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# Cognitive behavioral counselling in post abortion grief: A randomized controlled trial

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## Abstract:

**BACKGROUND:** Abortion is can led to certain psychological problems that may decreased self-esteem, and concerns about future fertility. Abortions have multiple psychological consequences such as grief, anxiety, depression, and post-traumatic stress. The purpose of this study is to examine the effect of cognitive behavioral counseling intervention on women in post-abortion period.

**MATERIAL AND METHODS:** This research was a randomized, controlled trial study that was conducted on 168 women during the post-abortion period at the Khalill Azad Center of Larestan (Iran), where the women were selected randomly from February 2019 to January 2020. Data were collected using post-abortion grief questionnaire. All women in the post-abortion period answered the perinatal grief scale questions at the beginning of the intervention, immediately after the intervention and three months after the end of the intervention. Data were analyzed through descriptive statistics and repeated measures analysis of variance (ANOVA) with time and group were used to evaluate the effect of intervention.

**RESULTS:** By using repeated measures ANOVA, the comparison of the mean score of grief in the two groups indicated that the scores decreased over time and it was lower in the intervention group. The mean score of grief between the intervention and control groups at the end of the intervention was  $67.59 \pm 13.21$  and  $75.42 \pm 12.7$ , respectively ( $P < 0.001$ ). Mean post-abortion grief score in the intervention and control groups three months after the intervention were  $59.41 \pm 13.71$  and  $69.32 \pm 12.45$ , respectively ( $P < 0.001$ ).

**CONCLUSION:** According to results of this study, it can be concluded that the use of cognitive behavioral counselling can reduce post-abortion grief intensity or prevent the occurrence of complicated grief. Therefore, this method can be used as a preventive or therapeutic approach to control post-abortion grief and other psychological disorders.

## Keywords:

Cognitive behavioral therapy, grief, randomized controlled trials

## Introduction

Abortion is one of the most common health concerns that can lead to certain psychological problems such as smoking, drug abuse, eating disorders, depression, attempted suicide, guilt, regret, nightmares, decreased self-esteem, and concerns about future fertility.<sup>[1]</sup> Abortion has multiple psychological consequences such as grief, anxiety, depression, and post-traumatic

stress. The prevalence of post-abortion grief, depression, anxiety and post-traumatic stress are 31%, 6.7%, 3.4% and 23.5%, respectively.<sup>[2]</sup>

Grief is one of the psychological responses which occurs in approximately 31% of pregnancies that lead to a miscarriage.<sup>[3]</sup> Although women have not developed a relationship with their baby, the grief after pregnancy loss does not differ significantly in intensity from loss of other first-degree relatives, and grief symptoms usually

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decrease over the first 12 months.<sup>[4]</sup> Grief is unique compared to other losses, and sudden and unexpected death or lack of memories may lead to this situation.<sup>[5]</sup>

Post-abortion grief is unique compared to other losses, and sudden and unexpected death or lack of memories may lead to this situation.<sup>[4]</sup> Grief is a normal response to miscarriage that could progress to complicated grief.<sup>[6]</sup> Complicated grief is a syndrome that occurs in about 10% of people, and it is caused by a failure of transition from acute to adaptive grief.<sup>[5]</sup> On the other hand, women with positive history of miscarriage may be concerned about their next pregnancy.<sup>[7]</sup>

Psychological counselling can increase coping with adversity and could decrease feelings of guilt, shame, or self-blame.<sup>[8]</sup> Review of articles showed that psychotherapy-based interventions are effective in post-abortion grief treatments.<sup>[9]</sup> Various psychological interventions have been used in post-abortion grief. In one of these interventions, the treatment group received a 1-hour bereavement intervention based on Guidelines for Medical Professionals Providing Care to the Family Experiencing Perinatal Loss two weeks of the loss of the pregnancy, and a 15-minute telephone call one week later was used to reinforce the information from the bereavement intervention. The effect of the intervention was to lessen the despair of the women in the intervention group.<sup>[10]</sup> A structured conversation with a midwife for 60 minutes focusing on the woman's experience of miscarriage was held and reduction of women's grief at one and four months post miscarriage were reported, but it wasn't statistically significant.<sup>[11]</sup> One session of psychological counselling with a psychologist for 50 minutes, five weeks after the miscarriage was another intervention and post-miscarriage grief measured at 4-, 7- and 16-weeks after miscarriage. The grief score at four and seven weeks after the intervention did not show a statistically significant difference.<sup>[12]</sup> Swanson evaluated the effect of three intervention methods on grief and depression in men and women after abortion. Results showed that nursing counselling three months after abortion had a better effect on grief and depression.<sup>[13]</sup> To summarize, all the interventions reported took place from 1 to 18 weeks after miscarriage and outcomes were different.

