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Perinatal loss: attachment, grief symptoms and women's quality of life

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ABSTRACT

Aims/Background: Perinatal loss may cause intense distress even psychiatric issues, affecting the woman's quality of life. Attachment may provide a useful perspective in understanding the outcomes of the mourning process. Thus, the objectives of the present study were to evaluate perinatal grief symptoms and the psychological and general quality of life among 137 Italian women (mean age 36,9. ± 6,88 years old) in relation to attachment, specifically measured through parental care and control.

Design/Methods: About 79.6% of the participants had miscarriages and 20.4% had stillbirths. About 45.3% were childless. The women completed the Parental Bonding Instrument, the Perinatal Grief Scale and the Psychosocial General Well-Being Index online most frequently between 3 and 6 months (56.2%) after the perinatal loss.

Results: All the study participants showed intense grief and severe grief reactions to loss. Moreover, women experiencing optimal bonding towards their own mothers had a more positive effect on perinatal grief and psychological and general quality of life.

Conclusions: Attachment-based, tailored interventions for women who have experienced perinatal loss should improve their psychological and overall quality of life.

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Perinatal loss; grief reactions; attachment; quality of life; women health

Introduction

Grief

Perinatal bereavement designates the loss of a child that occurred during the gestational period or within the first year of the infant's life (Charrois et al., 2020). Perinatal loss occurs in 10% to 35% of pregnancies; in 2019, there were approximately 42.39 million cases of pregnancy loss worldwide (Lancet, 2021; Strumpf et al., 2021; Tong et al., 2024) and includes ectopic pregnancy, miscarriage, intrauterine fetal demise, vanishing twin syndrome, multifetal pregnancy reduction, termination because of congenital/chromosomal problems and neonatal death (Lamb, 2002).

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Grief outcomes

Perinatal loss may cause intense distress on mothers who may feel sadness, hopelessness, anxiety, guilt and anger, longing for the lost infant. Indeed, the effects of loss can be both physical, like haemorrhage or infection, and psychological, often including notable symptoms of anxiety and depression, which can even result in post-traumatic stress disorder and other serious mental health issues (Quenby et al., 2021). Some women may experience these effects multiple times throughout their lives, leading to significant long-term consequences (Delgado et al., 2023). A Prolonged Grief Disorder (PGD) may arise when symptoms are more disturbing, pervasive, or persistent. Symptoms of PGD include identity disruption (such as feeling as though part of oneself has died); marked sense of disbelief about the death; avoidance of reminders that the person is dead; intense emotional pain (such as anger, bitterness, sorrow) related to the death; difficulty with reintegration (such as problems engaging with friends, pursuing interests, planning for the future); emotional numbness (absence or marked reduction of emotional experience); feeling that life is meaningless; intense loneliness (feeling alone or detached from others) (APA, 2022).

In addition, PGD may be associated with post-traumatic stress, depression, anxiety and sleep and eating disorders (Flach et al., 2022; Herbert et al., 2022; Kersting & Wagner, 2012; Tavoli et al., 2018). Usually, such reactions are more probable when the loss is unexpected or traumatic, as is the case with most perinatal losses (Kishimoto et al., 2021; Kulathilaka et al., 2016). The above-mentioned feelings and behaviours and the associated medical conditions, such as pain, hospitalisation and treatments, may lead to a decrease in the woman's perceived psychological and general quality of life (Iwanowicz-Palus, Mróz, & Bień, 2021). Perinatal losses are sudden disruptions to personal and family adjustment, requiring new adaptations to an unforeseen situation. These events can lead to anxiety and impact the quality of life for the parents. Notably, psychological and emotional stress, along with fatigue, has been identified as factors that compromised various aspects of their quality of life (Furtado-Eraso et al., 2021).

Grief correlates

However, both the outcomes of the mourning process and the individual's quality of life may be influenced by several factors (Jaaniste et al., 2017); for instance, extensive research shows that social support significantly impacts adjustment following a loss (Alvarez-Calle & Chaves, 2023; Bhat & Byatt, 2016; Iwanowicz-Palus, Mróz, Bień, & Jurek, 2021). Additionally, inadequate support from a partner and strained marital relationships are both recognised as major factors that can intensify grief (Ávila et al., 2020; Freedle & Oliveira, 2024; Hutti et al., 2015). Another key factor influencing the intensity of grief is whether a woman has living children. Women who experience a miscarriage and do not have children tend to experience much greater levels of grief compared to those who already have children. Research indicates that grief intensity significantly diminishes after a successful subsequent pregnancy (Demontigny et al., 2017; Halland et al., 2016; Schwerdtfeger & Shreffler, 2009). Additionally, personality plays a crucial role, as women with pre-existing psychological or psychiatric issues are more prone to experiencing severe grief responses following the loss of an infant (Kersting & Wagner, 2012;

