Couple's relationship after the death of a child: A systematic review

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ABSTRACT

When a child dies, the parents must address the changes in their relationship as well as the way that these changes affect their individual adjustment. These two perspectives are addressed in this systematic review. Five databases were systematically searched for papers published in English between January 2000 and February

2014. Of the 646 publications, 24 papers met the inclusion criteria. The results suggest that a child's death can cause cohesive as well as detrimental effects on a couple's relationship. Variables that may produce differential outcomes for the marital relationship include situational factors, such as the cause and type of death and the child's age at the time of death; dyad-level factors, such as surviving children, the pre-death characteristics of the relationship, communication and incongruent grieving; and individual-level factors, such as the family of origin's processing of trauma, social support, religious affiliation and finding meaning. Aspects such as marital quality and the couple's interdependence were found to influence each parent's individual adjustment. Larger, prospective, ethically conducted studies should be implemented to consolidate these findings. Mental health professionals may benefit from a deeper understanding of the risk and protective factors regarding marital adjustment after a child's death.

Keywords: death of a child, parental bereavement, marital adjustment, couple relationship, dyadic interdependence.

INTRODUCTION

The loss of a child is perhaps the worst event a parent could ever endure (Wheeler, 2001). Bereaved parents often experience a grief response that is pervasive, intense and enduring, as the death of a child can cause changes in several domains of the parents' life, including emotional, physical, financial, spiritual and social relationships (Rando, 2000). Parental grief is a personal and unique response and the fact that both partners are simultaneously grieving a significant loss differentiates parental grief from many other forms of grief. As married or cohabiting spouses (i.e., members of a couple), parents must address the impact of the death as individuals as well as addressing changes to their relationship as a couple (Rando, 2000).

Two important literature reviews on this theme have been conducted (Oliver, 1999; Schwab, 1998). Oliver (1999) stated that the death of a child can precipitate increased conflict and communication breakdowns within the marital relationship, with also serious negative repercussions for the bereaved couple's sexuality. However, although it is possible that the death of a child may lead to marital distress, this author stated that this does not necessarily mean that bereaved couples will end up divorced. The author concluded that divorce rates among bereaved parents were not higher than those in the general population or for parents facing similar stressors. Schwab (1998) reported similar results and took this matter further by stating that the well-known claim that there is an unusually high rate of divorce among bereaved parents is a myth. In fact, according to these authors, it seems that couples' relationships can not only survive the loss, but also be enhanced by this shared ordeal. To explain this variability in the literature, Oliver (1999) reported the role of grief responses, anticipatory grief, the quality of the marital relationship prior to the death and, although less central, the child's age. Finally, in an attempt to answer the question "why marital problems can develop when a child dies", this author presented the incongruity hypothesis, which states that marital problems arise when there are qualitative, quantitative, and/or temporal differences between partners in the way they cope with, express and experience their grief. In order to provide a more comprehensive theoretical perspective, Oliver (1999) pointed out two important theoretical frameworks for understanding the effects of child death on the couple: the attachment theory (Bowlby, 1980), and the trauma model (Berman & Sperling, 1995). Schwab (1998) reported the types of loss (such as death due to murder) and circumstances leading to death as other variables that may contribute to differential effects on couples' marital relationships.

Considering the acknowledgement and importance given in Bowen's systems theory to the interdependence within families, this theory is used as a theoretical framework (Bowen, 1976). According to the systems theory, reactions of a family member affect others and their functioning. This interdependence exists because causality in systems is circular rather than linear (Shapiro, 2001). Therefore, as also noted by Oliver (1999), the loss and bereavement can have a significant impact on the marital relationship, but the reverse may also be true. The quality of the marital relationship exerts a powerful effect on bereavement outcome (Lang & Gottlieb, 1993) and parents who are able to grieve together and obtain comfort from one another may be more likely to resolve their grief with greater easiness (Gilbert, 1989).

Based on the noted above, considering the complex and bidirectional relationship between grief and the marital relationship, this systematic review aimed to present the current knowledge not only on the effects of the death of a child on the marital relationship (and associated variables), but also on the effect of the marital relationship on parents' individual adjustment to the loss. Besides furthering our understanding on bereaved couples and providing an analysis of the last 14 years of research on this topic, this review will also discuss useful implications for clinical interventions. By exploring the variables affecting the marital adjustment after the loss of a child, this review contributes to systematize not only the information about which couples are especially at risk, but also which variables seem to protect parents from marital disruption.