Several studies have demonstrated cognitive behavioral counseling as the best method of treatment of some problems such as anger control, anxiety and depression.<sup>[14-16]</sup> Although the advantage of this method over other methods has not yet been proven, many researchers believe that this method can be used as the first method of treatment.<sup>[17]</sup>

Despite a high prevalence of post-abortion grief and its complications among women, the researchers did not

find any studies that evaluated cognitive behavioral counseling on post-abortion grief prevention. This paper addresses gaps identified in the literature; therefore the primary research question driving this study was, "What is the effectiveness of cognitive behavioral counselling on post abortion grief?" The secondary research question asked was, "Do the cognitive behavioral counselling have a positive impact on women in the long time?"

## Material and Methods

### Study design and setting

This two-group, parallel, non-blinded, randomized, controlled trial was performed on 168 women in the post-abortion period at the Khalill Azad Center of Larestan in Fars province, Iran, where the women were selected randomly from February 2019 to January 2020.

### Study participants and sampling

A minimum of 168 women were randomly allocated to one of the two experimental or control groups (no intervention), in a 1:1 ratio. Inclusion criteria were women with positive history of spontaneous abortion or any other abortion, 2-12 months after miscarriage, aged over 18 years and the ability to speak and understand Persian language. Negative history of present pregnancy, negative history of psychotherapy at the time of treatment (duration of counselling), history of depression, substance abuse, mental disorders, taking psychotropic medications, suicidal tendencies, complicated grief or chronic physical illness. Exclusion criteria was declined participation or reluctance to continue research.

According to mean comparison in two communities in similar studies<sup>[18,19]</sup> and standard deviation, with 80% power and the type I error of 0.05, the sample size in each group was considered 84. Current research had two control and counselling groups and four block sampling. In this method, six possible situations 1 AABB, 2 ABBA, 3 ABAB, 4 BBAA, 5 BAAB, 6 BABA existed. By a table of random numbers and four block sampling, 168 concealed envelopes were prepared by a methodologist and numbered from 1 to 168 and each (A or B) were written inside these envelopes. Participants received one of these envelopes according to their enrollment.

### Data collection tool and technique

The study measures include a sociodemographic questionnaire including questions about age, marital status, job, level of education, history of other disease, place, age husband's age, his job, his medical disease, time of abortion, method and place of abortion (home or hospital) and standardized Persian version of post-abortion grief scale which was validated by Mirzabigi.<sup>[20]</sup> The post-abortion grief questionnaire

included 33 questions used for measuring the seriousness of symptoms of an individual aged 18 years and over. It consisted of three subscales: active grief, difficulty in coping, and despair.<sup>[21]</sup> The internal reliability coefficient, tested using Cornbrash's  $\alpha$ , and external validity, tested by test-retest, and with a correlation of  $<0.9$ , its validity and reliability were confirmed.

In order to collect data, Imam Reza, Amir Al-Momenin and Omidvar hospitals were used and consultative intervention was performed in Khalil Azad Clinic (Ishm, Fars's province, Iran). After obtaining permission from the ethics and registration committee in the clinical trial intervention system, the research assistant referred the mentioned hospitals and talked to the women who were eligible to participate in the study.

At first, participants completed the post-abortion grief questionnaire, after which they received one of the prepared, concealed envelopes according to their enrollment; this determined which group they belonged to. The intervention was performed by a PhD student in reproductive health (researcher) under a psychologist's supervision. Twenty-four hours before counselling, the researcher called the participants and the next day's meeting was reminded.

