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Grief Intensity, Psychological Well-Being, and the Intimate Partner Relationship in the Subsequent Pregnancy after a Perinatal Loss

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ABSTRACT

Objective: To examine the construct validity of the Perinatal Grief Intensity Scale (PGIS) and the associations of grief intensity with psychological well-being and the quality of intimate partner relationships of women in the subsequent pregnancy after perinatal loss. The consequences of intense grief due to perinatal loss may include significant couple relationship issues, depression, anxiety, and post-traumatic stress that may extend into the subsequent healthy pregnancy.

Design and Setting: A correlational, descriptive research design was used to collect survey data in this cross-sectional, web-based study.

Participants: Participants were 227 currently pregnant women who experienced perinatal loss in their immediate past pregnancies.

Methods: Instruments included the Pregnancy Outcome Questionnaire (pregnancy-specific anxiety), Impact of Event Scale (post-traumatic stress), Center for Epidemiologic Studies-Depression Scale (depression symptoms), the Autonomy and Relatedness Inventory (quality of the intimate partner relationship), and the Perinatal Grief Intensity Scale (perinatal grief intensity).

Results: As hypothesized, greater grief intensity was associated with higher pregnancy-specific anxiety, depression symptoms, and post-traumatic stress as well as poorer quality of the intimate partner relationship.

Conclusions: Support for the construct validity of the PGIS was demonstrated by its significant associations in the expected directions with pregnancy-specific anxiety, depression symptoms, post-traumatic stress, and the quality of the intimate partner relationship. The scale may be useful to health care providers in identifying mothers in need of follow-up for intense grief and other clinically relevant symptoms after perinatal loss.

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Perinatal loss includes miscarriage, stillbirth, and neonatal death. About one fourth of all pregnancies end in one of these types of loss; African American and older women experience even higher risk of loss, up to 50% or greater (Geller, Psaros, & Kornfield, 2010; Hutti, Armstrong, & Myers, 2013; Price, 2008). Grief is a common response of parents to these losses, but numerous adverse psychological sequelae may also be associated with perinatal loss (Corsini-Munt et al., 2011) as grief becomes more complicated and severe. In addition to normal grief, after perinatal loss parents may experience depression (Gaudet, Séjourné, Camborieux, Rogers, & Chabrol, 2010; Gausia et al., 2011),

anxiety (Côté-Arsenault, 2003; Gaudet et al., 2010; Woods-Giscombe, Lobel, & Crandell, 2010), post-traumatic stress (Bennett, Ehrenreich-May, Litz, Boisseau, & Barlow, 2012; Engelhard, van den Hout, & Arntz, 2001; Jind, 2003), and detrimental effects to the couple relationship (Gold, Sen, & Hayward, 2010).

For many parents, the adverse psychological consequences of a previous perinatal loss often extend into the subsequent healthy pregnancy. Instead of experiencing pregnancy as a time of joyful anticipation, parents who have had a perinatal loss often experience the subsequent pregnancy as a time of hypervigilance and constant

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pregnancy threat appraisal (Côté-Arsenault, 2007). They may experience high anxiety (Armstrong, Hutti, & Myers, 2009; Couto et al., 2009), depression (Armstrong et al., 2009; Hutti, Armstrong, & Myers, 2011), post-traumatic stress (Armstrong et al., 2009; Cowchock et al., 2011; O'Leary, 2005), and increased health care use (Côté-Arsenault, 2003; Hutti et al., 2011; Robson, Leader, Bennett, & Dear, 2010). In addition, the mother is at greater risk for experiencing postpartum depression after the subsequent pregnancy following a perinatal loss (Armstrong 2007; Blackmore et al., 2011).

