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The Relationship of Emotional Intelligence with Women's Post-Abortion Grief and Bereavement

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ABSTRACT

Background & aim: Emotional intelligence (EQ) is one of the factors influencing post-abortion grief and bereavement. This study aimed to determine the relationship between the level of EQ and post-abortion grief and bereavement in women referred to the hospitals affiliated to Mashhad University of Medical Sciences.

Methods: This correlational study was conducted on 60 women with spontaneous abortion admitted in Department of Obstetrics and Gynecology of Imam Reza, Ghaem, and Omolbanin hospitals, Mashhad, Iran in 2016. The subjects were selected through convenience sampling and data were collected using a self-structured questionnaire, Bar-On model of socio-emotional intelligence, grief intensity scale, and perinatal Grief and Bereavement Scale. Data analysis was performed using descriptive statistics, simple linear regression, and Pearson correlation coefficient in SPSS software version 11.5.

Results: The subjects' mean age was 28.6±5.7 years old and 73.3% (n=44) of them were housewives. The mean scores of post-abortion grief, bereavement, and EQ were 126.5±26.7, 42.7±9.4, and 188.4±17.9, respectively. According to the results of linear regression analysis, the EQ adversely and significantly predicts the post-abortion grief (P=0.001, β=-43.22) and bereavement (P<0.001, β=-462/0). Given the results of Pearson correlation coefficient, there was an indirect and significant relationship between the EQ and post-abortion grief (P=0.001, r=-432) and bereavement (P<0.001, r=-0.462).

Conclusion: Considering the effect of EQ on post-abortion grief and bereavement, it is recommended to provide an educational program to promote the level of EQ in women.

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Introduction

Abortion is defined as spontaneous or induced termination of a gestation before the fetus can survive independently outside the mother's body (1). In fact, the abortion is loss of conception product (embryo or fetus) before 20th week of gestation; however, these terms are used to describe any first trimester termination of pregnancy. The spontaneous abortion is path-ologic, which results in an unplanned termination of the pregnancy before 20th week (1, 2). The prevalence of abortion in the United States is about 4.6 per 1,000 live births and in the Netherlands is about 47.55 abortions per year, which 80% of them occur during the first 20 weeks (3). Based on the reports of Iran's health center, each Iranian

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woman of reproductive age experiences 1.071 abortions (4).

The abortion has devastating impacts on the family's health status (5). Despite of the abortion-related physical consequences, mortality, adverse-effects of the used medicines, and drug sensitivity, it seems that its psychological impacts are more effective in women's life (6). The grief and depression are natural reactions to loss; although they usually decrease over time and can turn into a prolonged and painful experience that affect the females' emotions (7). The grief and bereavement are multi-staged and easily recognizable with both physical and emotional symptoms (7). For instance, sighing is a sign in bereaved people who lost a valuable thing in their life (8).

Physical signs usually include appetite and sleep disorders; furthermore, emotional symptoms entail regretting and crying. The other common symptoms which occur immediately after loss are psychological shock, disbelief, anger, guiltiness, and constant tiredness (9). Moreover, the bereaved person withdraws from the crowd, seeks to see the dead, and is passionate to the lost person (10). In fact, bereavement is a major risk factor for somatic symptoms, depression, and anxiety, which leads to cardiovascular disease and mortality (10, 11).

Various factors, such as age, gender, and educational level are related with mental health status and the incidence of abortion-related symptoms, and recovering from and coping with grief after death of the child (10, 11). According to the results of Adolfson et al. study in 2004, the women who experienced abortion felt guilty and deep sorrow (12). In the Rahbar et al. study in 2009, physical disorders, anxiety, sleep disturbances, and depression were significantly more frequent in the aborted women in comparison to the others (13).

Emotional intelligence (EQ) is another probable factor for dealing with post-abortion sorrow and grief (14-18). The EQ is the ability to identify and manage one's own emotions, affections, and feelings (14). Mirhashemi in 2008 demonstrated that individuals with higher EQ levels seem to be more capable to manage their conditions in comparison to those with lower levels (15). In fact, EQ is a set of interrelated cognitive abilities, which enables the person to become aware of the feelings by perception, evaluation, and expression of emotions; furthermore, the high levels of EQ organizes their thoughts to make wise decisions and behave responsibly (16).

