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Individual counseling in mothers bereaved by pregnancy loss: A randomized clinical trial

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Abstract:

BACKGROUND: The loss of a pregnancy can result in grief, guilt, self-doubt, anxiety, and post-traumatic stress disorder (PTSD). Considering the side effects mentioned for mental health and the fact that the symptoms will linger if left untreated and even adversely affect the subsequent pregnancies. The current study was designed to assess the impact of individual counseling on stress, anxiety, and depression in mothers with pregnancy loss.

MATERIALS AND METHODS: The study commenced 100 women who experienced pregnancy loss (in Urmia/2018-2019); they were enrolled using convenience sampling and block randomization. The intervention group received four individual counseling sessions (weekly sessions with a duration of 1 h) based on Warden's principles. The control group received routine care. The Depression Anxiety Stress Scale (DASS-42) was filled out at baseline, the pre- and post-intervention. Analyses were performed using the Chi-square, paired, or individual *t*-tests, when necessary. *P* value < 0.05 was considered significant.

RESULTS: There were no significant differences regarding socio-demographic characteristics and clinical features between groups at baseline. Intra-group analysis showed that all outcome measures in the intervention group were significantly improved. According to inter-groups analysis, a significant association was found between pre-test and post-test in the intervention group (*P* < 0.05).

CONCLUSION: Results of this study can clarify the psychological effects of pregnancy loss in these mothers and help the officials and responsible parties to plan the treatment and rehabilitation of these women and include them in the healthcare system.

Keywords:

Anxiety, counseling, depression, pregnancy

Introduction

Pregnancy loss is classified into two subgroups: abortion and perinatal death. Abortion, which is defined as the termination of a human pregnancy, occurs most often during the first 20 weeks of pregnancy. It is the most common form of pregnancy loss, occurring in about 10% of all detected pregnancies.^[1] Perinatal death is defined as the death of a fetus or neonate between the 20th week of pregnancy and 28 days after delivery.^[2] Stillbirth is a public health issue, the definition

recommended by the World Health Organization (WHO) for international comparison is a baby born with no signs of life at or after 28 weeks' gestation.^[3] More than 6.03 million cases of perinatal death are recorded annually, most (99%) occurring in developing countries and 27% occurring in underdeveloped regions.^[4] In Iran, the annual perinatal death rate consisted of 8,726 recorded cases in 2015.^[5]

The loss of a pregnancy can result in grief, guilt, self-doubt, anxiety, and post-traumatic stress disorder (PTSD). These losses may result in immediate and long-term

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psychological consequences.^[6-8] In addition, pregnancy loss also burdens health and social care systems in a significant way. Such an effect arises from negative psychological signs, reduced social performance, financial and occupational difficulties, and increased use of healthcare services in future pregnancies.^[9] However, about 30% of the bereaved mothers go through major depression, suicidal tendencies, anxiety, PTSD, or other psychological complications. Such adverse effects may last up to 4 years after the original incidence and also negatively influence future pregnancies, regardless of the health status of the neonate.^[10-12]

The psychological complications of grief may present as stress, anxiety, and depression.^[13] Stress is an emotion in which the person holds the belief that the body's expectations exceed his/her capabilities. Anxiety is a profound, unpleasant, and vague sensation of worry with an unknown cause. Depression is a psychological mood disorder affecting one's performance adversely in personal and social activities over a minimum duration of 2 weeks.^[14]

A number of interventions capable of reducing stress and improving depression are suggested, such as meditation, logotherapy, pharmacotherapy, electro-convulsive therapy (ECT), and psychotherapy.^[15,16] Counseling is also regarded as an effective method in managing stress and depression although the evidence so far is conflicting and inconclusive.^[17,18] Counseling is a professional relationship between a caretaker and an individual built based on development, adaptation, and decision-making to improve problem-solving capabilities in an individual and overcome the obstacles.^[19,20] In some countries (e.g., Australia), the recent establishment of pregnancy loss clinics has been associated with reduced anxiety and improved emotional support for bereaved and pregnant mothers.^[21]