Pregnancy loss may stimulate growth or cause crisis in the relationship because couples are unable to support each other. In previous research, a high-quality current partner relationship had a protective effect for bereaved women after perinatal loss and was associated with less grief, anxiety, and depression (Scheidt et al., 2012). Couples who cannot negotiate the challenges to a relationship caused by a perinatal loss may experience varied and long-lasting effects. Partners may have different expectations about how they should react and behave after a perinatal loss and about the appropriate length of time for grieving after a loss. When couples' grief or expectations are discordant, they may experience higher levels of conflict in their relationship and may be unable to provide adequate support to each other. In a randomized controlled trial of 341 couples who had miscarried, two thirds of the women reported their relationships with their partners were the same or improved, whereas the remaining one third reported their relationship was more distant at one year postloss (Swanson, Karmali, Powell, & Pulvermakher, 2003). The potential consequences of these issues for the couple relationship are significant. In the only national study to examine marriage outcomes after fetal loss, Gold et al. (2010) found relationships have a higher risk of dissolving after miscarriage or stillbirth when compared to live birth.

Bennet et al. (2012) noted the need for a simple and standardized system for screening women following a perinatal loss, such as a brief questionnaire, so that women in need may be more effectively connected with supportive postloss services. This type of screening tool is necessary because neither gestational age nor behavior soon after a perinatal loss are predictive of need for follow-up care (Hutti, Armstrong, & Myers, 2013). The Perinatal Grief Intensity Scale (PGIS) has been developed as a clinical tool to fill such

In addition to normal grief, parents may experience depression, anxiety, post-traumatic stress, and detrimental effects to the couple relationship after perinatal loss.

a need (Hutti et al., 2013). The purposes of this study were to examine the construct validity of the PGIS and the associations of grief intensity with psychological well-being and the quality of intimate partner relationships of women in the subsequent pregnancy after perinatal loss.

Perinatal Grief Intensity Theoretical Framework

The perinatal grief intensity theoretical framework upon which this study is based is discussed extensively elsewhere (Hutti, 1992, 2005; Hutti, Armstrong, & Myers 2013; Hutti, de Pacheco, & Smith, 1998). Three factors significantly influence grief intensity after a perinatal loss: the perceived reality of the pregnancy and infant or fetus within, the congruence between the actual loss experience and parents' perceived ideal regarding how the experience should unfold, and parents' ability to make decisions or act in ways to increase this congruence. If grieving parents are unable to confront their significant others about behaviors they find unsupportive and unacceptable, then parents will feel additional anger and victimization due to the loss experience. Hutti (1992) found the most intense grief experiences occur in parents for whom the pregnancy and infant were perceived as real, when the actual loss experience was perceived as unfolding in a manner parents found unacceptable, and in parents who perceived themselves as unable to do anything about it. Conversely, the least intense grief responses were found in parents for whom the pregnancy and infant were not yet real; when the loss experience was occurring in a way that parents found supportive; and when parents were able to confront others to resolve issues that arose during the course of the loss.

Specific Aim and Hypotheses

The specific aims of this study were to examine the construct validity of the PGIS and to examine the associations of grief intensity with pregnancy-specific anxiety, depression symptoms, post-traumatic stress, and the quality of intimate partner relationships of women in the subsequent pregnancy after perinatal loss. The following theoretically based hypotheses were tested:

1. Greater grief intensity will be associated with higher pregnancy-specific anxiety,

depression symptoms, and current subjective stress/post-traumatic stress in the subsequent pregnancy after perinatal loss.

2. The type of loss experienced in the previous pregnancy (miscarriage, stillbirth, neonatal death) will not be associated with differences in pregnancy-specific anxiety, depression symptoms, and current subjective stress/post-traumatic stress in the subsequent pregnancy.
3. Greater grief intensity will be associated with poorer quality of the intimate partner relationship in the subsequent pregnancy after perinatal loss.