Kishimoto et al., ; Kulathilaka et al., 2016). The relationship between the duration of pregnancy and the level of distress following perinatal loss shows mixed results. It appears that mothers who experience a loss early in pregnancy may experience grief symptoms similar to those who lose their infant later in pregnancy. It also seems that a history of abortion, especially after the first trimester, has been recognised as a risk factor for negative psychological effects (Cuenca, 2023; Klier et al., 2000; Köneş & Yıldız, 2021). However, individual traits and the specific causes of the losses may affect their emotional and psychological impact, as well as the progression of grief (Delgado et al., 2023). Additionally, there are also varied findings concerning the impact of maternal age, marital status and occupational status on the level of distress (Donegan et al., 2023; Kersting & Wagner, 2012). Methodological variations across studies hinder the ability to form a clear understanding of how these variables affect the experience of loss. Precise assessments of the correlates of perinatal loss can aid in assessing risk levels and identifying individuals who are most vulnerable (Herbert et al., 2022). Moreover, perinatal death significantly impacts family dynamics and severely changes the parents' social environment (Fernández-Sola et al., 2020).

Kishimoto et al. () argue that attachment should be given more consideration in understanding a PGD reaction following a perinatal loss and call for more research on attachment styles and the mechanisms involved in such response.

Certainly, attachment theory provides an eligible framework to understand the response to loss (Bowlby, 1980; Maccallum & Bryant, 2018). Indeed, PGD may be conceived as an attachment disturbance featuring yearning for the deceased, loss of meaning and identity disruption (Prigerson et al., 2021). Bowlby identified four forms of pathological mourning: (a) a continuous longing to regain the lost person, (b) ongoing anger directed at both others and oneself, (c) an obsessive need to care for another grieving individual with whom they feel a connection and (d) denial of the reality of the loss. According to Bowlby, the core of pathological mourning lies in the adult mourner's unresolved anger and protest over the loss of the loved one. He believed that pathological grief was fundamentally rooted in self-hatred, meaning that the loss was internalised as a rejection of oneself rather than the other person, leading to a diminished sense of self-worth. Adult attachment has been evaluated along two dimensions, that is attachment anxiety and attachment avoidance (Fraley & Shaver, 2000). Attachment anxiety characterises individuals who feel dependent on others but are preoccupied with being rejected and abandoned (Mikulincer & Shaver, 2007). Avoidant attached individuals, instead, pursue autonomy and emotional distancing, and mistrust others and relations (Fraley & Shaver, 2000).

Undeniably, the loss of a beloved causes the activation of the attachment system, to alleviate sorrow through seeking proximity to others. In such perspective, an insecure attachment style has been generally associated with higher levels of pain and greater risk of developing psychopathology (Bowlby, 1980; Mancini & Bonanno, 2012; Morris et al., 2019).

According to Bowlby (1973, 1980) attachment theory, people with a 'secure attachment style' possess positive mental representations of being valued and deserving of others' care, support and affection. When they lose an attachment figure due to death, secure individuals are likely to exhibit similar searching behaviours and emotional responses as infants separated from their mothers. Bowlby suggested that these

secure individuals would undergo a profound period of grief, characterised by searching, yearning and efforts to regain the lost person, which would eventually diminish as they came to terms with the loss. Additionally, Bowlby described two other types of bereavement reactions for individuals with anxious-ambivalent and avoidant attachment styles. Individuals with an anxious-ambivalent attachment style fear being misunderstood and undervalued, lack self-confidence and see their significant others as unreliable and unwilling or unable to commit to long-term, intimate relationships (Collins & Feeney, 2000). Their attachment system is thought to become easily and strongly activated during stressful times, leading them to anxiously seek their attachment figure during separations (Bowlby, 1980; Main & Goldwyn, 1984). Bowlby proposed that such individuals would exhibit a more persistent grief pattern, experiencing high levels of distress that do not diminish over time. Adults with an avoidant attachment style often describe themselves as detached, emotionally distant and distrustful, perceiving their significant others as unreliable or overly demanding of intimacy. Bowlby believed this attachment style was linked to delayed or absent grief, which is considered abnormal. More recent research indicates that avoidant individuals can deactivate their attachment systems, resulting in an absence of emotional distress. This active avoidance of emotional reactions may lead to higher levels of physical complaints (Wayment & Vierthaler, 2002). In the current study, we refer to parental bonding dimensions to capture the quality of attachment experiences, namely parental care and parental control, that seem particularly relevant in capturing the response to traumatic events such as a perinatal loss (Gladstone & Parker, 2005; Infurna et al., 2016; Raffagnato et al., 2021). Therefore, it is crucial to evaluate how attachment is associated with the prolonged grief response after perinatal loss and the woman's perceived psychological and general quality of life.