Johnson *et al.* conducted a study to examine the effects of a secondary bereavement intervention on grieving in women who experienced a miscarriage (pregnancy loss) at 12–20 weeks gestation. The findings from this study indicated that women who received the bereavement protocol reported lesser levels of overall grieving. These women were less likely to display despair than the women who received the standard treatment protocol. Women in both groups reported high levels of active grieving.^[22] Roberts *et al.* used an observational, mixed-methods pre-post study design with 6-week and 12-month follow-up assessments among women with a history of stillbirth. The experimental intervention program was based on mindfulness-based stress reduction guidelines. The results of this study showed that mindfulness intervention was effective in reducing psychological symptoms.^[23]

A multitude of techniques can be considered for bereavement counseling. One of such approaches was designed by Worden and focuses on the following: 1) aid in the actualization of loss; 2) help identify, experience, and express emotions; 3) facilitate living without the deceased; 4) aid in finding meaning in death; 5) assist in emotional relocation; 6) provide ample time for grief; 7) understand normal behavior; 8) consider individual differences; 9) evaluate defenses and coping mechanisms; and 10) identification of pathologies and referral. To better manage the pain of grief and loss, Worden recommends survivors to 1) express their feelings; 2) continue activities they enjoyed with the deceased; 3) pay attention to their well-being with daily exercise, adequate sleep, and nourishment; 4) directly face pain; 5) not pass judgment on themselves, cry when they feel the urge to and not to see laughing as an unforgivable sin; and 6) give themselves enough time to return to normal life.^[24]

In the majority of healthcare centers, the emotional and social needs of bereaved mothers are overlooked. Most cases are discharged after achieving physiologic stability. Considering the side effects mentioned for mental health and the fact that the symptoms will linger if left untreated and even adversely affect the subsequent pregnancies, this study was designed to evaluate the impact of individual counseling on stress, anxiety, and depression in mothers bereaved by pregnancy loss visiting a teaching hospital in Urmia, Iran.

Methods

Study design and setting

The randomized clinical trial was carried out in 2018–2019.

Study participants and sampling

The bereaved mothers who were referred to Shahid Motahari Teaching Hospital (Urmia, Iran) participated in the study. The inclusion criteria were: 1) literacy, 2) proficiency in Persian or Azeri language, 3) being a resident of Urmia, 4) aged between 18 and 39 years, 5) planned pregnancy, 6) pregnancy loss occurring between 8 weeks of gestational age and 28 days after delivery, 7) no previous history of physical or psychological illness, 8) negative history of using pharmacotherapeutic agents with psychological indications, 9) negative history of grief (other than pregnancy loss) within 6 months of admission, 10) obtaining a score <23 on the GHQ-28 scale.^[25] 10) negative history for infertility, and 11) easy access to a telephone line or mobile phone. Participants with a history of a stressful event (such as the loss of a loved one) during the study period, getting pregnant again, and those absent for more than two sessions of individual counseling were excluded from the study. The study population was determined based on previous

research by Navidian *et al.*^[26] To ensure an adequate study population, 45 participants were included in the main and control groups. By considering a 5% drop, with a power of 80% and a confidence level of 95%, a total of 100 participants were included in this study. Participants were enrolled using convenience sampling. Block randomization was performed to limit bias; all possible combinations of AAABBB were listed and separately coded. Twenty codes were selected blindly and randomly. Subsequently, participants were grouped based on the respective blocks in each code.

Data collection tool and technique

At baseline, demographic values including age, literacy level of the mother, occupational status of the mother, and income were recorded. In addition, The Depression Anxiety Stress Scale (DASS) was used to assess participants at baseline and after the intervention. This questionnaire was first designed by Lovibond (1995) and has two versions, comprising either 21 or 42 questions.^[27] In this study, we used the original version (DASS-42). Each of the scales of depression, anxiety, and stress was evaluated using 14 multiple-choice questions. The answers covered numeric values between 0 and 3 (0: never; 1: seldom; 2: often; and 3: always).^[27] The Persian translation of the DASS-42 questionnaire was previously assessed by Afzali *et al.* (2007) and was found to be both valid and reliable, obtaining a Cronbach alpha value of 0.94, 0.85, and 0.87 for depression, anxiety, and stress, respectively, which was similar to those originally reported by Lovibond *et al.*^[28]

In this study, the intervention consisted of counseling, which focused on two major aspects: improving the psychological aspects of pregnancy loss and helping bereaved mothers cope with their grief. Counseling was performed individually and based on Worden's principles of grief. Starting at baseline, weekly sessions with a duration of 1 h were scheduled and carried out by a professional counselor at the hospital (a midwifery consultant who was trained by a psychiatrist).

