

Perinatal Grief and Related Factors After Termination of Pregnancy for Fetal Anomaly: One-Year Follow-up Study

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ABSTRACT

Introduction: Many people grieve in a resilient manner, often having a sense of equilibrium restored within six months. The most devastating type of loss is usually considered to be the death of the child. For such a loss, bereavement may take a period of distressing years with signs and symptoms that are related to grief. There have been different phases identified in the grieving process, and this process encompasses various difficulties with different levels of psychological effects. Women with perinatal losses can suffer long periods of grief. The purpose of this study was to monitor the grief in women who had undergone a termination of pregnancy due to fetal anomaly.

Methods: Forty-six women who applied to the Gynaecology Clinic of İstanbul University Cerrahpaşa Faculty of Medicine and who decided to terminate their pregnancy due to fetal anomaly were included in the study. The Perinatal Grief Scale (PGS), the Impact of Event Scale-Revised (IES-R), Beck Anxiety Inventory (BAI), the Edinburgh Postnatal Depression Scale (EPDS), the Multidimensional Relationship Questionnaire (MRQ) and the Adult Attachment Scale (AAS) were administered to the participants six weeks after termination. Participants' grief signs were re-evaluated with the PGS at the sixth and 12th months.

Results: There was no relationship between severity of grief symptoms and socio-demographic and clinical characteristics of the patients. The perinatal grief symptoms can decrease gradually from termination of pregnancy to six months and can persist for a period of six months up to a year. There was positive correlation between the scores of PGS and BAI, IES-R hyper-arousal. The mean score of PGS changed significantly from sixth week to sixth month and from sixth week to 12th months. IES-R hyper-arousal and MRQ relational satisfaction were found to be the predictors for PGS total score at the first year.

Conclusion: The diagnosis of fetal anomaly and especially the termination of pregnancy itself may be traumatic and disruptive. In women with perinatal loss, grief may become persistent after the first six months. It would be helpful to examine how the women resolve this experience. Especially the anxiety and the hyper-arousal signs following the termination should not be ignored. Perinatal grief is a unique bereavement experience; specific interventions should be performed for detecting and treating severe perinatal grief.

Keywords: Fetal anomaly, perinatal grief, trauma, relational satisfaction

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INTRODUCTION

Grief is a phenomenon that is unique to the individual. It is the emotional reaction to the loss of a loved one's death. It should be considered according to both personal and contextual features. Some people grieve for a short period of time while others grieve longer following the loss, whereas some people cannot resolve their grief at all. Studies indicate that, 15% of people show depressive and anxiety symptoms a year after a perinatal loss due to a miscarriage (1). The spectrum of loss of a baby that women may experience during their reproductive years are through ectopic pregnancy, miscarriage, stillbirth, neonatal death, and termination of pregnancy (2).

Fetal anomalies are one of the leading causes of infant deaths and termination of pregnancy due to fetal anomaly is legally performed in many countries including Turkey (3). Diagnosis rates of fetal anomalies are likely to increase with the introduction of non-invasive prenatal screening tests, allowing the earlier detection rate of prenatal diagnosis. Individuals

who decide to terminate pregnancy may experience various short-term or long-term psychological problems with because of the loss (4).

Termination of pregnancy is a major life event and even a traumatic experience that grief reactions can be observed. Generally, parents do not have the opportunity to perform a funeral ritual or even see or hold their deceased baby. A woman who suffers a termination of pregnancy, loses not only the fetus, but also the dreams and plans for her child (5).

In several studies, it has been suggested that women who experience perinatal loss suffer feelings of grief, dysphoria and anxiety, and that women who made great efforts for conception may experience more intense or longer-term emotional distress (6). The previous studies about perinatal loss have focused on comparing women having termination of pregnancy for fetal anomaly with women having miscarriage, stillbirth or neonatal death (7).

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Review of the literature set out factors that may influence women's distress following loss, such as demographic variables, psychiatric history, pregnancy-related factors, reproductive history, the cause of the loss, and perception of social support. In previous studies, factors which may contribute to grief were explored, and later gestational length was associated with grief intensity after a stillbirth, compared to miscarriage (8).