METHOD

Search Strategy and Data Sources

This review was conducted in accordance with the evidence-based guidelines for systematic reviews set forth in the PRISMA statement (The PRISMA Group, 2009). We identified published studies from January 2000 to February 2014 that included information about marital adjustment (and related variables) after the death of a child and the way the marital relationship influenced parents' individual adjustment. The search was conducted in several relevant databases (B-On: Online Knowledge Library - Search, Ovid, Proquest, Web of Knowledge and Google Scholar) and by examining the reference sections of all relevant articles and books. A hand search was conducted of all issues from 2000 to 2014 in the journals

Death Studies and *Omega: Journal of Death and Dying*. The Cochrane Library database was also searched for existing reviews.

In each database, we used the following four search terms: (1) "child", "daughter" or "son"; (2) "parent", "mother" or "father"; (3) "death", "grief", "bereavement" or "mourning"; and (4) "marital", "marriage", "conjugal", or "couple's relationship". Each individual search consisted of a combination of the four search terms connected by "AND". Each individual search within a database was then combined using "OR" to account for duplication (Appendix A in the Supplementary data).

Study selection

The abstracts were selected by applying the following inclusion criteria: (a) empirical study (quantitative, qualitative or mixed studies); (b) published in peer-reviewed journals or unpublished university dissertations; (c) written in the English language; (d) including only parents bereaved by the death of their child; (e) including both mothers and fathers; (f) including information about marital adjustment and stability after the death of a child and associated factors (e.g., marital outcomes after the death of a child, such as divorce); and (g) including information about the influence of the marital relationship on individual adjustment [marital relationship as a predictor of adjustment (e.g., grief response; health-related quality of life; depression, etc.)].

Given the previous literature reviews by Schwab (1998) and Oliver (1999) and to provide a recent view on the topic, studies prior to 2000 were excluded from this review. Studies focusing only on parents whose child died in the perinatal period were also excluded because these parents are likely to experience different difficulties, namely, few memories of the child to use as a way of mourning, a sense of biological failure, and the difficulty of society to recognize the full extent of such a loss (Wallerstedt, Lilley, & Baldwin, 2003).

By analyzing the titles of the publications, we were able to determine that most studies did not meet the inclusion criteria because they did not focus specifically on the topic. Nevertheless, all abstracts were analyzed, and full-text versions of those that met the inclusion criteria and presented original research on the topic were obtained and assessed. Data from these studies were extracted into evidence tables. The

reference lists of all relevant papers were also cross-checked to ensure that no relevant article was left unexamined.

RESULTS

Search results

A visual summary of the study selection process is presented in Figure 1. The search strategy yielded

646 studies as potentially relevant in our initial searches, of which 24 met the inclusion criteria and were included in the present review. For the purpose of this systematic review, studies were grouped by design type.

Therefore, eligible studies were classified into three categories: quantitative studies, qualitative studies and studies using mixed methods. Data from each eligible study were collected and summarized in tabular format (see Tables 1-3). Key information was collected on the study aims, sample characteristics, study design, relevant measures/data collection and relevant findings. The data were then discussed to ensure congruence of the information extracted.

Insert Figure 1 about here

Overview of the included studies

Of the 24 papers included in the present review, most studies were published in peer-reviewed journals

(n = 20), with a smaller proportion of university dissertations (n = 4). The final 24 papers consisted of twelve quantitative studies, seven qualitative studies and five studies using mixed methods. Tables 1, 2 and 3 provide an overview of the characteristics of the 24 studies, separately by type of methodology. Comprehensive appraisal was guided by a quality assessment, which allowed for closer examination of the methodological soundness of each study.

Insert Tables 1 to 3 about here

Quantitative studies. Twelve studies provided information on marital adjustment to the death of a child and its predictors, as well as the marital relationship as a predictor of individual adjustment in a quantitative format (Table 1) (Bolton et al., 2013; Eilegard & Kreicbergs, 2010; Kamm & Vandenberg, 2010; Lyngstad, 2013; Polatinsky & Esprey, 2000; Rogers, 2005; Rogers, Floyd, Seltzer, Greenberg, & Hong, 2008; Song, Floyd, Seltzer, Greenberg, & Hong, 2010; Stroebe et al., 2013; Vollbehr, 2011; Wijngaards-de-Meij et al., 2007; Wijngaards-de Meij et al., 2008). Most studies provided information on factors associated with marital adjustment (e.g., communication, having other children at the time of death, incongruent grieving), and four studies (Bolton et al., 2013; Eilegard & Kreicbergs, 2010; Lyngstad, 2013; Rogers et al., 2008) reported information on marital outcomes (divorce rates and the existence of marital disruption). Five studies focused on the marital relationship as a predictor of individual adjustment, focusing on features such as marital closeness (Song et al., 2010), marital satisfaction (Wijngaards-de Meij et al., 2007), dyadic interdependence within the couple (Stroebe et al., 2013; Wijngaards-de Meij et al., 2008) or marital status (Polatinsky & Esprey, 2000).