The cognitive-behavioral counselling group (group A) received six (30–40 minutes) counselling sessions which were held weekly. The sessions were conducted as group discussion and were including of the cognitive assessment, and agreement on the aim of therapy, providing information about grief, its process and components, normalizing its emotional and behavioral consequences of grief process ("its normal to cry when one experiences such a loss"), identifying dysfunctional irrational beliefs and their emotional behavioral and physical consequences, helping the bereaved find a way to organize their life without the deceased; on the other hand, the control group (group B) received routine care such as checking of vital signs and bleeding. After six counseling sessions, the participants completed the post-abortion questionnaire immediately and once more three months after the intervention. Some women were excluded due to travel or unwillingness to cooperate [Figure 1].

### Statistical methods

The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 18. Descriptive statistics including central indicators, and frequency distribution were used to describe the data. The Kolmogorov–Smirnov test was used to determine if the data had normal distribution. The between-group similarity of data was evaluated using *t*-test and Chi-squared or Fisher's exact test ( $P > 0.05$ ).

Repeated measures analysis of variance (ANOVA) with time (before intervention, immediately after intervention, 3 months after intervention) and group (control and intervention) were used to evaluate the effect of intervention. To determine repeated measures ANOVA, Mauchly's sphericity test was used.

### Ethical consideration

The protocol of this study was approved by the ethics and research committee of Shahrood University of Medical Sciences (N0.IR.SHMU.REC.1396.43 Date 24/5/2017). The trial is registered at the Iranian Registry of Clinical Trials, number IRCT20180407039223N1.

Participants were informed of the purpose of the study before entering the study. Participants were assured that their information was completely confidential and that they could discontinue their participation in the study whenever they wished, if they were unwilling to cooperate.

### Results

One hundred sixty-eight women, who were randomly assigned to the intervention and control groups, participated in the study. There was no significant difference between the two groups in terms of age, marital age, education status, spouse age, place, gestational age at abortion time and time after abortion [Table 1].

In the current study, the post-abortion grief score in the two groups was evaluated in the pre-intervention, immediately after the intervention, and three months after the end of the intervention. Mauchly's sphericity test was statically significant ( $P < 0.001$ ). Therefore, Greenhouse–Geiser was used for interpretation of data. By using repeated measures ANOVA, the comparison of the mean score of grief in the two groups indicated that the scores decrease over time. Result of the *t*-test showed that there was a significant difference between the two groups at the end of intervention ( $P < 0.001$ ). The result of the *t*-test showed that at three months after intervention, there was a significant difference between the two groups ( $P < 0.001$ ) [Table 2].

### Discussion

Our finding is in line with the results of studies that reported the positive effect of cognitive behavior therapy on postnatal grief scores. The intervention group's grief score significantly decreased after six sessions of the cognitive behavioral counselling. Similarly, Navidian indicated that four sessions of CBT in over two weeks had a positive effect on postnatal grief. They evaluated couples one month after the intervention. In his study, spousal support was evaluated, which was one of