Table 1 summarizes the topics emphasized during each session. Participants in the intervention group were provided with the contact information of the counselor in case they require any assistance. In addition, they received constant motivational text messages and reminders from the counselor.

The control group received routine care throughout their study period. All participants were asked to complete the DASS-42 questionnaire 1 month after the final counseling session.

Ethical consideration

Participants reserved the right to withdraw from the study at any given time (Ethics approval: ethical code:

Table 1: Counseling sessions and topics covered in each session

Session	Topics
1	Introduction; creating a reassuring bond with the mother; explaining the purpose of the study and the counseling sessions; conversing about the experience of pregnancy loss; providing medical information on various types of pregnancy losses based on individual experience and physical and emotional complications; explaining the grief ensuing pregnancy loss and its stages; providing home exercises; summarizing the session; and arranging the next session.
2	A short review of the previous session; assessment of home exercises; talking with the mother about her emotions, the previous week and providing guidance on coping with psychological stress; defining depression; providing mechanisms to combat low moods and depression; aiding the mother in choosing the best coping mechanism; teaching and practicing relaxation techniques; providing home exercises; summarizing the session; and arranging the next session.
3	A short review of the previous session; assessment of home exercises; defining stress and anxiety for the mother and providing guidance on coping with them; teaching patience based on religious faith; providing home exercises; summarizing the session; and arranging the next session.
4	A short review of the previous session; assessment of home exercises; speaking with the husband to gain their support; answering questions that the mothers may have regarding genetic testing; suggesting the re-initiation of sexual intercourse and reviewing contraceptive methods; concluding the session and providing final guidance for worried parties; concluding therapy sessions with increased hope in bereaved mothers.

Ir.umsu.rec. 1396:437). Participants were assured that their information would be kept confidential. Written informed consent was obtained from all mothers (and fathers) after providing them with adequate information regarding the study procedure and its goals.

Data analysis

The data were gathered and then processed using the SPSS software v. 22. Analyses were performed by employing the Chi-square, Fisher's exact, paired, and individual *t*-tests, as necessary. Data are presented as mean \pm standard deviation (SD). *P* value < 0.05 was considered significant.

Results

The intervention and the control groups were similar in both demographic and maternal parameters ($P > 0.05$). Table 2 summarizes the maternal parameters in brief.

As presented in Table 3, the two groups were also similar regarding the background conditions surrounding the pregnancy loss.

At baseline, the results obtained from the self-report DASS-42 questionnaire revealed that the mean

Table 2: Maternal parameters of participants

Variable	Mean±SD		(P)
	Intervention group	Control group	
Age	29.46±5.32	28.42±6.32	0.376
previous pregnancies (n)	2.44±1.34	2.34±0.91	0.688
Living children (n)	0.88±0.68	0.78±0.91	0.537
Previous abortions (n)	0.46±0.97	0.42±0.67	0.812
Previous stillbirths (n)	0.04±0.19	0.00±0.00	0.156
Previous neonatal death (s) (n)	0.04±0.28	0.06±0.31	0.738
Gestational age at time of abortion (weeks)	13.50±4.54	12.40±4.18	0.490
Gestational age at the time of stillbirth (weeks)	27.61±6.39	24.50±4.18	0.167
Age at time of perinatal death (days)	4.41±3.72	3.84±4.18	0.723

Table 3: Comparison between the two groups regarding the conditions of pregnancy loss

Variable	Intervention group	Control group	(P)
Type of pregnancy loss			
Abortion	16 (32%)	15 (30)	0.829
Molar pregnancy	3 (6%)	2 (4%)	0.646
Ectopic pregnancy	6 (12%)	8 (16%)	0.564
Stillbirth	13 (26%)	12 (24%)	0.817
Neonatal death	12 (24%)	13 (26%)	0.817
Gender of lost pregnancy			
Female	16 (32%)	14 (28%)	0.888
Male	18 (36%)	20 (40%)	
N/A	16 (32%)	16 (32%)	
Observation of the fetus/neonate by the mother			
Yes	21 (42%)	22 (44%)	0.840
No	29 (58%)	28 (56%)	
Anomaly (ies)			
Yes	12 (29.3%)	5 (12.5%)	0.064
No	29 (70.7%)	35 (87.5%)	
Type of delivery			
Natural vaginal	20 (80%)	19 (79%)	0.733
Caesarean section	5 (20%)	6 (24%)	

total score and the mean score of each scale (stress, anxiety, and depression) were similar between the two groups ($P > 0.05$). However, a significant improvement was observed in the intervention group post-intervention when compared with the control group and pre-intervention values ($P < 0.05$). The summary of the DASS-42 questionnaire is presented in Table 4.