Quality assessment. The criteria to assess the methodological quality of the studies were based on the criteria suggested in the literature on quantitative research (Jack et al., 2010; National Collaborating Centre for Methods and Tools [NCCMT], 2008). Most studies used a large number of participants ($n \geq$ 100), and most studies adequately described the measures. However, there was some heterogeneity regarding the assessment of marital variables. Some studies used a single-item measure specifically developed by the authors for the study (Rogers, 2005; Song et al., 2010). However, most studies used reliable and valid marital assessment scales (e.g., Index of Marital Satisfaction (IMS; Kamm & Vandenberg, 2010); Dyadic Adjustment Scale (DAS; Vollbehr, 2011). The use of standardized instruments is of great importance because it contributes to the validity and reliability of the measures and thus to the reported findings.

All studies included information about response and participation rates (range: 47% to 80% response rates), except for studies that used cohorts of population-based samples (Bolton et al., 2013; Lyngstad, 2013; Rogers, 2005; Rogers et al., 2008; Song et al., 2010) and the study by Vollbehr (2011). Five of the studies that were based on population-based cohorts (Bolton et al., 2013; Lyngstad, 2013; Rogers, 2005; Rogers et al., 2008; Song et al., 2010) did not use a self-selected sample of bereaved parents. In most studies, participants were self-selected (volunteers) and were recruited from bereavement support

associations (e.g., Kamm & Vandenberg, 2010; Vollbehr, 2011). This voluntary participation may potentially have led to selection bias (e.g., only parents less distressed and with greater willingness to provide insight about this theme participated), which may have compromised the representativeness of the samples. In addition, most studies did not include information about the missing data and how the authors addressed it.

It is also important to note that some studies reported overlapping samples**.** The study by Roger (2005) and Rogers et al. (2008) were part of the Wisconsin Longitudinal Study (WLS), which was an investigation of a random sample of 10,317 men and women who graduated from Wisconsin high schools in 1957. Survey data were collected in 1957, 1975, and 1992, when respondents were aged 18, 36, and 53, respectively. In these studies, the authors focused on the last assessment time. However, from the reading of the publications, it was not possible to identify the degree of overlap or the number of participants involved. Both studies were included because they had different aims. Therefore, in this review, these studies were treated as separate studies. The study by Song et al. (2010) followed the same cohort as the study of Rogers et al. (2008)12 years later (2004/06). However, contrary to Rogers et al. (2008), Song et al.'s study measured marital quality and obtained data from both members of each married couple. Similarly, the studies by Wijngaards-de Meij et al. (2007), Wijngaards-de Meij et al. (2008) and Stroebe et al. (2013) used the same sample. However, because the aims of the studies differed, these were also treated independently.

Finally, in the studies that used control groups, efforts were made to ensure that bereaved parents were similar to the comparison group with regard to background characteristics (Bolton et al., 2013; Eilegard & Kreicbergs, 2010; Rogers, 2005; Rogers et al., 2008; Song et al., 2010; Vollbehr, 2011). In the study of Lyngstad (2013), although no matched groups were used, the author conducted these analyses by comparing bereaved couples and non-bereaved couples with a similar family composition and the background characteristics were included as control variables.

Qualitative studies. Seven qualitative studies provided data on marital outcomes after the death of a child and/or on the marital relationship as a predictor of individual adjustment (Table 2) (Barrera et al., 2009; Essakow & Miller, 2013; Paley, 2008; Rellias, 2011; Reilly-Smorawski, Armstrong, & Catlin, 2002; Titus & Souza, 2011; Toller & Braithwaite, 2009). The focus of these studies was mainly the effect of the death of a child on the marriage, with most studies examining changes in the relationship (e.g.,

Barrera et al., 2009) or the factors that influence marital outcomes (e.g., Rellias, 2011). Barrera et al. (2009) and Essakow and Miller (2013) also addressed the influence of the marital relationship on individual adjustment. The study by Toller and Braithwaite (2009) focused on the contradictions of marital interactions experienced by bereaved parents within the dyad as well as how bereaved parents negotiated these contradictions.