The high level of EQ improves the individuals' intimacy, accountability, and relationship quality through increasing life satisfaction. In addition, high EQ promotes the positive social interactions and the interpersonal relationships between the person and friends or family (17). Additionally, Shoja Heidari in 2011 determined that the level of EQ increases until the fourth and fifth decades of life (18).

Ciarrochie et al. in 2002 conducted a study on the relationship between the level of EQ and mental health and confirmed that high level of EQ protects people against psychological stress and improves their adaptation and consistency (19). According to the literature, EQ is one of the effective factors in promoting the mental health status and could be promoted by training. Therefore, the high prevalence of post-abortion grief and bereavement and their negative impact on mental health revealed the importance of providing a proper management program (5, 6, 12, 13, 15-18).

It is essential to collect accurate information about the etiology and effective factors prior to planning for the prevention and treatment any disorder. To the best of our knowledge, there is no study regarding this issue; accordingly, this study aimed to determine the relationship between the level of EQ and post-abortion grief and bereavement in women referred to the hospitals affiliated to Mashhad University of Medical Sciences.

Materials and Methods

This correlational study was performed in all teaching hospitals of Mashhad University of Medical Sciences which have the department of obstetrics and gynecology. In this study, the sample size was computed as 60 cases based on a pilot study conducted on 10 women and using the Pearson correlation coefficient test with 95% confidence interval (CI), (α=0.05). Ultimately, this study was conducted on 60 women with spontaneous abortion admitted to the Department of Obstetrics and Gynecology of Imam Reza, Ghaem, and Omolbanin hospitals,

Mashhad, Iran, 2016.

The inclusion criteria entailed the desire to participate, Iranian nationality, the educational stage of at least fifth-grade of elementary school, the age between 18 to 35 years old, definitive diagnosis of abortion with ultrasonography, wanted pregnancy, being at post-abortion stage, and complete extraction of the fetus from the mother's body. Those women who met the inclusion criteria were selected and after obtaining the informed written consent entered the study. The exclusion criteria included failure to answering more than 30% of the questions and reluctance to participate.

A total of four questionnaires were used in this study, namely the questionnaire of individual-pregnancy information (developed by the author), Bar-On model of social-emotional intelligence, and grief intensity and Perinatal Grief and Bereavement scales. The individual-pregnancy information questionnaire included nine complete and multiple-choice questions about the women's age, educational level, and occupation, as well as the educational level of her spouse, the family income, the number of pregnancies, births, abortions, and children.

The Bar-On model of social-emotional intelligence was developed by Bar-On in 1997 based on his EQ theory (20). The EQ mixed models such as Bar-On conceptualize it as a combination of emotion-related capabilities, states, and personality traits. This model is known as a naive model about the personality and assessed individual's behavioral reaction in different situations (18). This self-report questionnaire consists of 90 questions with five-point Likert scale (ranged from 0 [completely disagree] to 4 [completely agree]; therefore the total score ranged from 0 to 360), and considers the socio-emotional situation (21). Moreover, the validity and reliability of this questionnaire is confirmed in several studies (21, 20, 18). Shoja Heidari et al. in 2011 revealed that the Cronbach's alpha and test-retest reliability for this instrument were both 0.86 (18).

The Perinatal Grief and Bereavement Scale is developed by Potvin et al. in 1989, which has 33 questions using the five-point Likert scale (ranged from 1 [completely agree] to 5 [completely disagree]); therefore, the total score ranged from 33 to 165 (22). This scale includes 15 multiple-choice questions scored using the four-point Likert scale that is defined as never or rarely (less than one day), sometimes (one to two days), often (three to four days), and most often (five to seven days), and the total score for this questionnaire ranges from 15 to 60 (10).

The validity of these two tools was confirmed by content validity method. The study instruments were given to 10 faculty members of the Department of Midwifery of Nursing and Midwifery Faculty of Mashhad University of Medical Sciences, to review and apply their views. The reliability of the both questionnaires of Perinatal Grief and Bereavement and grief intensity scales was confirmed by internal consistency method and applying the Cronbach's alpha coefficient, and their reliability was confirmed with r=0.77 and r=0.85, respectively.