Aims and hypotheses

Identifying women at risk of developing complicated forms of grief, and therefore needing specific support, is very important (Fernández-Basanta et al., 2020). Therefore, the first objective of the present study was to examine the level of perinatal grief symptoms and psychological issues following a perinatal loss that occurred during pregnancy or in the first weeks of postpartum among Italian women.

The second objective was to examine if parental bonding style is associated with the quality of life in women who had lost a child due to perinatal death.

Specifically, considering the reviewed literature and the lack of systematic quantitative evidence, the present study verified the following hypotheses:

First, we expected that women with a perinatal loss whose parents had optimal bonding or affectionate constraint style would have lower levels of guilt, minor difficulties in returning to daily activities, and in their personal relationships compared to those who were exposed to affectionless control and neglect by their parents, as measured by the Perinatal Grief Scale.

Second, we expected that women with a perinatal loss whose parents had optimal bonding or affectionate constraint style would have a higher psychological and general quality of life, as indicated by the Psychosocial General Well-Being Index, compared to those who were exposed to affectionless control and neglect by their parents.

The hypotheses were tested while taking into account the participants' sociodemographic characteristics, that is age, education, working status and marital status.

Material and methods

Procedure

A retrospective cross-sectional study was conducted through an online survey between 30 January 2022 and 30 March 2022. Women were recruited through ads advertised on social networks of women who have experienced perinatal loss and grief. Ads were also placed in medical clinics, and women were referred by health specialists working in those settings.

Women interested in contributing to the study contacted a researcher, who verified whether they met the inclusion criteria: (1) aged 18–50 years; (2) having experienced a perinatal loss that occurred at any time during pregnancy or in the first weeks of postpartum (up to 28 days) and (3) being able to read Italian. Exclusion criteria were concurrent severe medical or psychiatric disease. Eligible women responded anonymously by completing an informed consent letter in the first section of the e-survey on a secured web platform. In the consent form, all the participants were provided with information regarding the research aim, the privacy of information and the right to revoke their participation without previous justification. The study has been conducted following the ethical requirements established by the National Board of Italian Psychologists Code of Ethics for the Psychologist and by the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Participants

A convenience sample of 137 women was enrolled in this study. The mothers ranged from 21 to 47 years old [mean (36,9. ± 6,88) years old]. All participants were born in Italy and most had a university degree (51,1%), were employed (76%), married, or co-habiting (80,3%). Among all the participants, 79,6% had miscarriages and 20,4% had stillbirths. When women participated in the study, the time since perinatal loss varied but was most commonly between 3 and 6 months (56,2%). Finally, 45,3% were childless. Women that had miscarriages and those that had stillbirths did not differ significantly in terms of sociodemographic characteristics (age, education, working status and marital status).

Measures

Data were collected using the information on the obstetric history and sociodemographic questionnaire, the Parental Bonding Instrument (PBI), the Perinatal Grief Scale (PGS) and the Psychosocial General Well-Being Index (PGWBI).

Parental bonding instrument (PBI)

To assess retrospectively participants' perceptions of their relationship with their parents, we used the Parental Bonding Instrument (PBI; Parker et al., 1979; Italian validation by;

Scinto et al., 1999). It is a self-report questionnaire that consists of two forms, one for the mother and one for the father, each with 25 items: 12 items assess the 'parental care' scale (MCA = maternal care; PCA = paternal care), while the remaining 13 assess the 'parental control' scale (MCO = maternal control; PCO = paternal control). An example of a parental care item is 'Seemed to understand my problems and worries', whereas an example of a parental control item is 'Felt I couldn't manage on my own without her/him being present'.