Previous studies about women having termination of pregnancy for fetal anomaly have shown that the gestational length, the severity of the anomaly (incompatibility with life), technical differences applied were among the factors that affect psychological recovery (9). The majority of females who experience perinatal grief recover naturally within four months (10). In perinatal bereavement research, the risk of development of psychopathology following reproductive loss has also been considered.

Previous studies have documented an elevation in anxiety symptoms for up to six months following the loss in women who experience miscarriage. In our early study according to the assessments using the Edinburgh Postnatal Depression Scale in women terminating the pregnancy because of the fetal anomalies, depression was determined to be 65% (11). It has been estimated that 10% of women experiencing a miscarriage meet the criteria for acute stress disorder (ASD), while 1% of them meet the criteria for post traumatic stress disorder (PTSD) one month after the loss (12). PTSD symptoms have been shown to persist in women during 2–7 years after having termination of pregnancy for fetal anomaly (13).

Further research on grief symptomatology in the area of reproductive loss still remains an important area. In this study, it was aimed to follow up the perinatal grief symptoms for one year in women who decided to terminate their pregnancy for fetal anomaly. The current study primarily aims to identify related factors and the predictors of persistent grief after termination of pregnancy due to fetal anomaly.

METHODS

After the gynaecological evaluations made by the specialists, the women who decided to have termination of the pregnancy for a fetal anomaly at the Gynaecology Clinic of Istanbul University Cerrahpaşa Faculty of Medicine were invited to the study. As grief associated with termination of pregnancy might differ according to the reason and the methods for termination, we limited the cases to terminating pregnancy due to a fetal anomaly, and participants were recruited from November 2017 to March 2018.

Forty-six women who accepted the termination proposal and approved the termination of pregnancy in a six months' period were evaluated by means of clinical interviews and psychometric measures at sixth week, and two phone interviews at sixth month and one year after termination of pregnancy. The study was conducted on the basis of volunteering and informed consents from all participants were obtained. The exclusion criteria were defined as illiteracy, being younger than 18 years old, having dementia and other organic mental disorders. The study was approved by the ethics committee of the Istanbul University Cerrahpaşa Faculty of Medicine with the protocol number 2016/212098, and dated 10th June, 2016. We conducted the first interview at six weeks after the procedure. The women also completed the Perinatal Grief Scale (PGS), the Impact of Event Scale-Revised (IES-R), Beck Anxiety Inventory (BAI), the Edinburgh Postnatal Depression Scale (EPDS), the Multidimensional Relationship Questionnaire (MRQ) and the Adult Attachment Scale (AAS). Six months later and then one year later, the women were interviewed by telephone for the perinatal grief follow up. The women were referred to a psychiatrist in their local area for assessment and treatment if necessary.