Methods

Design and Sample

Survey data were collected in a cross-sectional, web-based study of 227 pregnant women who had experienced perinatal loss in their immediate past pregnancies. Inclusion criteria were currently pregnant and greater than 20 weeks gestation, older than age 18 and English speaking, and experienced a previous miscarriage, stillbirth, or neonatal death in the immediate past pregnancy. During an 11-month period, 477 women met the study inclusion criteria, accessed the website, and completed some or all of the study instruments. Of these, 227 women (48%) provided complete data and composed the analytic sample for this study. The sample size of 227 women allowed sufficient power (greater than (80%) to test the study hypotheses.

Measures

The Pregnancy Outcome Questionnaire (POQ) is a 15-item scale developed to measure pregnancy-specific anxiety (Theut, Pedersen, Zaslow, & Rabinovich, 1988). Response choices range from 1 (*almost never*) to 4 (*almost always*). A cumulative score is derived by reverse scoring six items then summing all responses for a possible range in scores of 15 to 60. Higher scores indicate higher prenatal anxiety. The POQ has been used with mothers and fathers in pregnancy and demonstrated good internal consistency reliability; Cronbach's alphas ranged from .80 to .89 in studies of parents experiencing perinatal loss (Armstrong, 2001; Armstrong & Hutti, 1998; Theut et al., 1988). Convergent validity of the POQ was supported by significant correlations with both scales of the State-Trait Anxiety Inventory (Franche & Mikail, 1999). The lack of a correlation with the Beck Depression Inventory supported divergent validity

of the POQ (Theut et al., 1988). Cronbach's alpha for the POQ in this sample was .84.

The Impact of Event Scale (IES) is used to measure subjective stress related to a previous traumatic life event or post-traumatic stressor (Horowitz, Wilner, & Alvarez, 1979). In this study, the 15-item IES was linked to the event of the previous miscarriage, stillbirth, or neonatal death. The IES has two subscales: Intrusion and Avoidance. The 8-item Avoidance subscale is used to examine denial of the meaning or consequences of the loss, emotional numbness, or behavioral inhibitions associated with a perinatal loss. The 7-item Intrusion subscale is used to examine the unbidden, intrusive thoughts, troubled dreams, strong emotions, and repetitive behavior associated with post-traumatic stress related to perinatal loss. Response choices range from 1 (*rarely*) to 5 (*often*). A cumulative score is derived by summing all scores; scores over 22 indicate high level of post-traumatic stress. The IES demonstrated good internal consistency reliability with Cronbach's alphas ranging from .95 (IES total) to .78 (Intrusion); content validity was demonstrated by frequent endorsement of items by a population of patients seeking assistance for posttraumatic stress disorder (Horowitz et al., 1979). Cronbach's alpha for the IES total scale in this study was .79. Cronbach's alpha for the IES Intrusion subscale was .79 and .81 for the IES Avoidance subscale in this sample.

The 20-item Center for Epidemiologic Studies–Depression Scale (CES-D) is used to measure depression symptoms experienced in the past week (Radloff, 1977). This scale has been used in many studies and had excellent internal consistency reliability in a sample of mothers and fathers in the subsequent pregnancy after a previous perinatal loss (Armstrong, 2001) and in clinical community samples (Radloff, 1977). Response options range from 0 (*rarely*) to 3 (*all the time*). A cumulative score is derived by reverse scoring four positive items and then summing all scores; higher scores indicate a greater level of depression symptoms. The range of possible scores is 0 to 60. A score of 16 is traditionally used as the cutoff score to indicate a high level of depression symptoms (Radloff, 1977). According to Radloff (1977), the validity of the CES-D was supported by its ability to significantly detect depression symptoms within different populations with a high level of sensitivity. Cronbach's alpha for the CES-D was .93 in this sample.