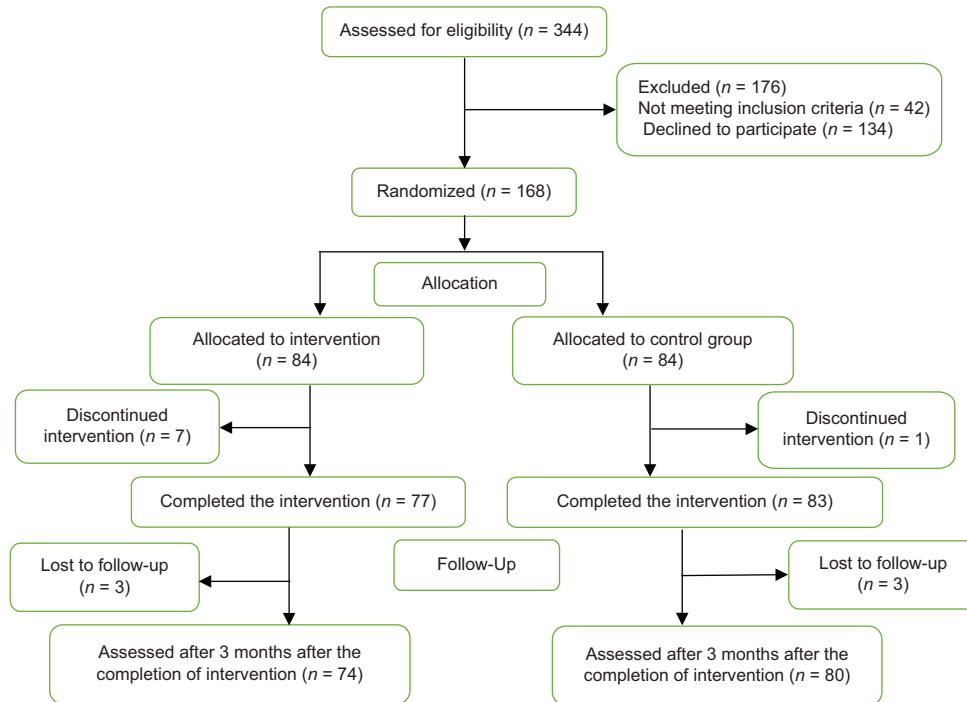


Figure 1: Consort CONSORT flowchart

the important factors in decreasing postnatal grief.<sup>[22]</sup> Another clinical trial showed that cognitive-behavioral therapy reduced psychological distress (depression and anxiety) in women with recurrent miscarriages.<sup>[23]</sup>

Kersting *et al.*<sup>[18,19]</sup> showed that three sessions of CBT over three weeks was effective in reducing post-abortion grief problems and increasing the quality of life among women. Almost all of the women were over 12 weeks. Women expressed their feelings and emotions in three sessions via email. Using this method is suitable for people who are afraid to face the therapist due to fear of stigma, or due to distance and time constraints are not able to be present at the designated place. Swanson *et al.*<sup>[13]</sup> showed that three counselling sessions had the broadest positive impact on couple resolution of grief and depression. In their study, individuals were admitted to the study three months after the abortion. Intervention was based on Swanson caring theory, and meaning of miscarriage model was offered 1, 5 and 11 weeks after enrollment. Also, Golmakani *et al.*<sup>[24]</sup> indicated that post-abortion counselling was effective in reducing grief symptoms. They had three counselling sessions based on Swanson theory: in the beginning, 90 minutes promptly after the abortion, the secondary was 90 minutes a week later, and the third session included direct counseling.

However, in contrast to their studies that show the positive effects of the counselling intervention, there are studies reporting that this intervention had no significant effect on patients. Adolffson *et al.* reported one session counselling according to Swanson approach

21–28 days after abortion had no significant effect on grief level.<sup>[11]</sup> Perhaps the reason for the heterogeneity of two studies is the onset of the consultation or sessions of counselling (one session vs six sessions). In another randomized, controlled trial, it was shown that one session of Swanson approach counselling was not significant for reducing grief score.<sup>[25]</sup> In another randomized controlled trial, it was shown that two sessions of counselling were not significant for reducing post-abortion depression and tension.<sup>[26]</sup> Perhaps counseling immediately after abortion is not the right time because some people are tired and impatient to listen. One session counselling over five weeks during post-abortion period had no significant effect on their grief and depression level.<sup>[12]</sup> Perhaps the reason for the heterogeneity of two studies is the onset of the consultation or sessions of counselling (one session vs six sessions); in their study, post-abortion grief four months after the intervention and in the follow-up, period was consistent with the current study, which shows that the mourning is affected by time, and that over time, the effect of counseling becomes more evident.

Repeated measures ANOVA showed that time is a factor which plays an important role in reducing the rate of mourning in both groups. The passage of time makes people happy with various events, pleasant or unpleasant. Women may cope with abortion phenomenon or pleasant events such as re-pregnancy may occur, or living conditions may change.

In the current study, psychological counselling with cognitive behavioral approach was used in which women

first expressed their feelings, and then people learned the concept and symptoms of mourning in a simple way, and finally, they learned how to avoid disturbing memories and return to daily life. In fact, in this approach, people are encouraged to experience better emotions and more appropriate behaviors by considering negative spontaneous thoughts and identifying and challenging cognitive distortions, and then by reconstructing those thoughts.