Quality assessment. The accuracy of the publications included in this review was critically evaluated using criteria for reporting qualitative research (Tong, Sainsbury, & Craig, 2007; Kuper, Lorelei, & Levinson, 2008). The seven reviewed studies had clearly described aims, and their proposed research questions were suitable to qualitative methods. Details about sampling, data collection and analysis procedures were clearly provided in most studies. The exceptions were the study of Reilly-Smorawski et al. (2002), who did not provide information about data collection and analysis procedures; and the study by Titus and Souza (2001), in which the authors did not identify grounding in any particular paradigm or theory and did not provide information about the reliability and validity of the results. In five studies, the authors made efforts to ensure the validity and reliability of the findings, for example, by rechecking the analysis in a number of different ways, such asmember-checking (Barrera et al., 2009; Essakow & Miller, 2013; Paley, 2008; Rellias, 2011; Toller & Braithwaite, 2009). Three studies adequately addressed reflexivity, which refers to recognition of the influence a researcher brings to the research process (Essakow & Miller, 2013; Rellias, 2001; Titus & Souza, 2011). Finally, in each of these four studies, the main findings were clearly presented, and all of the studies provided conclusions that synthesized the results and limitations. Suggestions for further research and clinical practice were also identified in all studies, particularly in the study by Rellias (2011).

Studies using mixed methods. Five studies addressed the couple's relationship after the death of a child using mixed methods (Table 3) (Arnold, Gemma, & Cushman, 2005; Bergstraesser, Inglin, Hornung, & Landolt, 2014; Dyregrov & Gjestad, 2011; Murphy, Johnson, & Lohan, 2003; Murphy, Johnson, Wu, Fan, & Lohan, 2003)**.** Arnold et al. (2005) provided information on marital outcomes (marital strain), and Dyregrov and Gjestad (2011) focused specifically on the effects of the death of a child on the parents' sexual relationship. Murphy, Johnson, and Wu et al. (2003) provided information regarding marital outcomes, but, similar to the study by Murphy, Johnson and Lohan (2003), they focused on associated variables, such as finding meaning, communication problems, potential separation and divorce, and

parenting other children. Bergstraesser et al. (2014) focused on the role of dyadic coping (efforts by one or both partners to manage stress) in the grief process of parents, as a couple as well as on an individual level.

Quality assessment. Two studies provided information about the procedures used to handle the missing data (Murphy, Johnson, & Lohan, 2003; Murphy, Johnson, Wu, et al., 2003)**.** All studies provided information about the limitations and clinical implications of the studies, and Arnold et al. (2005) presented a topic solely dedicated to the clinical implications.

Regarding the quantitative measures that have been used, the studies by Arnold et al. (2005) and

Dyregrov and Gjestad (2011) used measures specifically developed by the authors, but the reliability of the instruments was not tested. In the other studies, quantitative measures seemed appropriate. However, it is worth mentioning that in two of these studies, the main outcome measure was marital satisfaction (using only a subscale of the DAS), which disregarded other relevant aspects of the marital relationship (e.g., dyadic consensus, affectional expression, dyadic cohesion) (Murphy, Johnson, & Lohan, 2003; Murphy, Johnson, Wu, et al., 2003). Additionally, in most studies, the qualitative data served as explanatory purpose to enrich the quantitative data. In most studies the participants were asked to provide (hand-written) details after answering a specific item in the questionnaire. Dyregrov and Gjestad (2011) conducted a semi-structured interview, and in this study, qualitative and quantitative data were used to confirm or cross-validate the study findings. Moreover, most studies used thematic or content analysis to handle the qualitative data. In the study by Murphy, Johnson, and Wu et al. (2003), although there was reference to the use of qualitative data, no specific information in relation to data collection and analysis was provided. In addition, none of the studies used statistical measures of inter-rater agreement.

Four studies included information about response and participation rates (Bergstraesser et al., 2014: 64% response rate; Dyregrov & Gjestad, 2011: 33% response rate; Murphy, Johnson, & Lohan, 2003 and Murphy, Johnson, and Wu et al., 2003: 62% response rate). With the exception of the study by Arnold et al. (2005), all studies included information about inclusion criteria. Regarding the recruitment of participants, two studies may have encountered selection bias because the parents were recruited from bereavement support associations (Dyregrov & Gjestad, 2011) or from specific groups (e.g., Arnold et al., 2005: nurses who graduated from one school of nursing; Bergstraesser et al., 2014: pediatric hospital).

The sample in the two longitudinal studies was population-based, and the testing for selection bias was non-significant (Murphy, Johnson, & Lohan, 2003; Murphy, Johnson, Wu, et al., 2003).