The Autonomy and Relatedness Inventory (ARI) is a 30-item measure of the quality of primary intimate relationships (Hall & Kiernan, 1992). Participants were asked to describe their partners' behavior toward them on a scale of 1 (*not at all like*) to 5 (*very much like*). The ARI has eight subscales: Acceptance, Relatedness, Support, Listening, Control, Hostile Control, and Detachment/Rejection. Negative items are reverse scored and a cumulative score is obtained. Cronbach's alpha for the ARI total scale was .90 and subscale alphas ranged from .53 (Detachment/Rejection) to .76 (Control). Construct validity was evaluated by factor analysis in which two factors were identified: Support/Positive Regard (ARI Positive/ARI+) and Dominance/Control (ARI Negative/ARI-). The two-factor solution accounted for 40% of the item variance. Cronbach's alpha for the ARI total scale in the current study was .95. Cronbach's alpha for the ARI Negative subscale was .87 and .95 for the ARI Positive subscale in this sample.

The PGIS is a 14-item questionnaire used to evaluate grief intensity after miscarriage, stillbirth, or neonatal death (Hutti et al., 1998). It has three subscales: Reality, Congruence, and Confront Others. The PGIS has a 4-point Likert-type scale, with response options ranging from *strongly agree* to *strongly disagree*. Cronbach's alpha for the total scale was .84 in 186 women who had experienced a miscarriage; subscale alphas ranged from .71 (Congruence) to .89 (Reality) (Hutti et al., 1998). The 6-item Reality subscale measures the reality of the pregnancy and baby for the parents. The 4-item Congruence subscale measures the congruence between the actual loss compared with the parent's perceived ideal regarding "how it should be if I have to go through it." The 4-item Confront Others subscale measures the ability of parents to be assertive and ask for what they need in the midst of this crisis. Construct validity was evaluated using exploratory factor analysis; all 14 items loaded as predicted onto a three-factor solution, and 65% of the item variance was explained (Hutti et al., 1998). In this study, Cronbach's alpha for the PGIS total scale was .75, and subscale alphas were .80 (Reality), .80 (Congruence), and .82 (Confront Others). Hutti et al. (2013) conducted exploratory factor analysis and found three factors that explained 67% of the item variance.

Procedure

The study was reviewed and approved by the Institutional Review Board of a southern university.

Women who experience previous perinatal loss, regardless of gestational age, are at risk for grief, depression symptoms, anxiety, and post-traumatic stress in the subsequent pregnancy.

Participants were recruited via the Internet from messages and links on women's health, pregnancy, perinatal loss, and perinatal loss support websites and were directed to the study website where instruments were made available after consent was obtained. When they agreed to participate, the instruments were presented with a demographic data form first, followed by the PGIS, POQ, IES, CES-D, and the ARI. A counting system within the website kept track of the number of people who logged onto the site, completed the consent page, and all or some of the study instruments. Participants were unable to reaccess the website from the same IP address once the study instruments had been completed. Data were downloaded in encrypted files from the website for analysis.

Data Analysis

Participants were divided into three groups based on when their prior perinatal loss occurred: prior to 20 weeks gestation (miscarriage), after 20 weeks but prior to a live birth (stillbirth), or after a live birth but within the newborn's first 28 days of life (neonatal death). Categorical variables among the three groups were evaluated by chi-squared analysis, whereas continuous variables were examined by one-way ANOVA. If the ANOVA was significant, Tukey's post-hoc pairwise comparisons were performed to determine where the difference between the groups occurred. All continuous variables were normally distributed. When the assumption of equality of variance was not met (i.e., ARI positive, ARI negative, ARI total scale), the Welch correction to the ANOVA *F*-statistic was used along with the Tamhane correction for the post-hoc tests. A one-sample *t* test was used to assess whether the CES-D and IES scale means were statistically higher than one would expect to find in a normal population. The alpha level for all tests was set at $\leq .05$. Cronbach's alpha was used to evaluate the internal consistency reliability of all instruments.