The women completing the questionnaire are asked to evaluate the parental behaviours on each item regarding the first 16 years of their life on a 4-point Likert-type scale (from 0 = very unlike to 3 = very like). The total score will have a range of 0–36 for the 'parental care' scale and 0–39 for the 'parental control' scale. High scores on the 'parental care' scale (27 or higher for the mother and 24 or higher for the father) suggest the perception of understanding, kind and accepting parents, whereas low scores denote the perception of rejecting and emotionless parents. High scores on the 'parental control' scale (13,5 or higher for the mother and 12,5 or higher for the father) suggest the perception of parental control or not consenting to the child's independent activities. There are four possible classifications of parenting bonding style depending on the combinations of the two scales: optimal bonding (OB) (high parental care – low parental control), neglectful parenting (NP) (low care – low control), affectionless control (ACT) (low care – high control) and affectionate constraint (ACS) (high care – high control). In this study, Cronbach was $\alpha = 0{,}92$, and $\alpha = 0{,}86$ (respectively, parental care and parental control) for the mother, while $\alpha = 0{,}94$ and 0,86 (respectively, parental care and parental control) for the father.

Perinatal grief scale (PGS)

To assess women's responses to perinatal loss, we used a short version of the Perinatal Grief Scale (PGS; Potvin et al., 1989; Italian validation by; Ravaldi et al., 2019). It is a self-report questionnaire that consists of 33 items rated on a five-point Likert-type scale (from 1 = completely disagree to 5 = completely agree) and included three subscales of 11 items each. The three subscales are labelled as 'Active Grief', 'Difficulty Coping' and 'Despair'.

An example of an Active Grief item is 'I feel depressed', a Difficulty Coping item might be 'I can't keep up with my usual activities' and a Despair item could be 'I feel unprotected in a dangerous world since he/she died'.

These levels represent the progression of the pathological condition on the overall scale. The 'Active grief' subscale comprises items that evaluate the normal reaction to loss as feelings of sadness, missing the child and crying for it; the 'Difficulties of coping' subscale comprises items that evaluate the presence of symptoms as guilt and depression, couple problems, as well as difficulties in restarting the quotidian activities; and the 'Despair' subscale comprises items that evaluate pathologic reaction to loss, and it is associated to the resilience of women. A PGS total score of 91 or higher would suggest that grief is current. With respect to the three subscales, the cut-off points are as follows: 34 for Active Grief, 30 for Difficult Coping and 27 for Despair. In this study, Cronbach was $\alpha = 0{,}95$, for PGS total score, $\alpha = 0{,}90$ for Active Grief subscale, $\alpha = 0{,}84$ for DC subscale and $\alpha = 0{,}88$ for D subscale.

Psychosocial General Well-Being Index (PGWBI)

To assess women's psychological and general quality of life we used the Psychosocial General Well-Being Index (PGWBI; Grossi et al., 2006). It is a self-report questionnaire that consists of 22 items rated on a 6-point scale (from 0 to 5) and included six health-related quality of life areas: anxiety, depressed mood, positive well-being, self-control, general health and vitality. An example of an item is as follows: 'How often have you been bothered by any illness, bodily disorder, aches, or pains in the past month?' The scores for all domains can be summarised to give a PGWBI global score that ranges from 0 to 110 points. Lower scores suggest greater psychological ill-being. In this study, Cronbach was α = 0,92 for PGWBI global score.

Data analysis

The statistical analysis, which allowed to test the formulated hypotheses, was carried out in the IBM SPSS Statistics program, 24 version.

Power analysis was conducted using G*Power 3.1.9.4 prior to the study. The results indicated that a sample size of 126 would achieve a power of 0.80, given an alpha level of 0.05 and an effect size of 0.30. The data were preliminarily screened for errors and outliers. Preliminary analysis showed that no variable had missing data. Descriptive statistics were calculated for the measured psychological variables. The number of women in each category was calculated for categorical variables, while the mean and standard deviation was calculated for continuous scores. Before performing the analyses, the Shapiro–Wilk test for normality was done; all the variables were distributed normally. Pearson correlation coefficients were used to assess the association between parental care, parental control, PGS total and subscale scores and PGWBI.

A series of one-way analyses of variance (ANOVA or MANOVA) was conducted to examine whether perinatal grief symptoms and psychological and general quality of life varied by parenting style (OB, NP, ACT, ACS). Post hoc analyses were performed wherever appropriate.

Table 1. PBI score distribution for the four types of parental bonding and means (SD) of the PGS scores.

