

# The effectiveness of midwifery consultation in "solution focused anxiety management" on self-esteem in women with a history of abortion

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## ABSTRACT

**Introduction:** Abortion has devastating effects on women physically and mentally. For example, abortion is considered a significant psychological stressors which causes mood disorders such as decreased self-esteem. Self-esteem and anxiety are significantly related to each other, so that high levels of self-esteem are associated with low levels of depression and anxiety. The "solution-focused anxiety management" is a counseling approach that combines psychological training on increasing self-esteem and other acceptance-based concepts with solution-focused, strategic, and cognitive-behavioral components. **Methods:** This study is a randomized parallel clinical trial with the participation of 84 women with a history of spontaneous abortion. The study population included women who had less than a week since their abortion and also had low self-esteem according to Rosenberg self-esteem tools. Subjects were divided into two groups of control (routine health care) and intervention (4-session solution-focused anxiety management counseling) based on random allocation sequence. Rosenberg demographic and self-esteem questionnaires were completed before and after the intervention and three months after the intervention in two groups. Data were analyzed using t-test, Chi-square (X<sup>2</sup>), Fisher's exact test, independent t-test and repeated measures. Significance level was P < 0.05. **Results:** Compared to the control group, solution-focused anxiety management counseling significantly increased the self-esteem of women with a history of spontaneous abortion (p-value = 0.001). In general, the mean and standard deviation of women's self-esteem scores before and after the intervention were obtained as (2.2 ± 2.62 and 3.19 ± 0.38) in the intervention group, and (2.4 ± 3.05 and 2.53 ± 2.48) in the control group, respectively. **Conclusion:** The Use of "solution-focused anxiety management" approach can increase the average self-esteem score of women with a history of abortion and increase their self-esteem. The results of this study showed that this intervention method can play an important role in psychological interventions after abortion.

**Keywords:** Solution-focused anxiety management counseling, self-esteem, abortion.

## Introduction

According to the definition by the World Health Organization, abortion includes termination of pregnancy before 20 weeks or

weighing less than 500 grams <sup>[1]</sup>. Until today, various definitions of abortion have been proposed, but in general, abortion can be divided into three categories including, spontaneous, induced and recurrent <sup>[2]</sup>. Furthermore, there is another type of category consisted of two types of medical and elective. Medical abortion is performed in cases of fetal abnormalities or to maintain the health of the mother, while in elective abortion, the mother requests for non-medical reasons <sup>[3]</sup>. According to reports, due to the increase in population growth from 1990 to 2014, the annual number of abortions in the world has increased to 5.9 million per year. Thus, during the years 1994-1990, it increased from 50.4 million people per year to million 56.3 people in 2014-2010 <sup>[4]</sup>.

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According to estimates provided by the Iranian Ministry of Health and Medical Education, 80,000 abortions occur each year<sup>[5]</sup>. In general, the average annual abortion rate is 35 per 1,000 women aged 15-44 worldwide<sup>[4]</sup>. It should be noted that because of the limitations of abortion in Iran that it is culturally, religiously and legally prohibited, many abortions are elective and done under unfavorable conditions and outside Hospital<sup>[6]</sup>. Such abortions are never recorded and are often reported as spontaneous abortions when referred to a hospital or clinic<sup>[6]</sup>. In addition, the population growth policy in Iran, due to population decline in recent years, encourages Iranian families to have more children, which in turn has led to fewer reports of abortions and the limitations of statistical reports.<sup>[7]</sup> Due to the fact that abortion is a challenging phenomenon, psychological and physical problems resulting from abortion can reduce the quality of life by affecting various aspects of a person's life and by creating physical and marital problems<sup>[8]</sup>. In a comparative study by Gregory *et al.* in the United States, the psychological effects of postpartum abortion are similar to those of a postpartum infant loss<sup>[9]</sup>. Ingrid (2007) also showed that the mental state of women who have had an abortion is similar to that of women who have lost their baby<sup>[10]</sup>. Furthermore, new evidence suggests that abortion can have significant and lasting psychological consequences. For example, about 50% of women experience some form of mental illness in the weeks and months following an abortion<sup>[10]</sup>. In addition, studies have shown that abortion has devastating physical and psychological effects on women<sup>[11]</sup>, for example, abortion has been considered as a significant psychological stressors, leading to Mood disorders such as decreased self-esteem<sup>[12]</sup>. Studies have also shown that not having children and failure in the phenomenon of childbearing, leads to a decrease in women's self-esteem<sup>[13]</sup>. Therefore, in most societies, the ability to have children is a major component of female identity, and plays an important role in mental health<sup>[14]</sup>. Studies have shown that during the first year after abortion, with care-focused counseling as well as over time, there is an effective reduction in mood disorders and increased self-esteem<sup>[15]</sup>. According to studies, self-esteem and anxiety have a significant relationship with each other, so that high levels of self-esteem are associated with low levels of depression and anxiety<sup>[16]</sup>. Therefore, anxiety management counseling can play a role in raising self-esteem in individuals. Counseling sessions enable the individual to reconsider their decision to have an abortion and also to be able to manage the motivating factors. The solution-focused approach is one of the most practical counseling approaches that leads to changes in emotion, behavior, adaptability and decision making<sup>[17]</sup>. In a study, Davoodi *et al.* proved that short-term solution-focused treatment is effective on depression and quality of life (one of the indicators of self-esteem) in women with recurrent miscarriage<sup>[18]</sup>. Although various methods have been proposed for counseling to improve the mental disorders of women after abortion, but one of the most important methods that is less discussed is the method