Assessment

1. The socio-demographic data form: Including socio-demographic data, medical and obstetric history (number of parity, infertility, gestational age, termination of pregnancy method) and some factors affecting the women's decisions to terminate pregnancy such as information about the anomaly, anomalies incompatible with life, or leading physical or mental disability, prognosis of fetal anomaly prognosis (lethal/non-lethal as reported by participants) and whether women had living children at the time of the termination of pregnancy.
2. Impact of Event Scale-Revised (IES-R): The IES-R, five point Likert scale was developed by Weiss and Marmar (1997) (14). The three-factor structure of the IES-R is intrusion, avoidance, and hyper-arousal. The scale evaluates the severity of the effects of traumatic experiences during the past seven days. The reliability and validity study of the Turkish version was carried out by Çorapcioglu et al. (2006). Optimal cut-off scores were between 24 and 33 in Turkish version of the scale, providing sensitivity and specificity above 70% for PTSD. High scores of IES-R point to increase in post traumatic stress symptoms (15).
3. Perinatal Grief Scale (Short Version) (PGS): The PGS was developed by Toedter et al. (1988) to measure grief following different types of perinatal loss involving miscarriage, stillbirth, neonatal death and termination for fetal anomaly (16). The scale consists of 33 items, and three sub-scales as "active grief", "difficulty coping" and "despair". Active grief is measured through items such as sadness, missing the baby, and crying for the baby; difficulty coping is measured through items assessing difficulty in dealing with normal activities and other people; and despair is measured through items measuring feelings of worthlessness and hopelessness. Active grief represents "uncomplicated grief" whereas difficulty coping and despair characterises "complicated grief". Each item is scored between 1–5, yielding total scores of 33–165, and higher scores indicate more severe grief. The reliability and validity study of the Turkish version was carried out by Köneş et al. (2017) (17). As we had started the study in 2016, the Turkish validity and reliability study of PGS scale had not been published yet. Initially the permission for translation and using the PGS was obtained from Judith N. Lasker, Department of Sociology and Anthropology, Lehigh University on December 8th, 2016. The scale was translated into Turkish independently by two specialists fluent in English and whose native language is Turkish. In order to ensure the accuracy of the translation the scale was back translated into English by a translator who did not participate in the previous phase. To assess the internal consistency, Cronbach's alpha was calculated as 0.93. Linkage analysis coefficient of the scores that were obtained at sixth week and six months varied between 0.35–0.76.4. Beck Anxiety Inventory (BAI): It was developed by Beck et al. (1988). The BAI is a Likert-type self-assessment scale consisting of 21 items, measuring symptom severity during past week (18). The reliability and validity study of the Turkish version was carried out by Ulusoy et al. (1988) (19). Scores taken from the scale range from 0 to 63, as 8–15 points is considered as mild anxiety, whereas 16–25 points and 26–63 points suggest moderate and severe anxiety, respectively.
5. Edinburgh Postnatal Depression Scale (EPDS): It was developed by Cox and Holden (1987). The scale has 10 items, and has been established as a screening tool for monitoring depressive symptoms in the postnatal period. The following severity ranges were established for the EPDS: none or minimal depression (0–6), mild depression (7–13), moderate depression (14–19), and severe depression (20–30) (20). The reliability and validity study of the Turkish version was carried out by Aydin et al. (2004), and optimal cut-off score was suggested as 12.5 for the best sensitivity and specificity for Turkish version of the scale (21).

6. The Multidimensional Relationship Questionnaire (MRQ): It was developed to measure psychological tendencies associated with intimate relationships by Snell et al. (2002) (22). Eight MRQ subscales are; focusing on relationship extremely, relational satisfaction, fear of relationship/relational anxiety, relational monitoring, relational esteem, external relational control, relational assertiveness, and internal relational control. The reliability and validity study of the Turkish version was carried out by Büyükhahin (2005) (23).
7. The Adult Attachment Scale (AAS): It was officially developed in 1990 but built on the earlier work of Hazen and Shaver (1987) (24). The scale consists of 18 items scored on a 5 point Likert-type scale. It measures adult attachment styles as “secure”, “anxious” and “avoidant”. The reliability and validity study of the Turkish version was conducted by Kesebir et al. (2012) (25).

Statistical Analysis

SPSS version 18 was used for all statistical analyses. Normal distribution of the data was evaluated by the Kolmogorov-Smirnov distribution test. The numeric variables were presented as mean \pm SD, and the categorical variables were presented in terms of both numbers of observations and percentages (%). In the comparison of quantitative data (independent samples) t-test and analysis of variance (ANOVA) were used. Pearson correlation analysis was used. Repeated measures ANOVA analysis (with Bonferroni analysis) was used to assess the change in the mean of the PGS scores at the sixth week, the sixth month and the twelfth month. Linear regression analysis was performed. The significance level for all analyses was determined as $p < 0.05$ and $p < 0.001$.

RESULTS

The mean age of the women evaluated in the study was 29.6 ± 6.4 . One of the participants had one, two of them had two living children, the rest of the participants had no living child. Four (8.7%) of the women who were evaluated in the study stated that they had also terminated their previous pregnancies. Demographic and clinical characteristics of the participants were shown in Table 1. Scores obtained by participants from the measurements were shown in Table 2. Correlations between the scores of PGS at the 6th week, 6th month and 12th month after the termination, and scores of IES-R, BAI, EPDS, MRQ, AAS were shown in Table 3.