	Bonding type			
Parental bonding	Optimal Bonding	Neglectful Parenting	Affectionless Control	Affectionate Constraint
Maternal N(%)	37 (27%)	18 (13,1%)	50 (36,5%)	32 (23,4%)
Paternal N(%)	34 (24,8%)	23 (16,8%)	46 (33,6%)	34 (24,8%)
	PGS			
	M (SD)		Cut-off	
Active grief	36,42 (11,23)		≥34	
Difficulties of coping	28,33 (9,8)		≥30	
Despair	27,93 (10,77)		≥27	
PGS total score	92,68 (29,61)		≥91	

Results

Descriptive and preliminary analyses

Table 1 shows the PBI score distribution for the four types of parental bonding and means and standard deviations for the scores of PGS total and subscales scores.

Most of the participants' mother's bonding as well as the participants' father's bonding was of affectionate constraint, which suggests that their mothers and fathers were very overprotective and strict without affection.

In our sample, the PGS total score was above the cut-off score (61 women that had miscarriages and 20 who had stillbirths) Also, in Active grief and Despair subscales, the scores were above the cut-off score (Table 1).

With regard to sociodemographic characteristics, statistically, significant differences in the PGS total and subscale scores were noted solely by age.

Specifically, a one-way MANOVA was conducted with age (21–35 years *vs* ≥36 years) as the between-subjects factor. The results show that age had significant main effects on the total score of PGS ($F\ (1,135) = 17,09$, $\eta^2 = 0,112$, $p < 0,001$), Active grief ($F\ (1,135) = 13,94$, $\eta^2 = 0,094$, $p < 0,001$), Difficulties of coping a $F\ (1,135) = 12,92$, $\eta^2 = 0,087$, $p < 0,001$) and Despair ($F\ (1,135) = 17,02$, $\eta^2 = 0,112$, $p < 0,001$).

The young women group (21–35 years) had significantly higher mean scores for the total PGS score, Active Grief, Difficulties in Coping and Despair compared to the group of women older than 35.

Table 2 shows the means and standard deviations for the scores of PGS total and subscales scores in relation to women's age.

No significant differences were observed between women that had miscarriages and those who had stillbirths in parental care/control, PGS total and subscale scores and PGWBI ($p > 0,05$ for all).

No significant differences were observed between childless women and those with children in parental care/control, PGS total and subscale scores and PGWBI ($p > 0,05$ for all).

Finally, no significant differences were observed with respect to time of loss in parental care/control, PGS total and subscale scores and PGWBI ($p > 0,05$ for all).

Correlations between parental care/control, perinatal grief and psychosocial general ill-being

The Pearson correlations between parental care, parental control, PGS and PGWBI are presented in Table 3. None of the correlation coefficients of the relationships between variables go beyond 0,80, indicating no problems with multicollinearity (Tabachnick & Fidell, 2007).

We found that maternal care had a significantly positive correlation with psychological and general quality of life while significant negative correlations were observed between PGS total scale and subscales score and had a significantly positive correlation with psychological and general quality of life.

Table 2. Distribution of continuous variables in terms of sociodemographic and obstetric characteristics.