Discussion

In this study, mothers in the intervention and control groups were matched in terms of a planned pregnancy, score of the questionnaire (GHQ <23), lack of self-reported mental conditions, lack of use of psychiatric drugs, and lack of exposure to adverse events such as accidents or death of loved ones (except

recent loss) in the last 6 months. According to the results of the current study, no statistically significant difference was observed between the demographic and obstetric characteristics (quantitative or qualitative) of intervention and control groups.

At the end of the study, the results showed that the overall scores of the DASS-42 questionnaire, as well as the scores for depression, anxiety, and stress in the intervention group, decreased significantly compared with those in the control group and the pre-test scores within the intervention group. The mean post-stress scores and the total scores of the post-test questionnaire in the control group also decreased significantly compared to the pre-test scores; however, the rate of decrease in the intervention group was higher than that in the control group, a fact which may be taken as an indication of the effectiveness of counseling sessions on reducing the symptoms of depression, anxiety, and stress in mothers after the loss of pregnancy. The findings of the present study are consistent with the results of a number of previous studies. In a study aimed to determine the effect of couple-oriented counseling on the rate of post-pregnancy-loss depression, Swanson reported a decrease in symptoms of depression in parents of the intervention group.^[29] In a clinical trial aimed to determine the effect of counseling on the level of anxiety in women with spontaneous abortion, results showed that 3 months after the intervention, the intervention group experienced a lower level of anxiety and depression compared with the control group.^[30] The findings of this study are consistent with the results of the aforementioned study and emphasize that counseling by midwives to women who experience pregnancy loss can be effective in reducing anxiety. The decrease in the depression and anxiety scores of mothers in the intervention group is in line with the results of the study conducted by Nasiri *et al.*^[31]

The results of the current study indicate that providing counseling and weekly follow-ups to women with legal abortions (loss of pregnancy) can reduce their levels of anxiety and depression. A study by Navidian *et al.* aimed to determine the effect of sadness counseling on the severity of PTSD symptoms in mothers who gave birth. The severity of PTSD symptoms in mothers who participated in counseling sessions showed a significant reduction compared with the control group ($P = 0.0001$).^[32]

Women feel the necessity of education and counseling for reducing the psychological side effects post-abortion and are much willing to receive these types of services.^[33] In this study, during the counseling sessions, the affected population indicated the importance, need, and necessity of conducting these types of counseling sessions post-abortion. Generally, studies have shown that

Table 4: Mean±SD DASS-42 scores obtained by the groups at baseline and the end of the study

Variable	Pre-intervention	Post-intervention	(P)
Depression			
Intervention group	17.66±4.98	5.90±1.79	<0.001
Controls	17.42±5.83	17.00±6.02	0.12
(P)	0.82	<0.001	
Anxiety			
Intervention group	16.12±2.78	7.80±3.06	<0.001
Controls	16.48±3.48	16.26±3.56	0.13
(P)	0.57	<0.001	
Stress			
Intervention group	24.26±4.55	5.72±1.62	<0.001
Controls	24.48±6.28	23.76±5.99	0.001
(P)	0.84	<0.001	
Total			
Intervention group	58.04±9.69	19.42±4.17	<0.001
Controls	58.38±12.58	57.02±12.71	0.002
(P)	0.88	<0.001	

women who receive proper intervention, show a lower rate of hopelessness and grief in comparison to those who did not receive appropriate intervention.^[34] However, some studies are contrary to the findings of this study. A study aimed to determine the effect of supportive counseling on the mental health status of mothers with spontaneous abortions, which involved 280 women with spontaneous abortion, found that after receiving two individual counseling sessions from a nurse, the Beck and GHQ-28 depression test scores in the intervention group did not significantly differ from the test scores of the control group. This discrepancy may be due to the number and the content of counseling sessions as well as the differences in the methods used.^[35]