Ethical considerations in the reviewed studies

Some of the studies included in this systematic review considered ethical aspects of conducting a study with a vulnerable population such as bereaved parents. Five studies mentioned the approval of the study by ethical committees (Bergstraesser et al., 2014; Dyregrov & Gjestad, 2011; Eilegard & Kreicbergs, 2010; Wijngaards-de Meij et al., 2008; Stroebe et al., 2013), and 10 studies provided information about the use of voluntary consent, ensuring the anonymity and confidentiality of the research (Barrera et al., 2009; Bergstraesser et al., 2014; Dyregrov & Gjestad, 2011; Essakow & Miller, 2013; Paley, 2008; Rellias, 2011; Stroebe et al., 2013; Toller & Braithwaite, 2009; Vollbehr, 2011; Wijngaards-de Meij et al., 2008). Additionally, some authors defined inclusion criteria with regard to the time post-loss given the sensitivity of the subject and the fact that the time immediately after the event may be too recent to be addressed in a research setting (Barrera et al., 2009; Bergstraesser et al., 2014; Murphy, Johnson, & Lohan, 2003; Murphy, Johnson, Wu, et al., 2003; Paley, 2008; Rellias, 2011; Stroebe et al., 2013; Vollbehr, 2011; Wijngaards-de Meij et al., 2007; Wijngaards-de Meij et al., 2008).

Regarding the studies' procedures, in 10 studies, the first contact between the participants and the researchers was by letter, which contained detailed information about the study (Arnold et al., 2005; Barrera et al., 2009; Bergstraesser et al., 2014; Dyregrov & Gjestad, 2011; Eilegard & Kreicbergs, 2010; Paley, 2008; Rellias, 2011; Titus & Souza, 2011; Vollbehr, 2011; Wijngaards-de Meij et al., 2008). In six studies, the authors conducted the interviews at places that were most convenient to the participants, which were usually the parents' homes (Barrera et al., 2009; Bergstraesser et al., 2014; Dyregrov & Gjestad, 2011; Paley, 2008; Rellias, 2011; Titus & Souza, 2011). Finally, in three studies (Bergstraesser et al., 2014; Paley, 2008; Rellias, 2011), information was provided on how to access resources such as counseling services.

Data organization synthesis

As noted, the current systematic review is organized into two major themes: (1) the marital relationship as an outcome, focusing on the effects of the death of a child on the couple's relationship as well as the

situational and parental dyadic and individual variables that may impact the relationship and (2) the marital relationship as a predictor, focusing on information about the influence of the marital relationship on the individual adjustment. For each theme, we will provide a summary of the relevant findings of the studies reviewed (Tables 1, 2 and 3). Additional studies will be discussed to highlight some aspects of research that should be considered when interpreting the results.

Core effects of the death of a child on the couple's relationship

Detrimental vs. cohesive effects. There is some agreement that the death of a child may affect the marital relationship, although the exact direction of this association is less clear. Nine studies assessed the link between the death of a child and the marital relationship. All studies provided some degree of support between these two variables, although there were some differences in the direction of this association. Parents may experience marital disagreement (Rogers et al., 2008) and diminished marital satisfaction over time (Murphy, Johnson, Wu, et al., 2003). In some studies, parents reported a strained relationship, reduced communication with spouses/partners and significant distancing that, ultimately, can result in divorce (Arnold et al., 2005). In fact, three population based studies with a large-scale data found that, in comparison to non-bereaved parents, bereaved parents had higher divorce rates (Bolton et al., 2013; Lyngstad, 2013; Rogers et al., 2008). Despite these findings suggesting that the death of a child can disrupt the marital relationship, there was also evidence for resiliency in couples, especially according to the findings of qualitative studies. These studies concluded that marriages survive the death of a child. This loss and grief may even bring couples closer and strengthen their relationship, with the relationship acting as a source of support in these contexts (Barrera et al., 2009; Bergstraesser et al., 2014; Essakow & Miller, 2013; Paley, 2008; Rellias, 2011; Titus & Souza, 2011). Similarly, Eilegård & Kreicbergs (2010) found that bereaved parents were found to be significantly more likely than controls to be married to or living with their child's other parent, which challenges the idea that bereavement is associated with an elevated risk of divorce.