of "solution-focused anxiety management". This method combines psychological training on increasing self-esteem and other concepts that are based on acceptance with solution-focused, strategic, cognitive-behavioral components<sup>[17]</sup>. The focus of this approach is on managing anxiety, not "fixing" anxiety. People can realize that they do not have to wait for anxiety to disappear to do ordinary and wonderful things<sup>[17]</sup>. Given the illegality of abortion and the high prevalence of spontaneous and intentional abortions in Iran, it seems that the psychological consequences after abortion in Iranian women is one of the most important challenges in the care of pregnant mothers. In studies conducted mainly in Western countries and the United States, women experience a decrease in self-esteem after abortion. Since most research on self-esteem in women is descriptive, considering the importance of self-esteem in women with a history of abortion and its key role in maternal mental health, also because midwives as a member of the medical staff, one of whose duties is to advise and improve the quality of life and are in direct contact with women, the supportive and advisory role of the findings of this study can be an important step in preventing and promoting the health of women with a history of abortion.

## Methods

This study was done based on ethical criteria with the ethics code IR.SHMU.REC.1398.027. Also, this was a randomized intervention study with the code IRCT20190521043657N1 registered in the Clinical Trial Registration Center of Iran.

Characteristics of the research community: For this study, two educational and medical centers affiliated to Alborz University of Medical Sciences (Kamali Hospital and Imam Ali Hospital) were selected for sampling. At the end of each day, according to the time of each person's referral to the hospital (time recorded in the hospital records), a list of women having the first pregnancy with definite symptoms of miscarriage and inclusion criteria was prepared and based on the time of their inclusion in the study, they were put in the central list and coded. According to previous studies<sup>[22]</sup> and considering the sample loss, the sample size in each group, taking into account the first type error of 5% and power of 90% was estimated as 38 people in each group that taking into account the sample loss was considered as 90 people (45 people in the intervention group and 45 patients in the control group).

$$n = ((z_{-}((1-\alpha/2)) + z_{-}((1-\beta)))^2 (\sigma_{-1}^2 + \sigma_{-2}^2)) / d^2$$

Then, when they reached 18 people (according to the sample size, 90 people were considered as 18 people, of which 9 people in the intervention group and 9 people in the control group) were included in the study. Then, the subjects were divided into two groups A and B based on a random allocation sequence (before the intervention, the control and intervention groups were named by drawing lots as group A and group B, respectively).

Then, the members of the intervention group were contacted to participate in counseling sessions and were invited to participate in the study. The nearest health center was selected as the place of sessions of each group of 9 people based on the address of the place of residence. For the convenience of the participants, a counseling room was provided with privacy and quiet features. The intervener, a postgraduate counseling student in midwifery who had acquired the skill of conducting a counseling class with a solution-focused anxiety management approach, conducted the sessions in four 90-minute sessions. Then the questionnaires were completed immediately after the intervention and three months after the intervention and the information was entered into the data analysis software (SPSS 23.0).