Informing the mothers is an important component of care in mothers who have experienced pregnancy loss; in this study, parts of the intervention sessions were devoted to teaching dignity and poise using religious teachings, providing information about pregnancy loss, its causes, and its effects on subsequent pregnancies. Good communication with the mother is one of the main components of post-pregnancy care and constitutes the establishment of a relationship that is based on empathy, compassion, proper nonverbal communication, and respect for privacy. This kind of relationship is mentioned in various studies.^[36,37] Good communication involves building a good rapport, finding the right words, having the right approach, and paying attention to the content and the manner of speech. Counselors and healthcare providers cannot alleviate the emotional pain and distress of parents; however, by establishing effective communication based on empathy, they can prevent unnecessary and excessive parental anxiety. When communicating with these parents, it should be noted that stress and grief can significantly reduce a person's

ability to absorb, process, and retain information^[36,38]; therefore, it might be necessary to repeat the information. Another requirement of good communication is to respect what parents' beliefs might be regarding the loss of pregnancy, the lost fetus, or the baby.^[11] In the intervention sessions of the present study, all the above-mentioned points were carefully considered and executed. The counseling sessions in this study aimed to improve the psychological aftermath of pregnancy loss (including stress, anxiety, and depression), as well as help mothers adapt to the loss of pregnancy.

In our study interventions, the possibility of the proposed cases, compliance, and cultural acceptance should be considered. In the present study, mothers were advised to engage in activities such as exercising, walking or training classes, or participating in religious and charitable activities according to their preferences, so that they could overcome their anxiety and stress. Similar studies have shown that issues such as social support, physical activity, alternative modalities, time management, and considering cultural aspects can favorably affect the psychological health of this group of mothers.^[36,37]

In this study, the reduction in depression and post-test anxiety scores of the control group compared to its pre-test scores was not statistically significant; however, changes in the mean of total and post-stress scores within the control group were found to be significant. In various studies, the rate of decrease in psychological effects after the loss of pregnancy over time and the application of interventions have been reported differently. The time required to reduce the psychological effects of pregnancy loss was reported 6 months later, 12 months, 3, and 5 years; however, it should be noted that these symptoms do not disappear completely without treatment.^[39,40] Considering that the post-test questionnaires were completed by the control group 10 weeks after the loss of pregnancy, a reduction in the depression and anxiety levels of mothers in the control group could be related to the timing of the study. It can be concluded that the psychological symptoms of pregnancy loss decrease over time, even without intervention; however, psychological counseling reduces the severity of psychological symptoms rapidly. This finding is consistent with the results of previous studies.^[17,41] Of course, it must be taken into account that not receiving supportive or professional care after a pregnancy loss can lead to post-pregnancy loss stress disorder and more psychological complications.^[35,42]

And finally, it should be mentioned that the current study differs from other studies as it examines mothers who had primary as well as secondary pregnancy loss. In this study, the counseling was done individually and face to face and by senior trained midwives. Because different

families and different individuals react differently to pregnancy loss,^[43] providing individual counseling and interventions tailored to the needs of each person can be more effective. In this study, different aspects of the symptoms and complications of pregnancy loss were considered and different strategies for overcoming anxiety, stress, grief, gaining social support, and relaxation were used simultaneously in counseling sessions. Previous studies, however, have included only mothers who have experienced a specific type of pregnancy loss, and interventions were conducted in the form of medication, counseling accompanied with medication, education, group counseling, and telephone or online counseling.

The limitations of this study include few counseling sessions, the lack of long-term follow-up on maternal psychological symptoms, and the conduction of interventions in the early weeks of loss when grief is relatively severe.

Conclusion

Neglect by the healthcare system, and lack of support for mothers who experience pregnancy loss increase their vulnerability to psychological complications. Results of this study can clarify the psychological effects of pregnancy loss in these mothers and help the officials and responsible parties to plan the treatment and rehabilitation of these women and include them in the healthcare system. Also, the results can be used as a guide to performing further studies in different at-risk groups, especially the ones who suffer from infertility, illiterate mothers, and those who live in villages.

Criteria for inclusion in the authors'/ contributors' list

- **Mahmonir Haghighi:** Study concept and design, critical revision of the manuscript for important intellectual content
- **Khatereh Oladbandiadam:** Executor of research, wrote the manuscript, and is the guarantor
- **Hamideh Mohaddesi:** Developed the original idea and the protocol
- **Javad Rasuli:** Analysis and interpretation of data.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/ have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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