Regarding sexuality, Paley (2008) reported bereaved parents' difficulty in being sexually intimate with each other. However, Dyregrov and Gjestad (2011) found that despite reports of diminished sexual activity, most parents reported the same level of sexual activity within three months after the offspring's death as before their loss. With regard to this outcome, the authors identified significant sex differences. Men were ready to resume sexual activity much earlier than women were. The authors argued that these

differences may be an effect of greater grief intensity among women, women's negative perceptions of their body and sex, the guilt associated with feelings of desire or pleasure and difficult images interfering with sex.

Marital (mal)adaptive outcomes: Core influential variables

Research in this field has identified a number of variables that may affect marital outcomes following the death of a child, including situational factors related to the child and the circumstances of the death (cause and type of death, child's age at the time of death), dyad-level factors related to the parents relationship/family structure (surviving children, pre-death characteristics of the relationship, communication, and incongruent grieving), and individual-level factors related to the parents' individual characteristics/variables (family of origin processing of trauma, social support, religious affiliation, and finding meaning).

Situational factors

Cause and type of death. Studies have found that the impact of bereavement on marital functioning may differ depending on the circumstances surrounding the offspring's death. Of the studies of this review, three studies that used quantitative data addressed the association between the cause of death and marital outcomes, but only two found significant associations between these variables. Song et al. (2010) reported an effect on marital closeness among parents who experienced infant death (illnesses or accidents that occurred before the child's first birthday) but not among those whose offspring died from illness or violence (after the child was one year of age). According to these authors, infant deaths most likely occurred at an early stage of the family life cycle and thus at an early stage of active parenting, when there is an increased need to work together as parents. In the study by Bolton et al. (2013), suicide-bereaved parents were more likely than parents whose offspring died in a motor vehicle crash to experience marital breakup in the 2 years after the death compared with the 2 years prior to the loss. However, in the study by Murphy, Johnson, and Wu et al. (2003), a child's death by suicide did not contribute to lower levels of marital satisfaction in comparison to parents who were bereaved by accidents and homicide.

Child's age at the time of death. Although the death of a child can result in intense and long-lasting grief, there seem to be additional complexities when adult offspring die (Wijngaards-de Meij et al., 2005). Of the studies identified in this review, only one study focused on the association between the offspring's age at the time of death and marital outcomes. Rogers (2005) found that bereaved parents of adult offspring (aged 25 or older) were more likely to be divorced than non-bereaved parents. One of the explanations advanced for this finding related to the age of the parents. Younger bereaved parents may activate more effective coping strategies, which decrease their risk of negative psychological sequels and marital strain secondary to the loss of a child. Conversely, as Rogers et al. (2008) stated, deaths involving older children could be more stressful for marital relationships than infant deaths, particularly because attachment bonds would be expected to be stronger.

Dyad-level factors

Surviving children. The three studies that focused on the association between having other children and marital outcomes presented divergent findings. Rogers et al. (2008) reported that parents were less likely to experience marital disruption when they had other living children at the time of the death. Having other children can provide bereaved parents with a continued sense of purpose in life (Rogers et al., 2008; Wijngaards-de Meij et al., 2005), which can explain the protective role of this variable. In contrast, Rogers (2005) found that, contrary to expectations, having other children at the time of the death was associated with higher divorce rates, particularly for mothers. The author argued that bereaved women with larger households may feel overburdened. These women have more children to care for, and after the death of a child, they may not have the time or energy required to work through their own grief or to resolve marital problems. Similarly, in the study by Murphy, Johnson, and Wu et al. (2003), the deterioration in marital satisfaction reported by parents was associated with parenting other children.

Pre-death characteristics of the relationship. In previous research, one of the main reasons given for divorce among parents who lost a child was the quality of the marital relationship before the child's death

(Klass, 1986-87). In recent years, three studies have also reported this association. In the study by Rellias

(2001), distancing in the marital relationship appeared to occur mostly in couples and individuals who described pre-existing conflicts in their relationship, which became more pronounced after the death of the child.

Similarly, in the specific context of a child's death from cancer, Barrera et al. (2009) found that parents who reported more instability in their relationship after the loss of their child were also those who had already experienced deterioration in their relationship and communication during the illness of their child. In contrast, the parents whose relationship improved were those who shared the care demands of their sick child prior to the loss. Similarly, in the study of Bergstraesser et al. (2014), the couples who reported a well-functioning relationship tended to show better coping strategies during bereavement than those who had already had difficulties in their partnership prior to the death of their child.