There was no correlation between severity of grief symptoms and socio-demographic or clinical characteristics of the patients.

Mean PGS scores of the participants in the sixth week, sixth month and twelfth month were 75.4 ± 20.5 , 67.5 ± 20.3 , and 63.8 ± 21.6 respectively. Average PGS scores of the participants were shown to change significantly over time ($p < 0.001$). According to Bonferroni analysis, the results of the binary comparisons were found to change significantly from the sixth week to the sixth month ($p = 0.003$) and from the sixth week to twelfth month ($p = 0.001$). In addition, mean PGS scores of the participants did not change significantly ($p = 0.089$) from the sixth month to the twelfth month (Table 4).

Predictors of PGS at the first year

Linear regression analysis was performed to test the effects of the demographic and clinical features, BAI, EPDS, IES-R, AAS, and MRQ scores on the PGS total score at the 12th month. IES-R hyper-arousal, MRQ relational satisfaction, and AAS secure attachment scores were entered in linear regression analysis, elimination was performed by using backward stepwise method. The regression model was statistically significant ($F = 8.388$, $p < 0.001$). After the analysis, IES-R hyper-arousal and MRQ relational satisfaction were found to be the predictors for PGS total scores at the first year (Table 5).

Table 1. Demographic and clinical characteristics of participants (n=46)

	Mean \pm SD/n (%)
Age	29.6 \pm 6.4
Education level	
Primary school	15 (32.6%)
Middle school	9 (19.6%)
High school	18 (39.1%)
University	4 (8.7%)
Family types	
Nuclear family	38 (82.6%)
Extended family	8 (17.4%)
Working status	
Employed	12 (26.1%)
Non-employed	34 (73.9%)
Income level	
<1500	37 (80.4%)
1500 or above	9 (19.6%)
Duration of marriage (year)	
<6	30 (65.2%)
6 or above	16 (34.8%)
Consanguineous marriage	
Present	6 (13%)
Absent	40 (87%)
Termination of pregnancy due to anomaly previously	
Yes	6 (13%)
No	40 (87%)
Pregnancy type	
Natural	44 (95.7%)
After medical treatment	1 (2.2%)
After IVF-ICSI	1 (2.2%)
Living disabled child	
Yes	1 (2.2%)
No	45 (97.8%)
Time of termination	
First 12 weeks	10 (21.7%)
12–18 weeks	19 (41.3%)
18–24 weeks	17 (37%)
Description of anomaly	
It was clarified indeed	27 (58.7%)
Explained	15 (32.6%)
Not very clear	4 (8.7%)
Understanding the anomaly	
Very well understood	12 (26.1%)
Understood	25 (54.3%)
Never Understood	9 (19.6%)
Expected Results of anomaly	
Physical anomaly expectation	10 (21.7%)
Mental anomaly expectation	6 (13%)
Both Physical and mental anomaly expectation	30 (65.2%)
Life expectancy	
Short-medium	23 (50%)
Long	23 (50%)
The role of the spouse for the decision	
No effect	8 (17.4%)
A little bit effect	8 (17.4%)
It was effective	30 (65.2%)
Effect of economic situation	
It was not	23 (50%)
It was effective	23 (50%)

Table 2. Scores obtained by participants from the measurements (n=46)