All the aforementioned questionnaires were given to the subjects and they were asked to complete them within 20 min. If this time limit was not enough for answering all the questions, the researcher would give them spare time and thereafter took all the questionnaires. The questionnaires were completed under guidance of the researcher, who was present during the survey.

After collecting and encoding, the obtained data were entered into the computer and SPSS software version 11.5 was employed to analyze them after ensuring the accuracy of the data. Descriptive statistics including frequency distribution and mean and standard deviation were used to describe, evaluate, and summarize the collected data. To investigate the relationship between EQ and post-abortion grief and bereavement, the simple linear regression and Pearson correlation coefficient were applied; furthermore, the Spearman and Pearson correlation coefficient tests were used to investigate the relationship between individual-pregnancy variables and EQ with the post-abortion grief and bereavement (with the 95% CI). In all the measurements P-value less than 0.05 was considered statistically significant.

After obtaining permission from the Ethics Committee of Mashhad University of Medical Sciences, explaining the goals of the study to the participants, and obtaining an informed written consent from them, the study subjects were selected and data collection was commenced. To

comply with the ethical codes, the subjects' participation in this study was completely voluntary and all data were kept confidential and used merely for the research purposes.

Results

Out of 60 participated women, the educational level of 16.7% (n=10), 13.3% (n=8), 38.3% (n=23), and 31.7% (n=19) of them was elementary, secondary, and high school, and higher education, respectively. Their mean age was 28.6±5.7 years old; and 73.3% (n=44), 23.3% (n=14), and 3.2% (n=2) of them were housewife, employee, and student, respectively.

Table 1. Frequency distribution of women based on personal-pregnancy characteristics

Variable		Frequency (%)
The number of pregnancies	0	10 (16.7)
	1	16 (26.7)
	2	18 (30.0)
	≥3	16 (26.7)
The number of deliveries	Mean±SD*	0.8±0.9
The number of abortions	Mean±SD	0.6±0.7
The number of alive children	Mean±SD	1.0±1.1

* Mean and standard deviation

According to the results, 16.7% (n=10), 23.3% (n=14), 30.0% (n=18), and 30.0% (n=18) of the subjects' spouses had elementary, secondary, and high school, and higher education, respectively. Additionally, the level of family income was less than enough in 26.7% (n=16), enough in 56.7% (n=34), and more than enough in 16.7% (n=10) of the participants. The other personal-pregnancy characteristics are presented on Table 1.

Given the results of Pearson and Spearman correlation coefficient tests, there was no significant correlation between the women's personal-pregnancy characteristics with the level of EQ and post-abortion grief and bereavement (P>0.05; Table 2).

Table 2. The results of Pearson and Spearman tests to investigate the relationship between personal-pregnancy variables or EQ and post-abortion grief and bereavement

Variable	Bereavement		Grief		EQ*		Test
	P-value	r	P-value	r	P-value	r	
Age	0.389	-0.113	0.255	-0.149	0.608	0.069	Pearson
Educational level	0.087	0.223	0.383	0.115	0.856	0.024	Spearman
Occupation	0.235	-	0.532	-	0.651	-	ANOVA**
The spouse's educational level	0.132	0.197	0.593	0.070	0.472	0.096	Spearman
Family income level	0.091	0.220	0.846	0.026	0.422	0.107	Spearman
The number of pregnancies	0.106	-0.211	0.139	-0.193	0.140	0.196	Pearson
The number of deliveries	0.730	-0.046	0.758	-0.036	0.982	0.003	Pearson
The number of abortions	0.299	0.136	0.198	0.169	0.132	-0.200	Pearson
The number of alive children	0.103	-0.283	0.417	-0.109	0.791	0.036	Pearson

* Emotional intelligence, ** Analysis of variance

As demonstrated on the Table 3, the results of analysis of variance (ANOVA) revealed that the regression model was significant; therefore, there is a significant relationship between the level of EQ and post-abortion grief and bereavement (P<0.001).

Table 3. The results of ANOVA to examine the relationship between EQ and post-abortion grief and bereavement

Model	Total	df*	Mean	F	P-value
Regression	2147.095	5	429.429		
Remained	2800.963	46	60.680	7.052	<0.001
Total	4948.058	51			

* Degrees of freedom

The mean scores of post-abortion grief, bereavement, and EQ were 126.5±26.76, 42.7±9.49, and 188.4±17.9, respectively. The simple linear regression analysis revealed an indirect and significant relationship between the level of EQ (P=0.001, β=-43.22) and post-abortion bereavement (P<0.001, β=-0.462; tabales 4 and 5).