Communication. Given that spouses are often each other's main source of support and comfort, communication between spouses about the child's death is especially important (Kamm & Vandenberg, 2001). Eight studies focused on the importance of communication for marital adjustment. Flexibility, openness and good communication have been identified as key factors in sustaining functional and healthy marriages during bereavement (Paley, 2008; Rellias, 2001; Song et al., 2010; Titus & Souza, 2011; Toller & Braithwaite, 2009). The ability to have positive open discussions that include shared grieving, to be appropriately supportive and available to each other by providing a sympathetic and uncritical audience for grief and to use each other's strengths positively influenced couples' relationships (Essakow & Miller, 2013; Paley, 2008; Rellias, 2011). Similarly, disagreements in the relationship have been attributed to ongoing differences and difficulties in communication (Barrera et al., 2009; Murphy, Johnson, Wu, et al., 2003; Toller & Braithwaite, 2009).

Two studies highlighted the dynamic and complex nature of communication within the couple in the bereavement process (Kamm & Vanderberg, 2001; Toller & Braithwaite, 2009). Kamm and Vanderberg (2001) discussed how grief communication helps married couples endure the grieving process together. Positive attitudes about open communication were related to more severe grief reactions early in bereavement but to less severe grief reactions later. However, these authors did not mention what they considered shorter or longer times since the death. In addition, these authors found evidence of relative agreement among couples because there were significant correlations in couples' attitudes about communication. More recently, Toller and Braithwaite (2009) identified contradictions between bereaved

partners, including feeling the need to grieve for their loss individually or as a couple and being open or closed when talking with the partner about the child's death. Because this event is profoundly painful, parents indicated that they and their spouses needed to communicate about their child's death to vent and to share emotions. At the same time, the pain was often so pronounced that parents needed to be closed with each other and grieve apart, to give each other space (Toller & Braithwaite, 2009). Therefore, discreet silence about one's loss experience can be considered an adaptive response to grief. On a similar note, Bergstraesser et al. (2014) reported that the parents who found alternatives for their need to talk, such as a friend, and accepted their partner's way of grieving, did not seem to suffer more than those whose grieving expression was more restrictedly enclosed within the couple.

Incongruent grieving. After the death of a child, mothers and fathers often grieve differently, expressing and coping with the loss in different ways (for a review see Wing, Burge-Calloway, Clance, & Armistead, 2001). As a result, parents may be confused by their spouse's response to this event. Theoretically, this dissimilarity may create distance in the marital relationship and may foster the misunderstanding that the other parent is not grieving appropriately (Rogers, 2005). In the study by Reilly-Smorawski et al. (2002), during a 12-week bereavement program, parents talked about couple's issues, including gender-related grieving. The authors noted clear misunderstandings and lack of communication in a number of couples, particularly in relation to the husband's grieving, and reported that struggles between the members of the couple appeared at times to be related to differing, individual experiences of grief. Conversely, Vollbehr (2011) did not find significant differences between congruently and incongruently grieving couples in marital satisfaction. However, fathers scored higher on marital satisfaction when the grief symptoms of their spouses were more intense. It seems, however, that partners do not necessarily need to grieve and cope in the same way. Two qualitative studies found that parents were able to accept and embrace their dissimilarity in grieving and to accommodate one another's coping needs. When this happened, parents were able to connect and share their loss together as a couple, and their relationship grew stronger (Paley, 2008; Toller & Braithwaite, 2009). Essakow and Miller (2013) stated that parents' mutual understanding that they may have different needs and responses at times was essential to the survival of the relationship.

Individual-level variables

Family of origin processing of trauma. Only one qualitative study explored and identified a link between this variable and the parents' relationship after the loss of a child. Rellias (2001) found that the ways that

trauma and loss were processed in the family of origin and the families of participants prior to the loss of the child was related to how the participants coped with this event as a couple. All of the study participants stated that their families did not prepare them to handle traumatic life events or grief. As they noted, this influenced the ways in which they handled traumatic life events and grief in their relationship.

Social support. There has been increasing awareness of the importance of social support to the parents' grief process after the loss of a child (e.g., Laakso & Paunonen-Ilmonen, 2002). However, only two studies (one quantitative and one qualitative) explored the effect of social support on marital outcomes after the loss of a child (Rogers, 2005; Toller & Braithwaite, 2009). Rogers (2005) found that parents who received social support were more likely to be married. Toller and Braithwaite (2009) reported that because it was sometimes painful to talk with the spouse about their child's death, parents chose to talk to friends or family instead. By being open with others, parents met their own need to talk about the death and, at the same time, honored their spouse's need to avoid talking about the death.