**Inclusion criteria:**

Consent to participate in the study, expert approval for abortion, first pregnancy, gestational age 20 weeks and less, ability to speak and understand Persian, no history of infertility, no history of mental illness, no history of physical illness (including cancers and any incurable physical illness), no addiction to cigarettes, alcohol and other drugs, no incidents that cause sadness, anxiety and depression, such as the death of loved ones in the last 2 months, no acute behavioral symptoms (such as constant talking ,obvious illusions), earning a self-esteem score below zero.

**Exclusion criteria:**

reluctance of the participant to continue to participate in the study, subjects that experienced stressful life events during the study, people who used out-of-study counseling services during the study, people who became pregnant during the study and absenteeism for more than two sessions.

**Data collection tools:**

For this study, two questionnaires of demographic characteristics and Rosenberg self-esteem questionnaire were used. Rosenberg Standard Self-Esteem Questionnaire [17]. determines the level of self-esteem. This questionnaire includes 10 two-choice questions (yes and no), +1 is given to the answer yes to each of the items of 1 to 5 and 1- is given to the answer No to each of the items of 1 to 5. Also positive answer to each of the items of 1 to 6 receives +10 and negative answer to the items of 6 to 10 receives +10. If the algebraic sum of the expressions is higher than zero, it indicates high self-esteem and the score less than zero indicates low self-esteem. Also a score of +10, indicates a very high self-esteem and a score of -10 indicates a very low self-esteem. Rosenberg Self-Esteem Questionnaire was validated by Behloul et al. (2007) on 122 students. Cronbach's alpha in the whole student sample was obtained as 0.84 [19].

**Methods:**

The control group received only routine care by the health center. In the intervention group, other than health care, solution-focused anxiety management counseling sessions were also conducted. Solution-focused anxiety management sessions

were performed for 4 weeks of 90 min sessions. During the first week after the abortion, the first session was held individually or in groups, and participants were welcomed at the beginning of the sessions. In order to follow up and continue the sessions, a text message was sent to the participants to remind them of the next sessions. In the next stages, in the control group, three people were excluded from the study due to participating in sessions outside the study and in the intervention group, three people were excluded from the study due to absence in the sessions.

After 4 sessions and also three months after the last session, the questionnaires were completed again and the results were compared. With the opinion of experts, the meetings were structured as follows [17]:

**Table 1: The structure of solution-focused anxiety management sessions**

Session	Titles and headlines
First	Introducing and familiarizing members with each other and with the consultant and reviewing its goals and structure. Expression of the rules and regulations, especially confidentiality. Expression of physical emotions and techniques of physical adaptation. Discussion about the reason for the sessions, examination of the physical reactions in dealing with the stressful event and turning this normal reaction into the abnormal and creation of a cycle of panic. Exploring a way to reduce the panic cycle, training physical adaptation techniques, training abdominal breathing, and spontaneous training (actually the same as relaxation). Mindfulness (imagining unpleasant thoughts and feelings as another pleasant thought). Homework (discovering a way of physical adaptation that is useful for each person) - Reviewing the session. Feedback form and its analysis (comparing the anxiety score of each person in each session with the first encounter with unpleasant situation).
Second	Discussion about last week's homework and the study of behavioral techniques: encounter and adaptation (exposing oneself to frightening feelings, thoughts, and situations and then remaining in these situations long enough for those horrible situations to lose their power and not be as frightening as before). Common sense and contrary to common sense: Common sense means wisdom but contrary to it is not expected. Courage ladder: Writing down small steps to reach the position that will be safest. Write a technique! read! and tear. Questions about today's meeting and feedback form - homework.
Third	Discussion about last week homework; Accepting thoughts and reacting to them, changing thoughts and replacing stressful thoughts with soothing thoughts. Feedback form, session review and homework
Fourth	Overview of the last session, drawing a solution-focused anxiety management chart and writing down the pros and cons of this method, finding a way to adapt to the disadvantages of this counseling method, feedback form, filling out the questionnaires (self-esteem)

**Methods of analysis:**

Each patient was assigned a code and all patient information was entered into SPSS 23.0 and saved. Data were analyzed using t-test, Chi-square (X<sup>2</sup>), Fisher's exact test, independent t-test and repeated measures. All statistical relationships were considered significant at the significant level of P <0.05.