The presence of women together and hearing their stories and experiences was effective in making the participants more comfortable with the phenomenon of mourning. They considered abortion a divine test and

believed that one should rely on God and accept God's will. They considered performing religious duties and attending religious ceremonies as one of the methods of adaptation. Perhaps one of the reasons for the success of this counseling method was the participants' belief in God.

How women grieve depends on the personality of the grieving individual.<sup>[27]</sup> Bereavement and mourning vary in different cultures,<sup>[28]</sup> and cultural and social expectations affect how we deal with the phenomenon of grief. Religious beliefs have a positive effect on grief after fetal death and reduce its acceptance and psychological grief.<sup>[29]</sup>

The difference in sample size, duration of intervention or onset of counselling may explain the discrepancy of the result of different clinical trials.

**Table 1: Demographic and obstetrical characteristics of the groups**

Variable	Group		Test
	Intervention	Control	
Age*	28.75±4.76	28.53±5.5	P=0.778
Years of formal education*			
7-12 years	44 (52.4)	45 (53.6)	P=0.115
13-16 years	40 (47.6)	39 (46.4)	
Place**			
Urban area	82 (97.6)	83 (98.8)	P=0.56
Rural area	2 (2.4)	1 (1.2)	
Occupational status*			
Employed	18 (21.4)	15 (17.9)	P=0.56
House wife	66 (78.6)	69 (82.1)	
Abortion*			
1	68 (81)	67 (79.1)	P=0.673
2	12 (14.2)	15 (17.8)	
>2	4 (4.8)	2 (2.4)	
Living children*			
0	35 (41.7)	26 (31)	P=0.472
1	30 (35.7)	36 (42.8)	
2	17 (20.2)	17 (20.2)	
>2	2 (2.4)	5 (6)	
Place of abortion*			
Home	49 (58.3)	46 (54.8)	P=0.378
Hospital	35 (41.7)	38 (45.2)	
Type of abortion*			
Spontaneous	63 (75)	61 (72.6)	P=0.43
Induced	21 (25)	23 (27.4)	
History of disease*			
Yes	5 (6)	4 (4.8)	P=0.52
No	79 (94)	80 (95.2)	
Gestational age*			
>12 weeks	60 (71.4)	55 (65.5)	P=0.356
12-20 weeks	24 (21.6)	29 (34.5)	

Chi-squared test\*, Fisher's exact test\*\*

**Limitations and recommendations**

Strengths of this study included counseling by a PhD student in reproductive health under the supervision of a psychologist, using counseling method with group cognitive behavioral approach, random sampling, measurement of grief score immediately after intervention and three months after the intervention. Limitations included the participants in the control group received no intervention. Therefore, we can distinguish that the positive effects of the intervention were associated with the cognitive behavioral counselling or contact between the participants and the investigator. On the other hand, intention-to-treat analyses were not performed. However, due to leak of blinding and a small sample size were other limitations. Obstetrical and personal information, and post-abortion grief questionnaire were completed based on the patient's self-expression.

It is recommended that in future trials, participants receive intervention immediately after abortion as soon as possible, participants in the control group receive an intervention in order to reduce the confounding variable and bias regarding the interpretations of the result. We also recommend that post-abortion counselling via group cognitive behavioral approach be compared with other methods.

**Conclusion**

According to the results of this study, it can be concluded that cognitive behavioral counselling can reduce the

**Table 2: Comparison of the mean post-abortion grief score before, immediately after the last session, and three months after the study in the two groups**

Variable	Before intervention (Mean±SD)	At the end of intervention (Mean±SD)	3 months after intervention (Mean±SD)	Time effect	Group effect	Time x group effect
Intervention group	76.79±13.05	67.59±13.21	59.41±13.71	P<0.001	P<0.001	P<0.001
Control group	78.41±13.68	75.42±12.7	69.32±12.45			

intensity of post-abortion grief or prevent the occurrence of complicated grief. Therefore, this method can be used as a preventive or therapeutic approach to control post-abortion grief and other psychological disorders.

A counseling program, depending on the patient's condition, can have positive effects on their future fertility outcomes. These programs are in line with the goals of reproductive health that can be used in health centers. However, it should be noted that if the counseling is done with the husband or parents as the most important supporters of women, and also if women receive social support, they will receive better results.

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### Conflicts of interest

There are no conflicts of interest.

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