Results

Only women chose to participate in the study even though it was open to men and women. Approximately three out of four were White (78%), and three fourths lived in the United States

Table 1: Characteristics of the Study Population (N = 227)

Variable	n (%)	Mean (SD)
Age		31.0 (5.9)
Female	227 (100%)	
Race		
White	177 (78.0%)	
Other	50 (22.0%)	
Education		
<4 yrs. College	68 (30.0%)	
College Degree	92 (40.5%)	
Master's Degree or above	38 (16.7%)	
Missing	29 (12.8%)	
Income		
<\$49, 999	68 (30.0%)	
\$50,000 – \$75, 999	51 (22.5%)	
>\$80, 000	80 (35.2%)	
Missing	28 (12.3%)	
Marital Status		
Married	204 (89.9%)	
Single or Divorced	20 (8.8%)	
Missing	3 (1.3%)	
Loss Group		
Miscarriage	96 (42.3%)	
Stillbirth	82 (36.1%)	
Neonatal Death	49 (21.6%)	
Location		
USA	171 (75.3%)	
Central America	33 (14.5%)	
Other	17 (7.6%)	
Missing	6 (2.6%)	

(75.3%). More than one half were college educated (57.2%) and had an annual income of at least \$50,000 (57.7%). The mean age of participants was 31 years ($SD = 5.9$), most were married (89.9%), 42.3% experienced a previous miscarriage, 36.1% had a previous stillbirth, and 21.6% had experienced a previous neonatal death (see Table 1).

Hypothesis 1

This hypothesis was supported. Greater grief intensity was associated with increased

pregnancy-specific anxiety ($r = .32, p < .0001$) and depression symptoms ($r = .34, p < .0001$). Likewise, the higher the grief intensity, the greater the post-traumatic stress related to the perinatal loss as measured by the IES total scale ($r = .29, p < .0001$). Higher grief intensity was also associated with more unbidden, intrusive thoughts, images, troubled dreams, strong emotions and repetitive behavior that may be associated with perinatal loss as measured by the IES Intrusion subscale ($r = .30, p < .0001$) as well as denial of the meaning and consequences of the loss as measured by the IES Avoidance subscale ($r = .16, p < .05$).

Hypothesis 2

This hypothesis was also supported. There were no differences among the loss groups on the POQ, CES-D, and the IES total scale (see Table); however, all loss groups demonstrated significantly higher mean CES-D scores (group means of 25.2–29.6) than the traditional cutoff score of 16. This indicates mothers, regardless of type of loss, reported high levels of depression symptoms ($p < .001$) in the subsequent pregnancy after a previous perinatal loss. Similarly, using the IES total cutoff score of ≥ 23 as indicative of post-traumatic stress (Horowitz et al., 1979), all mean loss group scores were significantly higher than 23 (range 34.4–35.5, $p < 0.001$).

The loss groups differed significantly in their scores on the Impact of Event Intrusion subscale and the Impact of Event Avoidance subscale. Tukey's post hoc test demonstrated that mothers who experienced a neonatal death had a higher mean score on the Intrusion scale than did mothers who experienced a miscarriage ($p < .001$). Mothers who had a miscarriage scored significantly higher on the Avoidance subscale compared with those in the neonatal death group ($p < .018$) (see Table 2). No other pairwise comparisons were significant.

Hypothesis 3

This hypothesis was also supported. The poorer the quality of the primary intimate relationship, the greater the grief intensity ($r = -.25, p = .001$) in the subsequent pregnancy after a perinatal loss. Post hoc tests demonstrated that mothers in the stillbirth and neonatal death groups had significantly higher mean ARI Positive and ARI Negative scores than those in the miscarriage group. The differences in means on the ARI Total score between the stillbirth and miscarriage groups was

Table 2: Results of One-Way ANOVAs by Loss Group for Each Outcome Variable (N = 227)