## Results

According to Table 1 and using t-test, mean and standard deviation of age in the control group (27.57 ± 5.17) did not show a significant difference compared to the intervention group (28.50 ± 5.64). Also, the results obtained from the qualitative data of the participants' age showed that in terms of age, most of the respondents in both control and intervention groups were under 30 years old and the maximum age range of the participants was less than 30 years. Also, the results obtained from the qualitative data of the participants' education showed that in terms of education, most of the participants in the intervention group had a high school diploma or lower (p-value = 0.64) and in the control group, most of the participants had undergraduate

and higher education. The results obtained from the qualitative data of the spouse's education showed that in terms of the spouse's education, most of them had high school diploma and lower in both control and experimental groups.

Using Chi-square test, in terms of the occupation of the participants, 50% in the intervention group and 47% in the control group were housewives, and in the control group, most participants were employed. The lowest frequency in both groups (p-value = 0.442). The chi-square test showed that most of the respondents' spouses were employed (p-value = 0.449). The results of chi-square test showed gestational age of the most of respondents in both groups were ten weeks and younger and the results were homogeneous in both groups (p-value = 0.440). Respondents were asked about the type of pregnancy acceptance and most of the respondents, ie 78.5% in the intervention group and 84% in control group answered that it was a wanted pregnancy and it was examined by Chi-square test (p-value = 0.446) and two groups were homogeneous in terms of fertility acceptance.

**Table 1: Mean and standard deviation of quantitative demographic variables based on t test and frequency distribution of qualitative variables based on Chi-square test**

Quantitative variable	Sub-group	Intervention (42 people)		Control (42 people)		p-value
		SD	Mean	SD	Mean	
Age		5.64	28.50	5.17	27.57	0.455*
Spouse's age		6.23	31.23	7.17	31.57	0.828*
Number of years of education		2.90	13.52	3.26	13.73	0.787*
Spouse's education		2.90	13.52	3.29	13.11	0.611*
Qualitative variable	Sub-group	Number	Frequency percentage	Number	Frequency percentage	p-value
Age	30 years and less	26	61.90	29	69	0.449**
	Higher than 30 years	16	38.1	13	31	
Spouse's age	30 years and less	24	57.1	26	62	0.435**
	Higher than 30 years	18	42.9	16	38	
Education	High school diploma and less	21	50	20	47.6	0.640***
	Associate degree	4	9.5	1	2.4	
	Undergraduate and higher	17	40.5	21	50	
Spouse's education	High school diploma and less	21	50	22	52.3	0.385***
	Associate degree	4	9.5	5	12	
Occupation	Undergraduate and higher	17	40.5	15	35.7	0.442**
	Housewife	21	50	20	47.7	
Spouse's occupation	Employed	21	50	22	52.3	0.449**
	Unemployed	4	9.5	6	14.2	
Gestational age	Employed	38	90.5	36	85.5	0.440**
	20 weeks and less	24	57.1	20	47/6	
	11-12 weeks	8	19	5	12	
Pregnancy acceptance	12 weeks and higher	10	23.9	17	40.4	0.446**
	Has	33	78.5	35	84	
	Doesn't have	9	21.5	7	16	

\* T test

\*\* Chi-square test

\*\*\* Fisher's exact test

According to the information in Table 2, the study of mean self-esteem showed that the average self-esteem in the intervention group increased from -2.62 in the pre-test to -0.38 and showed an increase of 2.24 scores in self-esteem in the intervention group. In the intervention group, there is a significant difference between post-test score and follow-up. In the control group, self-esteem increased from -0.05 in the pre-intervention to -2.48 in the post- intervention and increased by 0.57, which is relatively highly different from the decrease in the intervention group. Also, using independent t- intervention, self-esteem was assessed in the pre-intervention and post- intervention (p-value = 0.33), which showed that there was no significant difference

in self-esteem scores in the pre-intervention in the control and intervention groups. Also, using independent t-test, post-intervention self-esteem was assessed in two groups of control and intervention (p-value = 0.001). According to the level of significance (p-value <0.05), a significant difference between the two groups of control and intervention was observed and the mean of self-esteem in the intervention group was higher than the control group. According to the results of independent t-test, there was a significant relationship in the self-esteem of follow-up stage between the two groups of control and intervention (p-value = 0.003).