	Mean ± SD
PGS 6 th week active grief	28.9±10.1
PGS 6 th week difficulty coping	24.3±5.6
PGS 6 th week despair	22.1±7.8
PGS 6 th week total	75.4±20.5
PGS 6 th month active grief	25.6±10.3
PGS 6 th month difficulty coping	22.6±5.5
PGS 6 th month despair	19.2±6.9
PGS 6 th month total	67.5±20.3
PGS 1 st year active grief	22.2±9.9
PGS 1 st year difficulty coping	22.3±6.1
PGS 1 st year despair	19.1±7.5
PGS 1 st year total	63.8±21.6
IES-R intrusion	15.2±7.8
IES-R avoidance	11.6±5.4
IES-R hyper-arousal	10.8±6.5
IES-R total	37.7±17.4
BAI	16.6±13.5
EPDS	14.6±4.8
MRQ focus on relationship extremely	31.2±9.4
MRQ relational satisfaction	32.0±5.9
MRQ fear of relationship/relational anxiety	21.8±6.1
MRQ relational monitoring	11.3±4.7
MRQ relational esteem	16.5±4.5
MRQ external relational control	9.5±3.6
MRQ relational assertiveness	13.0±2.9
MRQ internal relational control	10.7±3.7
AAS secure	21.5±5.1
AAS avoidant	17.9±5.9
AAS anxious-ambivalent	14.5±5.2

PGS=Perinatal Grief Scale, IES-R=Impact of Event Scale-Revised, BAI=Beck Anxiety Inventory, EPDS=Edinburgh Postnatal Depression Scale, MRQ=The Multidimensional Relationship Questionnaire, AAS=The Adult Attachment Scale

DISCUSSION

In this study, our results show that in women who underwent termination due to fetal anomaly, the perinatal grief symptoms can decrease gradually from termination of pregnancy to six months and can persist for a period of six months up to a year. Consistent with our findings, a study has shown that the grief responses change over time after several months and year after the termination of pregnancy (26). Also, it has been reported that the grief rates after termination decline over time as 47% for six weeks, 31% for six months and 27% for 12 months (27).

The sudden and unexpected nature of the diagnosis of the fetal anomaly and also the decision of termination of pregnancy may often be anxiety provoking. In our study it was found that the grief symptoms may become persistent after six months and that these symptoms may be related to anxiety symptoms in the first six weeks. Several studies indicated that highly intense grief reactions may be associated with high levels of anxiety (28) and post traumatic stress (29) assessed by IES similar to our study.

In our previous study, 62.5% of the women had post traumatic stress disorder that had been measured by the Clinician-Administered PTSD Scale (CAPS), six months after the termination of pregnancy (11). Studies on grief have suggested that grief symptoms are more common in individuals with post-traumatic stress disorder (PTSD) (11). Similar to our study, it has been pointed out that higher grief intensity was associated with greater post traumatic stress related to perinatal loss as measured by IES (29).

However, in our study, it was assessed that the grief symptoms were not associated with intrusion or avoidance, but were linked to hyper-arousal signs measured by IES-R, both in short and long time grief. It has been stated that the grief intensity was related with intrusion in women in the neonatal death group, whereas it was associated with avoidance in miscarriage group, as measured by IES (29).

Table 3. Correlations between PGS at the 6 week, 6 month and 1 year after the termination, IES-R, BAI, EPDS, MRQ, AAS scores (n=46)