Variable	N (%)	*PBI* Mean (SD)]				*PGS* Mean (SD)]				*PGWBI* Mean (SD)]
		mother		*father*						
Age (years)		*care*	*control*	*care*	*control*	*Tot*	*AG*	*DC*	*D*	*Tot*
21-34	63 (46%)	25,38 (9,4)	15,29 (5,9)	22,98 (9,9)	14,38 (7,3)	103,40 (25,9)	40,13 (10,3)	31,44 (9,1)	31,83 (9,5)	62,32 (17,6)
≥35	74 (54%)	25,62 (7,6)	16,11 (7,1)	22,28 (10,5)	15,22 (8,3)	83,55 (29,6)	33,26 (11,1)	25,68 (9,6)	24,62 (10,8)	66,46 (17,9)
Education										
Middle school	14 (10,2%)	24,71 (6,5)	16,57 (6,9)	23,43 (8,4)	16,14 (9,4)	98,36 (18,5)	38,36 (7,3)	29,86 (5,8)	30,14 (8,1)	62,36 (12)
High school	53 (38,8%)	26,02 (8,8)	15,53 (6,2)	22,91 (9,9)	15,13 (7,2)	94,74 (10,6)	36,32 (11,5)	29,26 (9,8)	29,15 (10,6)	62,94 (19,0)
University degree	70 (51,1%)	25,29 (8,6)	15,71 (6,8)	22,21 (10,8)	14,34 (8%)	89,99 (31,8)	36,10 (11,8)	27,31 (10,3)	26,57 (11,3)	66,21 (18)
Childlessness										
Yes	62 (45,3%)	25,32 (8,3)	15,24 (6,7)	22,58 (10,8)	14,16 (7,7)	95,71 (26,9)	37,23 (9,9)	29,63 (8,9)	28,85 (10,1)	64,21 (15,8)
No	75 (54,7%)	25,67 (8,6)	16,13 (6,4)	22,63 (9,8)	15,39 (8,0)	90,17 (31,6)	35,75 (12,3)	27,25 (10,3)	27,17 (11,4)	64,84 (19,5)
Type of loss										
Miscarriage	107 (78,1%)	25,55 (8,3)	16,30 (6,6)	22,33 (10,2)	14,84 (7,8)	92,46 (29,9)	36,13 (11,6)	28,36 (9,8)	27,97 (10,8)	64,28 (17,7)
Stillbirth	30 (21,9%)	25,37 (9,2)	13,70 (5,7)	23,60 (10,2)	14,80 (8,1)	93,47 (29,2)	37,43 (10,1)	28,23 (9,9)	27,80 (19,7)	65,53 (18,7)
Time since loss										
3–6 months	77 (56,2%)	26,38 (7,3)	14,83 (6,3)	22,61 (10,8)	14,36 (7,3)	95,25 (30,2)	37,77 (11,1)	28,92 (9,8)	28,56 (11,0)	64,36 (17,4)
7–12 months	17 (12,4%)	24,76 (11,7)	15,29 (7,3)	23,00 (10,2)	15,29 (8,9)	92,76 (32,5)	36,06 (11,6)	27,65 (11,0)	29,06 (12,4)	68,18 (18,7)
1–2 years	0 (0%)	–	–	–	–	–	–	–	–	–
>2 years	43 (31,4%)	24,26 9,0)	17,51 (6,4)	22,44 (9,2)	15,49 (8,4)	88,05 (27,9)	34,14 (11,2)	27,53 (9,3)	26,37 (9,7)	63,47 (18,7)

AG = Active grief; DC = Difficulties of coping; D = Despair; PGS = total score of PGS; PGWBI = total score of PGWBI.

Effects of parenting bonding style on PGS

To find out if parental bonding style significantly affected women's responses to perinatal loss, a series of MANOVAs were conducted. Table 4 shows the means and standard deviations for the scores of PGS total and subscale scores in relation to maternal and paternal bonding style.

One-way MANOVA was conducted to determine whether there is a difference between the four maternal bonding styles on PGS total and subscale scores.

There were significant differences in Difficulties of coping scores based on the maternal bonding style F (3; 133) = 3,474; $\eta^2 = 0{,}07$ $p = 0{,}018$. Bonferroni-corrected pairwise comparisons revealed that the mean score for difficulties of coping in the optimal bonding group was significantly lower than it was in the affectionless control group; in addition, the affectionate constraint and neglectful bonding groups were not significantly different from the other groups.

Table 3. Correlations between parental care/control, PGS and PGWBI scores.

	Mean (SD)	Range	1	2	3	4	5	6	7	8	9
1. MCA	25,5 (8,5)	0–36	1	,41**	–,48**	–,28*	–,03	,13	,06	,06	,26*
2. PCA	22,61 (10,2)	0-36		1	–,09	–,33*	–,05	,12	,08	,05	,04
3. MCO	15,72 (6,5)	4–33			1	,51**	,05	–,16	–,12	–,08	–,15
4. PCO	15,83 (7,8)	0-36				1	,01	–,15	–,08	–,07	,158
5. AG	36,42 (11,2)	12–55					1	,78**	,77**	,92**	–,50**
6. DC	28,33 (9,8)	11–48						1	,86**	,94**	–,64**
7. D	27,93 (10,8)	11–55							1	,94*	–,52*
8. PGS	92,68 (29,6)	38–157								1	–,59**
9. PGWBI	64,55 (17,9)	18–104									1

*$p < .01$; **$p < .001$.
MCA = maternal care; PCA = paternal care; MCO = maternal control; PCO = paternal control; AG = Active grief; DC = Difficulties of coping; D = Despair; PGS = total score of PGS; PGWBI = total score of PGWBI.

Table 4. Means (standard deviations) for PGS and PGWBI scores by parental bonding style.