Loss Group by Gestational Age							
Measure	Miscarriage (n = 78–89)		Stillbirth (n = 65–76)		Neonatal Death (n = 38–46)		p Value
	Mean	SD	Mean	SD	Mean	SD	
POQ	37.9	7.8	39.5	7.6	40.6	7.4	.137
CES-D	26.8	12.2	25.2	13.8	29.6	10.9	.179
IES	34.4	11.9	35.2	11.5	35.5	11.1	.872
IES: Intrusion	21.1	7.0	23.7	6.7	25.7	6.3	<.001
IES: Avoidance	13.3	8.4	11.2	7.9	9.2	6.7	.018
ARI	134.0	17.6	140.3	13.7	143.3	9.6	.002
ARI +	86.5	12.8	91.7	9.7	93.3	8.0	.002
ARI -	47.4	6.1	48.3	6.1	49.7	3.8	.037
PGIS	3.84	0.25	3.92	0.24	3.97	0.15	.002
Note. POQ = Pregnancy Outcome Questionnaire – pregnancy-specific anxiety; CES-D = Center for Epidemiologic Studies-Depression Scale – depression symptoms; IES = Impact of Event Scale – post-traumatic stress; ARI = Autonomy and Relatedness Inventory – quality of the intimate partner relationship; PGIS = Perinatal Grief Intensity Scale – perinatal grief intensity.							

Note. POQ = Pregnancy Outcome Questionnaire – pregnancy-specific anxiety; CES-D = Center for Epidemiologic Studies-Depression Scale – depression symptoms; IES = Impact of Event Scale – post-traumatic stress; ARI = Autonomy and Relatedness Inventory – quality of the intimate partner relationship; PGIS = Perinatal Grief Intensity Scale – perinatal grief intensity.

Significant hypothesized relationships with anxiety, depression symptoms, post-traumatic stress, and the quality of the primary intimate relationship supported the validity of the PGIS.

6.3 ($p = .052$). The difference between the miscarriage and neonatal death groups on the ARI total was 9.3 ($p = .001$). A difference of 2.3 existed between the miscarriage and the neonatal death groups on the ARI Negative subscale ($p = .034$), indicating mothers in the miscarriage group rated their primary intimate relationship more negatively than those in the neonatal death group. Conversely, a difference of 6.8 existed between the neonatal death group and the miscarriage group ($p = .002$) on the ARI Positive subscale, indicating mothers in the neonatal death group rated the quality of their intimate partner relationship more positively than those in the miscarriage group (see Table 2). No other pairwise comparisons were significant.

Discussion

All loss groups in this study demonstrated mean scores on the CES-D in the high depression symptom range and mean scores on the IES total indicative of elevated levels of post-traumatic stress. Women who experience perinatal loss, regardless of gestational age at which the loss occurs, are at risk for continuing grief, depression symptoms, anxiety, and post-traumatic stress in the subsequent healthy pregnancy. Screening for these adverse psychological issues is appropriate at the first and any subsequent follow-up visits so that appropriate referrals may be made.

Grief intensity was related to the Avoidance and Intrusion subscales of the IES. Mothers in the miscarriage group used avoidance behavior to a greater degree than mothers in the neonatal death group. Mothers in the neonatal death group experienced more intrusive thoughts, troubled dreams, strong emotions, and repetitive behavior than mothers in the miscarriage group.

The use of avoidance strategies after miscarriage is common. Men and women often experience little support and understanding for their feelings of grief from their extended families, friends, and communities after an early pregnancy loss (Corsini-Munt et al., 2011; Freda, Devine, & Semelsberger, 2003; Puddifoot & Johnson, 1997). There are no supportive conventions

for miscarriage, and couples often feel poorly prepared to cope with their feelings (Puddifoot & Johnson, 1997). Couples may deal with this lack of understanding and minimization of their loss by significant others by avoiding the topic of the loss.

Intrusive thoughts and images may be more likely in parents who have seen their stillborn fetuses or experienced death of their live born infants in a neonatal intensive care unit (NICU) compared to those who have never seen or held their infants. Greater length of time with a stillborn or live born infant who dies may give parents more opportunity to form emotional and physical relationships with their infants, providing more intruding thoughts and images about which they may dream (Theut et al., 1989).