**Table 2: Description of the self-esteem variable by group type and test stage**

Variables	Stages	Intervention		Control		p-value
		Mean	SD	Mean	SD	
Self-esteem	Pre-intervention	62.-2	2	05.-3	2.04	333.*0
	Post-intervention	38.-0	19.3	48.-2	2.53	0010.*
	Follow up	43.-0	852.	14.-2	18.2	0.003*
	Pre- intervention differences	24.-2	19.1	57.-0	49.0	-
	Post- intervention differences	19.-2	85.0	91.-0	14.0	-

\* Independent t-test

According to the analysis of variance with repeated measures, comparison of the effects of time and group on self-esteem are reported in Table 3. Table 3 shows the corrected results associated with the Hyunh-Feldt test. This test examines whether the mean self-esteem differed at different stages (pre-intervention, post- intervention, and follow-up). Results showed that the effect of time factor on self-esteem was significant (p-value <0.001). This means that the average self-esteem has changed significantly in different stages of pre-intervention, post-intervention, and follow-up. However, the interaction between time and group was not significant (p-value = 0.070). Also, the results between the subjects showed that the effect of group (intervention) on self-esteem was significant (p-value <0.001). This means that the intervention was effective on self-esteem and the intervention caused the mean self-esteem to change significantly after the intervention and follow-up.

**Table 3: Analysis of variance with repeated measures to compare the effects of time and group on self-esteem**

Effect source	Degree of freedom	Mean of squares	F-value	P-value
Group	1	125.73	16.30	<0.001
Time	1.63	75.43	11.09	<0.001
Time and group	1.63	19.66	2.89	<0.070

## Discussion

The results of this randomized trial study showed that solution-focused anxiety management counseling can increase the mean

self-esteem score of women with a history of abortion. The results of statistical tests showed that the mean score of self-esteem after the intervention increased significantly. Previous studies have shown that one of the main consequences of abortion is psychological effects, especially reducing women's self-esteem [20]. Since self-esteem is measured by a wide range of physical and psychological indicators, in this regard, a study by Mirabzadeh et al. showed that the higher the self-esteem, the lower the mean score of their anxiety [21]. The results were in line with the present study. In line with the previous study, in our study, people with high mean levels of anxiety had low self-esteem at the beginning of the intervention, and after anxiety management intervention, their mean self-esteem scores increased with decreasing anxiety. Prussner also observed that in people with higher self-esteem, the secretary response of cortisol in anxiety situations was lower in the brain [22] and as observed in the intervention of this study, after introducing physical adaptation techniques, participants felt more in control of their emotions, which in turn made them feel more positive about themselves, which was a sign of their self-esteem.

In the present study, self-esteem increased with the control of anxiety in the participants, as most studies on self-esteem were associated with anxiety, and people with low self-esteem experience high levels of anxiety [23]. In a study, it was proved that high levels of self-esteem act as a barrier to maternal stress and prevent anxiety from rising [24]. Also, Houston proved that people who failed to cope with stress had low levels of self-esteem [25], which confirmed the effectiveness of the interventions in the present study. In a study conducted in Japan and the United States, people who managed a stressful situation

had high self-esteem and those who found it uncontrollable had a lower self-esteem<sup>[26]</sup>, which was clearly seen in this study that at the beginning of the intervention, people with high anxiety had a low level of self-esteem and did not feel good about themselves, but after completing the study, people had higher self-esteem.

In this regard, the results of study by Golmakani *et al.* showed that supportive and structured counseling can help reduce mourning<sup>[18]</sup>. The findings of this study were consistent with the results of the present study because people feel defeated (one of the indicators of low self-esteem when they have low self-esteem). By using structured counseling, their self-esteem gradually increased. In explaining the mentioned results, it can be pointed out that, as shown in the study, if a person has a positive image of him/her self, they feel valuable.

In fact, one of the reasons that caused the self-esteem scores of the intervention group to increase after 4 sessions, was probably that anxiety was controlled in these people because of solution-focused anxiety management counseling and because self-esteem had a significant relationship with anxiety<sup>[16]</sup>, the self-esteem score increased. In that point, people believe that they have control over the behavior and emotions they experience. Therefore, according to previous study in this regard and the results of the present study, it can be concluded that the intervention in this study increased the self-esteem of women with spontaneous abortion.

## Conclusion

Using a solution-focused anxiety management approach can increase the self-esteem of women with spontaneous abortion. Considering the importance of preventive interventions in the field of health and especially in critical situations of a woman, including conditions after abortion and the professional position of midwifery, using this counseling method with the focus on the role of a midwife can prevent and reduce disorders and the psychological problems of a woman that she faces after an abortion.

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