	PGS Mean (SD)]				*PGWBI* Mean (SD)]
Maternal Bonding style	Total score	AG	DC	D	*Total score*
Optimal Bonding ($N = 37$)	84,62 (27,9)	34,86 (10,7)	24,29 (9,2)	25,46 (10,1)	73,05 (16,6)
Neglectful ($N = 18$)	102,39 (28,9)	39,83 (9,9)	30,89 (10,2)	31,67 (10,8)	61,06 (18,2)
Affectionless Control ($N = 50$)	96,22 (1,1)	36,82 (12,1)	30,44 (9,9)	28,96 (11,2)	57,98 (17,1)
Affectionate Constraint ($N = 32$)	91 (28,2)	35,66 (11,1)	28,24 (8,8)	27,09 (10,6)	66,97 (16,3)
Paternal Bonding style	*PGS* Mean (SD)]				*PGWBI* Mean (SD)]
Optimal Bonding ($N = 34$)	Total score	AG	DC	D	*Total score*
Neglectful ($N = 23$)	89,43 (31,4)	34,48 (12,5)	28,17 (10,3)	26,78/10,3)	60,13 (20,0)
Affectionless Control ($N = 46$)	98,13 (31,5)	36,91 (11,5)	30,80 (10,0)	30,41 (11,5)	61,52 (18,3)
Affectionate Constraint ($N = 34$)	90,44 (30,9)	36,85 (12,4)	27,64 (9,5)	25,94 (11,4)	66,38 (17,2)

There was a non-significant difference in PGS total score, and active grief and despair scores based on maternal bonding style.

One-way MANOVA was conducted to determine whether there is a difference between the four paternal bonding styles on PGS total and subscale scores.

There was a non-significant difference in PGS total score, Active grief, Difficulties of coping and Despair scores based on paternal bonding style.

Effects of parenting bonding style on PGWBI

To find out if parental bonding style significantly affected women's psychological and general quality of life, a series of ANOVAs were conducted. Table 4 shows the means and standard deviations for the scores of PGWBI scores in relation to maternal and paternal bonding style.

One-way ANOVA was conducted to determine whether there is a difference between the four maternal bonding styles on PGWBI score.

There were significant differences in PGWBI scores based on the maternal bonding style $F\ (3;\ 133) = 6{,}075;\ \eta^2 = 0{,}121\ p = 0{,}001$. Bonferroni-corrected pairwise comparisons revealed that the mean score in the affectionless control group was significantly lower

than it was in the optimal bonding group; in addition, the affectionate constraint and neglectful bonding groups were not significantly different from the other groups.

One-way ANOVA was conducted to determine whether there is a difference between the four paternal bonding styles on PGWBI score.

There was a non-significant difference in PGWBI score based on paternal bonding style.

Discussion

The aim of our study was to evaluate perinatal grief symptoms and the psychological and general quality of life among Italian women in relation to parental bonding precisely in the context of perinatal loss.

All the study participants showed intense grief and severe grief reactions to loss; our findings revealed average total PGS scores ranging from 38 to 157 with a mean (M = 92,68; SD = 29,6) above the cut-off score. In addition, our study shows significant differences in relation to the age of women. Findings on such datum are inconsistent; some research reveals a higher risk among older women (Bhat & Byatt, 2016), others among younger women, as Herbert et al. (2022) who showed a significant yet small age effect on higher anxiety levels after perinatal loss in younger women. In our study, women younger than 35 had higher levels of perinatal grief than women older than 35. It may be hypothesised that younger people have experienced no or fewer losses in their life, thus they may be more vulnerable in coping with the consequences of a loss they have never dealt with before.

In this study, we did not find that childlessness, type of loss and time since perinatal loss were significant factors in relation to severity of perinatal grief and psychological and overall quality of life. This result is only seemingly surprising. Indeed, we are in line with Kersting and Wagner's (2012) who found no substantial difference in terms of symptoms shown by the mothers based on the period in which the loss occurred. Moreover, although childless mothers seem to experience greater pain following a loss (Kersting & Wagner, 2012), Lin and Lasker (1996) showed in their 2-year longitudinal study that low levels of grief symptoms persisted in most participants, regardless of whether they had other children. With respect to the association between perinatal grief, psychological and general quality of life and attachment – as measured through perceived maternal and paternal bonds of care and control – our results showed that women who perceived higher maternal care during their childhood and adolescence had higher psychological and general quality of life compared to those who perceived lower maternal care. Also, women experiencing optimal maternal bonding had a more positive effect on perinatal grief and psychological and general quality of life than women with affectionless control profiles. These results confirm the relevance of secure attachment as a protective factor. Securely attached individuals trust others and ask for help, benefitting from social support; thus, they have higher levels of resilience in face of stressful and traumatic circumstances (Bartholomew & Horowitz, 1991; Wayment & Vierthaler, 2002). Attachment theory, originally developed by Bowlby (1969, 1973), posits that humans are driven to seek closeness to significant others, known as attachment figures, especially during times of need or distress. This behaviour is part of an innate psychobiological system (the attachment behavioural system; Mikulincer & Shaver, 2012). Early interactions with attachment figures influence crucial internal working models of oneself and others. When attachment

