was confirmed with factorial analysis and internal reliability with Cronbach alpha was 0.82.^[29] This questionnaire was also standardized on Iranian samples, the content validity was confirmed and Cronbach alpha was 0.88.^[30]

To measure PPD, EPDS was used, the questionnaire developed by Cox *et al.* includes 10 items rated in Likert form and the scores ranged between 0 and 30. The cutoff point was considered >10 .^[31] In the initial study, Cronbach's alpha was 0.82. The EPDS was found to have satisfactory sensitivity (79%) and specificity (85%).^[32] In the Persian version, the Cronbach alpha was estimated to be 0.70. The reliability of the Edinburgh test along with the parallel Beck Scale was confirmed ($r = 0.44$).^[33]

Intervention

In the present study, the sessions were designed based on EI counseling articles.^[13,18,34–38] Designed sessions content validity confirmed with five professionals in the field of psychology, midwifery, nursing, and counseling. The intervention and control groups received the same prenatal

care in physiological childbirth training classes in the third semester of pregnancy and routine care. The sessions hold weekly in five sessions each session for 90 min [Table 1]. The sessions of emotional counseling were held in the selected centers by psychology PhD students who trained for three months in EI workshops. To comply with ethical principles, the content of all sessions of EI training was provided to the control group in the form of an educational booklet.

Analyze

Descriptive statistics tests including frequency, percentage, mean standard deviation, and inferential including *t*-test and Chi-square were used through SPSS-20 software (IBM SPSS Statistics for Windows, Version 24.0. Armonk, NY IBM Corp). Normal disruption of data was assessed using the Kolmogorov–Smirnov test.

RESULTS

About 94% of the participants were present until the end of the study. Six percent of the participants were excluded in the final stages due to preterm delivery ($n = 1$) and nonavailability ($n = 3$) in the intervention group and incomplete questionnaires ($n = 2$) in the control group. Comparison of the two groups revealed homogeneity in terms of occupation, age, and education [Table 2].

The Kolmogorov–Smirnov test showed the values of variables were not statistically significant at 0.05 and the distribution of variables was normal. The assumptions of equality of variances and normality of data met.

EI scores were significantly different between the intervention and control groups in the posttest stage. PPD was significantly different between the intervention and control group [Table 3].

DISCUSSION

The findings of this study showed that an average score of EI in the counseling group was significantly higher in posttest stage compared to the control group. This finding is consistent with the results obtained in a study.^[39] Another study concluded that counseling based on EI increases emotional and psychological abilities.^[36,40]

The EI developed based on the Bar-on model included five components: intrapersonal, interpersonal, adaptability, stress management, and public mood.^[29] Therefore, intervention resulted in higher EI. In addition, attending a peer group meeting with similar circumstances enabled them to receive social, informational, and psychological support, as well as

Table 1: Summary of content of emotional intelligence group counseling for prevention of postpartum depression

Session	Content
First session introduction and rules	Introduction of members Familiarization with the general structure of meetings and rules What is emotion and its dimensions, the difference between emotion and affection, definitions of emotional intelligence, differences with cognitive or logical intelligence, and why it is important to learn and regulate emotion?
Second session empathy training and active listening	Emotional self-awareness Understanding the emotions of others Identifying the brain structures of emotion and cognition, recognizing the loan of emotional and emotional words, teaching the causes of emotions and the process of their formation Teaching how to recognize and express appropriate faces and using techniques such as story Attention face to face using mirrors Posters and shapes with emotional load, definition of emotional self-awareness, increase emotional self-awareness, emotional control (self-control), correct and appropriate expression of emotion, empathy training, active listening
Third session problem solving in social conditions	Problem-solving training focusing on solving emotional problems Training on active listening Loans and empathy skills Assertiveness skills
Fourth session anger management	What is anger? Is anger a positive or negative emotion? When is anger (under what circumstances) and how much is it useful and logical and when is it irrational? Why does a person who is angry not get out of this situation and his anger continues? What are the disadvantages of multiple or long stays? What are the most common causes of anger? What are the appropriate ways to express anger? What are the ways to deal with anger?
Fifth session stress management conclusion and review	Summarizing sessions and conducting a post-test review of previous sessions, training in diagnosing stress in oneself and others, identifying inappropriate ways of dealing with stress (aggression, isolation, etc.) Training in appropriate ways to reduce stress relaxation, writing out note

Table 2: Comparison of demographic characters of counselling and control groups

Variable	Groups	Control, n (%)	Counseling, n (%)	χ^2	P
Age	<25	14 (29.2)	12 (26.1)	0.39	0.82
	26-35	25 (52.1)	23 (50.0)		
	>35	9 (18.8)	11 (23.9)		
Occupation	Working	10 (20.8)	17 (37.0)	2.98	0.08
	Housekeeper	38 (79.2)	29 (63.0)		
Education	High school	13 (27.1)	8 (17.4)	12.27	0.52
	Bachelor	24 (50.0)	26 (56.4)		
	Master and PhD	11 (22.9)	12 (26.1)		