Further, the mother and father are likely to be grieving for the death of a baby associated with a stillbirth or neonatal death. Parents do not always grieve congruently after miscarriage because the pregnancy and infant within may be much more real to one parent, often the mother, than to the other (Hutti, 1992; Hutti et al., 1998). Until the baby becomes real to the parent, an attachment and intense grief are unlikely to occur (Hutti, 1992, 2005; Hutti et al. 1998). This may be why women who experienced neonatal deaths rated their intimate partner relationships significantly better than women who experienced miscarriages (Hutti, 1992; Swanson et al., 2003).

In previous research, Hutti (1992) and Hutti et al. (1998) hypothesized that perinatal grief intensity was associated with the relationship between the perception of the reality of the pregnancy and infant; the congruence between the actual loss experience and the parents' perceived ideal regarding how the experience should unfold (i.e., "how it ought to be if I have to go through it"); and the ability of parents to make decisions or act in ways to increase the congruence between the actual loss and the perceived ideal. For most parents, part of the perceived ideal loss experience is to have a supportive partner and helpful support system when experiencing a perinatal loss. Intense grief in this study was associated with a poor quality intimate partner relationship. In addition, couples with intense grief had greater levels of post-traumatic stress, pregnancy-related anxiety, and depression symptoms.

Couples face numerous relationship issues when experiencing perinatal loss. They often have divergent expectations about how their partner

will and should react to the loss, how they and others around them should behave subsequent to the loss, and what should be expected as an appropriate length of time to grieve. These divergent expectations create friction within the couple relationship and limit the amount of support partners are able to offer each other (Corsini-Munt et al., 2011). Couples who cannot negotiate the relationship changes imposed by a perinatal loss experience greater risk of dissolution of the relationship than couples whose pregnancies end with a live birth (Gold et al., 2010).

Limitations

This sample was not randomly selected and cannot be generalized to an entire population. The majority of the participants were White, and responses from women of other ethnic backgrounds may have differed significantly from those reported here. The degree of English fluency of those international participants for whom English was not a primary language is unknown and may have affected understanding of the instruments. Our inability to successfully recruit fathers into this study limits a fuller understanding of the couple relationship as well as partner dynamics in the grief process. Lastly, these participants sought out this website and study; thus, their grief and its associated consequences may have been more intense than that of other women who experienced similar losses.

Conclusions

The PGIS demonstrated construct validity via significant and appropriate directional relationships with pregnancy-specific anxiety, depression symptoms, post-traumatic stress, and the quality of the intimate partner relationship. In the current study, we examined the effects of all types of perinatal loss on the mother in the subsequent pregnancy. Neither parental behavior immediately following a perinatal loss nor gestational age at the time of loss are good predictors or later grief intensity (Côté-Arsenault & Dombeck, 2001; Hutti, 1992; Hutti et al., 2013). A clinical instrument is needed to assist health care providers to effectively identify parents in need of follow-up after a perinatal loss (Hutti et al., 2013).

Further research is needed to determine whether certain factors mediate or moderate the effects of grief intensity after perinatal loss on psychological outcomes such as depression, anxiety, and post-traumatic stress. One such possible factor is the quality of the primary intimate partner relationship.

In addition, the PGIS needs further evaluation to determine cutoff scores to identify the need for follow-up by health care providers and its validity for predicting intense grief reactions when used near the time of the loss. Further evaluation of the scoring system is also warranted to determine if the PGIS needs to be simplified for clinical use. These are all areas of research that merit further study.

The adverse psychological consequences of perinatal loss are significant, common, and well-documented (Corsini-Munt et al., 2011). They represent a tremendous health burden for families who experience perinatal loss. The findings of this study emphasize the need for healthcare providers to routinely screen all women who have experienced a previous miscarriage, stillbirth, or neonatal death for depression symptoms, anxiety, post-traumatic stress, and relationship issues in the healthy subsequent pregnancy.

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