	PGS											
	6 th week active grief	6 th week difficulty coping	6 th week despair	6 th week total	6 th month active grief	6 th month difficulty coping	6 th month despair	6 th month total	1 st year active grief	1 st year difficulty coping	1 st year despair	1 st year total
	r	r	r	r	r	r	r	r	r	r	r	r
IES-R intrusion	0.12	0.24	0.26	0.23	0.04	0.11	0.21	0.12	0.15	0.07	0.06	0.11
IES-R avoidance	0.08	-0.00	0.10	0.08	0.09	0.11	0.22	0.15	0.14	0.21	0.21	0.20
IES-R hyper-arousal	0.22	0.27	0.46*	0.36*	0.18	0.24	0.33*	0.27	0.34*	0.30*	0.30*	0.35*
IES-R total	0.16	0.21	0.32*	0.26	0.12	0.18	0.28	0.20	0.24	0.21	0.20	0.24
BAI	0.39*	0.36*	0.39*	0.44*	0.23	0.23	0.30*	0.28	0.26	0.17	0.13	0.21
EPDS	-0.14	-0.41**	-0.48**	-0.37*	-0.38*	-0.26	-0.32*	-0.38*	-0.25	-0.22	-0.30*	-0.28
MRQ focus on relationship extremely	0.18	-0.02	0.12	0.13	-0.14	-0.31	-0.12	-0.19	-0.28	-0.06	-0.23	-0.22
MRQ relational satisfaction	-0.05	-0.31	-0.15	-0.17	-0.46*	-0.48*	-0.43*	-0.51*	-0.55*	-0.44*	-0.53*	-0.56**
MRQ fear of relationship/relational anxiety	0.16	0.16	0.24	0.21	0.15	0.07	0.19	0.16	-0.04	0.24	0.11	0.09
MRQ relational monitoring	0.10	0.13	0.23	0.17	0.05	-0.00	0.15	0.07	-0.07	0.13	0.08	0.03
MRQ relational esteem	0.06	-0.04	0.11	0.06	-0.25	-0.27	-0.19	-0.26	-0.29	-0.12	-0.26	-0.26
MRQ external relational control	0.18	0.21	0.24	0.24	0.16	0.13	0.21	0.19	-0.01	0.13	0.13	0.08
MRQ relational assertiveness	-0.04	0.01	-0.10	-0.05	-0.10	-0.02	-0.04	-0.07	-0.12	0.03	-0.04	-0.06
MRQ internal relational control	0.09	0.11	0.11	0.12	-0.13	-0.11	-0.04	-0.11	-0.15	0.00	-0.20	-0.13
AAS secure	-0.35*	-0.22	-0.36*	-0.36*	-0.44*	-0.23	-0.22	-0.36*	-0.34*	-0.30	-0.39*	-0.37*
AAS avoidant	-0.15	0.21	0.06	0.00	0.00	0.20	0.17	0.12	0.09	0.01	0.16	0.10
AAS anxious-ambivalent	-0.04	0.36*	0.20	0.15	0.11	0.20	0.19	0.17	0.17	0.01	0.21	0.15

Pearson, *p<0.05, **p<0.001, PGS=Perinatal Grief Scale, IES-R=Impact of Event Scale-Revised, BAI=Beck Anxiety Inventory, EPDS=Edinburgh Postnatal Depression Scale, MRQ=The Multidimensional Relationship Questionnaire, AAS=The Adult Attachment Scale

Table 4. Binary comparisons of the sixth week, the sixth month and the twelfth month of PGS of participants (n=46)

	Time of PGS	Mean change	Standard error	p
Sixth week	Sixth month	7.9	2.2	0.003
	Twelfth month	11.6	2.9	0.001
Sixth month	Sixth week	-7.9	2.2	0.003
	Twelfth month	3.7	1.6	0.089
Twelfth month	Sixth week	-11.6	2.9	0.001
	Sixth month	-3.7	1.6	0.089

PGS=Perinatal Grief Scale scores, p<0.05

Table 5. Predictors of PGS total at the first year (n=46)

Dependent variable	Independent variable	β	p	Model (p)
PGS total at the first year	Constant	136.040	<0.001	<0.001
	IES-R hyperarousal	1.172	0.016	
	MRQ relational satisfaction	-1.761	0.006	
	AAS secure attachment	-1.219	0.077	

Linear regression, p<0.05, p<0.001, Adjusted R Square=0.456 PGS=Perinatal Grief Scale, IES-R=Impact of Event Scale-Revised, MRQ=The Multidimensional Relationship Questionnaire, AAS=The Adult Attachment Scale

When assessing stress responses of persons exposed to traumatic events, studies generally examined the symptom presentations of intrusion, avoidance, and hyper-arousal. After experiencing a severe traumatic event, in order to understand the stressor and to give response, there is generally a compulsive tendency to repeat some aspects of the experience (30). This involuntary repetition includes the recurrence of thoughts and especially images about the stressful event, feelings related to the original experience, and behavioural parts of the experience. As the information input from a traumatic memory increases, negative emotions such as anxiety also increase then it is inevitably essential trying to restore personal safety and to regulate emotional arousal.