figures are attentive and responsive, individuals develop positive mental representations of their own worthiness of care and trust in others to provide support when needed (Mikulincer & Shaver, 2012; Shaver et al., 2017). Conversely, if attachment figures are unreliable, seeking proximity does not bring comfort, security is not achieved and negative working models are formed (Shaver et al., 2017).

The lasting effects of an individual's attachment style on their emotional, behavioural and relational patterns can diminish their resilience to stressful life events and affect the quality of their interpersonal relationships, as well as their overall well-being. Additionally, insecure attachment has been linked to psychopathology which influences one's overall quality of life (Brophy et al., 2020). Certainly, insecure attachment hinders both interpersonal and intrapersonal relationships, which are crucial elements of human experience that people continuously navigate throughout their lives. Furthermore, the quality of these relationships is crucial for overall life satisfaction, and dissatisfaction in these areas can significantly diminish the overall perception of life quality (Ponizovsky & Drannikov, 2013).

Yet, we found a non-significant influence of paternal caregiving experiences. We suggest that during pregnancy and in the aftermath of birth, women need a maternal figure to validate their caregiving abilities and accomplishments as mothers (Stern, 1995); thus, we believe that in the perinatal period women focus on their mothers rather than their fathers to form their own maternal identity that is inevitably impacted by the perinatal loss.

Limitations

The limitations of this study should be considered. First, our research was cross-sectional which precludes any cause-and-effect conclusions. It should be noted that the question measuring childlessness did not require whether the other children, if any, were born before or after the perinatal loss. With respect to perceived parental bonds, there is the possibility of a memory bias, since the PBI is an instrument that investigates the perception of the past. Furthermore, since a convenience sample was used, it is possible that women with higher levels of perinatal grief symptoms were more drawn to the study.

Also, the study's sample size is limited, especially regarding the distribution among different parental bonding styles. Notably, the Neglectful groups are relatively small, with 18 participants for mothers and 23 for fathers. However, it is important to mention that the distribution observed in this research is consistent with those reported in non-referred samples from other studies (e.g. Anno et al., 2015). Still, further research is needed to examine the various types and mechanisms of attachment in individuals developing PGD.

Moreover, we are also aware that many other interpersonal and intrapersonal factors may influence the grieving process; therefore, our study cannot fully explain the complexity of the phenomenon; future studies should consider including variables such as the forms of perinatal loss, the time and circumstances of the death, maternal personality, marital dynamics, social support, as well as coping and appraisal (Jaaniste et al., 2017). Finally, a special attention should be paid to the role of fathers, who were not included in the present study. Perinatal loss can in fact have negative implications for men's

psychological and social well-being. Indeed, men perceive their primary role as being a supporter to their partners but received limited support themselves and their experiences should be included in future research (Nguyen et al., 2019; Obst et al., 2020). Certainly, our findings need to be confirmed by longitudinal studies with larger samples.

Implications for practice

All participants in our study exhibited intense grief, indicating that perinatal loss often leads to severe emotional responses. Health professionals must be vigilant in recognising and validating these intense grief reactions. Therefore, comprehensive grief assessments should be implemented, and targeted psychological support should be provided for women experiencing significant perinatal grief. Moreover, our study found that childlessness, type of loss and time since the loss did not significantly influence the severity of perinatal grief. Consequently, health professionals should focus on individualised care rather than making assumptions based on these factors. A more personalised approach, considering each woman's specific circumstances and emotional needs, will be more effective. Since higher perceived maternal care resulted associated with better outcomes, interventions could focus on strengthening women's support systems and providing validation during the perinatal period. Encouraging connections with supportive maternal figures, if available, could also be beneficial. Finally, our study suggests that younger women may experience higher levels of perinatal grief compared to older women. This finding contrasts with some existing research and underscores the need for a nuanced understanding to help women process their grief and cope effectively.

Conclusions

Despite the above limitations, the present study highlights the significant impact of perinatal loss on women's emotional well-being, the protective role of secure maternal attachment and the need for personalised, empathetic care in managing perinatal grief. Attachment perspective may provide a useful foundation to develop tailored interventions for women who experience perinatal loss.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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