Table 3: Comparing emotional intelligence, depression, and postpartum depression in the control and counseling groups

Variable	Time	Mean±SD		t	P
		Counseling	Control		
Emotional intelligence	Pretest	209.39±8.55	211.41±9.62	1.07	0.28
	Posttest	209.47±9.11	234.60±8.94	13.49	<0.001
Depression ^a	Pretest	14.18±2.97	13.13±3.19	1.66	0.10
	Posttest	11.71±3.16	14.47±3.65	3.90	<0.001

^aBeck depression, ^bEdinburgh Postpartum Depression Scale. SD: Standard deviation

sharing their experiences regarding emotional management skills. The establishment of interpersonal relationships during sessions and providing emotion management skills by the researcher contributed to the increase of the EI in the intervention groups participants.

The mean score of PPD was lower than the control group; therefore, it can be said that participants in the control group had higher PPD. This finding is consistent with the findings of previous studies.^[41,42] In line with the current study, the

results of a study showed that early education reduces the risk of PPD.^[21,22] Another study examined 4000 women during 4–6 weeks after delivery and concluded that mental health improvement programs lead to lower PPD risk in comparison to those who did not receive the intervention.^[43] Cognitive-behavioral counseling intervention also decreased anxiety, depression, and PPD in mothers.^[44]

Although the result of a study showed that early counseling was not effective in reduction of PPD.^[45] This difference can be explained by the difference in the content of the training and the training time (12–28 weeks of pregnancy). Furthermore, contrary to the findings of the present study, a study showed that brief preventive psychological intervention had no significant effect on PPD.^[38] In explaining this difference, we can point to the difference in the tools used and the posttest time. In the present study, the majority of participants were assessed about 8 weeks after delivery, while authors assessed participants 12 weeks after delivery by BDI.^[38] As 3 months is a long time, a large number of people adapted to the condition and reported less depression. On the other hand, BDI was used, which is substantially different from the Edinburg PPD scale. Third, they held only three sessions, each session was 20 min, included depression management information.

Totally, these findings are explainable as there is a relationship between lack of skills in managing relationships and emotions with mental health disturbance such as PPD. PPD often occurs in people who have mental health

vulnerability and lower psychological abilities.^[38] The people who learn to manage emotional conditions showed lower vulnerability to depression.^[41] The mechanism of action of EI to reduce PPD is related to the promotion of skills such as stress management in face of postpartum stress such as baby care, sleep disturbance, and breastfeeding. In fact, these skills are protective against stress and depression in this period.^[46] The self-emotion awareness skill develops the ability to emotions regulation in stressful situations. This can increase the cognitive abilities of mothers and enhance their ability to cope with feelings of hopelessness and distress.^[42]

In this study, participants became familiar with the concept of EI during the first sessions and their self-emotional awareness increased, this skill helped them to identify stressful situations timely. Delivered techniques during sessions also helped to increase interpersonal skills, empathy, and active listening. The interpersonal relationship skills such as active listening and self-disclose could provide the necessary social support. As many studies have shown, social support plays a key role in preventing depression.^[47,48] Problem-solving training focused on solving emotional problems is another skill that helped them to regulate emotions by creating the ability of emotions control.^[49] Finally, they find out their role in improving their health conditions.

During sessions, the participants in the intervention group received anger management education that helped them to regulate their intrapersonal conflicts. The array of delivered skills allowed mothers to manage their emotions. This study has involved some limitations such as poor corporation of some mothers, nonrandomized allocation to the groups, inhomogeneity of mental and economic status, short counseling sessions, and small sample size.

CONCLUSION

Overall, the results of the present study showed that group counseling based on EI reduced PPD possibility. In addition, these sessions have been effective in promoting EI and its dimensions.

Given the effectiveness of group counseling based on EI, it is hoped that midwives in health centers will play a more active role in increasing the mental health of pregnant mothers by holding training sessions. EI training for pregnant mothers requires skill and training. Proper and timely education of spouses as emotional support for pregnant mothers can be effective in reducing psychological and physical complications, hospitalization, and reducing economic costs.

It is suggested that more studies be done on effective methods to prevent PPD. The effectiveness of different interventions in different periods should be compared and evaluated.

It is suggested that specific programs be developed at the national level to prevent PPD. Midwives should receive the necessary training in this field during their studies.

Conflicts of interest

There are no conflicts of interest.

Authors' contribution

The authors equally contributed to the study. The study presents the results of the master dissertation of the first author submitted to Arak University of Medical Sciences. The corresponding author was the supervisor and the third author was an advisor.

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