The change in the content and reduced intrusiveness may indicate that there has been a progressive processing of the experience. There may also be intrusive repetitions of one aspect of the event, with simultaneous denial and numbing of another implication of the event. While all this is going on, the bodily reactions of fear are defined as hyper-arousal. In hyper-arousal state, there is hyper-vigilance, startle reactions, racing thoughts, negative emotional connotations. The hyper-arousal state may be caused by the emotional pain of the states of mind during the traumatic event, the traumatic perceptions, and the unusual vividness of representations derived from memories often lack of coherence.

The mourning process in many ways parallels the process of healing from trauma. Hyper-arousal state may inhibit the cognitive process and the change in mental representations of meanings about the self and other people. The increased vigilance increases external alertness and lead to the exaggeration and misinterpretation (30).

It has been stated that the duration of the pregnancy was be an important predictor of the grief response (31). The duration of the pregnancy indicates that the longer the woman is pregnant; the more time she has the chance to bond with the unborn child (with the developing mental representation of the baby). This might result in a greater degree of grief. Women who experienced a longer pregnancy had more sadness, guilt, anger, and preoccupation with the loss. It is obvious that it is because the baby becomes real and starts to be an attachment figure for the parent (32). But on the other hand, consistent with our results, no association was found between the length of gestation and grief response (33). Within the last two decades women have been able to see their baby

much earlier during the pregnancy, that might have an influence on the conceptualization of attachment, which may lead to an earlier bonding with the fetus.

In order to discuss the grief process with the perceived reality of fetus, we also wanted to determine the attachment styles. In our study there was a significant weak-moderate negative relation between secure attachment and both short time and long time grief. The loss of an attachment figure is fundamental to the experience of grief. If a person has a secure attachment, it will be easier to handle the loss. Attachment theory offers a useful framework for understanding grief, as bereavement often requires a reorganization of the attachment system. It is known that insecure attachment has been identified as a risk factor for severe grief reactions (34, 35). Congruent with these results, in our study a significant weak-moderate positive relation was found between ambivalent attachment and difficulty coping of perinatal grief.

In our study we wanted to figure out the predictors of long lasting grief such as the anxiety level and traumatic experience. IES-R hyper-arousal and MRQ relational satisfaction scores were found to be the predictors for PGS total scores at the first year. Termination of pregnancy is a major life event and can even be a traumatic experience that grief reactions can be observed. It has been stated that social support is vital in the grief process and if couples had a different point of view about the decision of termination of pregnancy, it would be hard to provide an effective support (36). It has been shown that the poor quality of the intimate partner relationship was associated with intense grief due to perinatal loss including miscarriage, stillbirth and neonatal death (29). In our study there was a negative correlation between relational satisfaction and active grief. It should be kept in mind that this loss belongs to each parent and higher dyadic adjustment may effect the resolving of the grief (37). Partners may have different reactions and even discordant grief processes which cause a switch for current partner relationship (38).

As it was proposed; to identify parents who need follow up after a perinatal loss, a clinical instrument should be built up (39). Besides, based on our results we suggest that it may be useful to focus on consultancy and even more specific techniques for trauma and couple therapy to help the grieving process.

This study also had some limitations such as small sample size and recruitment of the participants from a tertiary centre. It should therefore be repeated with larger numbers in multicentre settings. An other study with a control group with the grief due to perinatal loss including miscarriage, stillbirth and neonatal death may help to compare and specialize. Besides, the telephone contact might affect the grieving process by triggering feelings, so the longitudinal follow up would be held by clinical interviews. It is certainly difficult to know if the women's grief response were different from those who did not agree to participate in the study and were not been able to contact.

CONCLUSION

It can be concluded that determining and treating the mental problems that may be caused by a perinatal loss is important for the maternal health. Most of the countries still have no organized proposal for professional help for these women and there is no evidence based guide to help them with that process. At least clinicians should focus on providing information and multidisciplinary care. Women should be encouraged to express feelings of grief and trauma to validate and give meaning to their loss and should be offered support for the process which require additional intervention and professional follow up that will actually provide a better assimilation of distressing unintegrated memories into coherent narratives, so that the grief would be processed.

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Informed Consent: The study was conducted on the basis of volunteering and informed consents from all participants were obtained.

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