Table 4. The results of regression analysis to investigate the relationship between EQ and post-abortion grief

Variable	β	95%CI*	r	P-value
EQ**	-0.432	-1.019-0.289	-0.654	0.001

* Confidence interval, ** Emotional intelligence

The results of Pearson correlation coefficient showed an indirect and significant correlation between the EQ with post-abortion grief (P=0.001, r=-0.432) and bereavement (P<0.001, r=0.462).

Table 5. The results of regression analysis to investigate the relationship between EQ and post-abortion bereavement

Variable	β	95%CI*	r	P-value
EQ**	-0.462	-0.120- -0.375-	-0.248	>0.001

* Confidence interval, ** Emotional intelligence

Discussion

The results of this study showed an indirect and significant correlation between EQ and post-abortion grief and bereavement; thus, as the level of EQ increases, the post-abortion grief and bereavement would decrease.

Consistent with the results of the current study, Ciarrochie et al. in 2002 showed a relationship between EQ with stress and mental health (19). In fact, high levels of EQ protect the individuals against stress and improve their adaptation with the different situations and enable them to manage their emotions and affections more efficiently resulting in a satisfactory physical and mental health status (23). Moreover, the emotional reactions caused by grief and bereavement would lead to anxiety, depression, and suicidal ideation if they are not managed appropriately. Regarding the results of this study, the people with high EQ levels could control these reactions more properly.

In congruence with the results of this study, Shoja Heidari et al. in 2011 showed a direct relationship between EQ and mental health (18). This consistency might be due to management of emotions and adaptability of EQ. Because these components indicate the ability of an individual to effectively respond to the environmental characteristics and needs and cope with difficult situations by flexibility, being realistic, and problem solver (24). Further, the people with high EQ levels are more able to effectively deal with stress and tension (14). Additionally, Salovey et al. in 2002 determined that EQ negatively predicts the communicative coping strategies and positively predicts the active ones (25).

Moreover, Derksen et al. in 2002 demonstrated that EQ includes abilities, competencies, and cognitive and non-cognitive skills, which help a person to overcome the difficulties and needs of the environment, cause happiness, and promote the mental health status (26). Therefore, the indirect relationship between EQ and post-abortion grief and bereavement in the present study was expected.

Pau et al. in 2004 revealed that the students with higher EQ levels had better health adaptation in comparison to the others (27). In line with the results of current study, Faghiripour et al. in 2011 and Davari in 2007 showed a relationship between the level of EQ and students' mental health status (28, 23). This consistency might be due to the differences in strategies used to deal with the stress by the individuals with different EQ levels. The people with higher EQ levels may think about the abortion or any other event and may have to rethink; however, those with lower EQ levels may isolate themselves, leave the community, and behave in aggressive ways such as suicide. In addition, Davari, Shoja Heidari, and Pau believe

that EQ can be trainable acquired capability and promoted to protect the individuals against the harmful effects of the conditions such as spontaneous abortion or child loss (23, 18, 27).

One of the limitations of the present study was the small sample size, which was due to the lack of sufficient number of referrals, time, and financial support; it was not possible to prolong the sampling time. Moreover, the women's physical and emotional status at the time of completion of the questionnaires could affect their replies that were beyond of our control. Further, the sampling method was not random that was due to the type of studied concept, its prevalence, and the number of people referring to our health centers.

Conclusion

Considering the significant correlation between EQ and post-abortion grief and bereavement and regarding the ability of EQ to promote by training, it is recommended to the authorities of different levels of the health system to establish training programs in accordance with the regional culture to enhance the EQ level in this sensitive group and to pay more attention to the indicators such as EQ in the care performance. The people with high EQ levels use more effective coping strategies against the mental stresses; therefore, they will be more resistant to the stressful events such as abortion. Accordingly, lack of such psychological characteristics makes people uncontrollable, passive, and susceptible to depression when face with problems. Because the women who lost their child are routinely faced with these incidents, assessment of these issues has an important impact on their mental health. However, further studies with larger sample size are recommended in this regard.

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Conflicts of interest

Authors declared no conflicts of interest.

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