Religion/Religious affiliation. Few studies have examined the association between religion and the individual adjustment of parents bereaved by the loss of a child (Ungureanu & Sandberg, 2010). This is also true with regard to marital adjustment. Of the studies identified, only two (Rogers, 2005; Rogers et al., 2008) addressed this association. Both studies showed that religious participation was a significant predictor of a lower likelihood of marital disruption, but the study by Rogers (2005) only found this association to be true for men. The authors argued that the potentially increased social support obtained through religious participation may help to keep marriages intact. In addition, if spouses participate in religious activities together and perceive these as a way to connect with each other, this practice may strengthen the marital bond. Finally, in this context, it is plausible that religious individuals are less likely to consider divorce a viable option, particularly if divorce is not supported by their religion.

Finding meaning. The ability to make sense of shattered assumptions about the world after a traumatic event is crucial in rebuilding the "predictability and order" of life (Neimeyer, 2001). In fact, every aspect of life following the death of a child is infused with meaning reconstruction, and marital features are no exception. Accordingly, as Rosenblatt (2000) argued, grieving parents may question the meaning of their marital relationship. Only the study of Murphy, Johnson and Lohan (2003) examined the association between finding meaning and marital adjustment. These authors reported that parents who found meaning after the death of their offspring reported higher marital satisfaction. The authors did not offer any

explanations for this finding because a large proportion of respondents did not answer this question, resulting in a lack of information about parents' search for meaning.

Marital relationship as a predictor of parents' individual adjustment

In addition to addressing the effects of the death of a child on the couple's relationship, we also aimed to examine how the characteristics of the marital relationship can function as a predictor of parents' individual adjustment. In this review, relationship characteristics such as marital satisfaction and closeness (marital quality) and interdependence within the couple emerged as variables that influence parents' individual adjustment.

Marital quality, support and dyadic coping in bereavement.

Given that most marriages remain intact after the death of a child (Schwab, 1998), the ability to maintain marital quality over time may be a key to well-being for most parents. However, there has been relatively little research on parental bereavement that has specifically examined the role of marital relationship in recovery from grief. Although one study in our review did not find any association between levels of grief and marital status (Rogers, 2005), six studies (two qualitative, three quantitative, one mixed) emphasized the marital relationship as a source of stability and support throughout the bereavement and individual adjustment process to the loss of a child. The studies by Barrera et al. (2009) and Essakow and Miller (2013) reported that the relationship between bereaved parents served as a safe haven; feeling secure, and protected in the relationship helped parents to survive and endure the grief after the loss of their child.

Polatinsky and Esprey (2000) found a trend for married respondents to have higher post-traumaticgrowth and two other quantitative studies examined the effect of marital closeness and satisfaction on parental individual adjustment after the loss of a child. Song et al. (2010) addressed the mechanism through which marital closeness mediated the association between bereavement and health-related quality of life (HRQoL). However, in this study, marital closeness did not mediate the negative effects of violent child death on the parents' HRQoL for this subgroup. Nevertheless, marital closeness was found to be a significant predictor of HRQoL. Bereaved parents who indicated greater marital closeness reported a better HRQoL score compared to bereaved parents who had lower levels of marital closeness. Wijngaards-de Meij et al. (2007) also used a mediation model to assess whether the association between

attachment style and depression was mediated by marital satisfaction. The results indicated that marital satisfaction partially mediated the association between anxious attachment (i.e., the degree to which a person worries that a partner will not be available in times of need) and depressive symptoms. When a partner is anxiously attached, this is associated with lower marital satisfaction, which, in turn, is associated with more depressive symptoms. The authors suggest that it is likely that an anxiously attached parent has high expectations regarding support and caregiving from his or her partner. These expectations are likely not met by the partner because he/she is similarly distressed.

Finally, Bergstraesser et al. (2014) found that joint dyadic coping (coping together and activating shared resources) helped the parents work through their grief as a couple but also individually. Aspects of joint dyadic coping such as the sharing of emotions and the maintenance of continuing bonds to the child emerged as particularly relevant. The later consisted on the performance of rituals, such as grave tending and celebrating the deceased child's birthday, which were shared as their parental "togetherness".

Dyadic interdependence regarding grief. A previous literature review showed that noticing the spouse's response to the loss may not only activate similar reactions in an individual but may also generate distress due to the perceived inability to prevent the partner's suffering (Schwab, 1992). Thus, following the death of a child, adjustment is not only a matter of individual grief; it is also a product of relational processes of mourning (Walsh & McGoldrick, 2004) and encompasses intrapersonal and interpersonal processes. This interpersonal context of grieving suggests that fathers and mothers are confronted with the death of their child both independently and as an interdependent dyad. This perspective was addressed in two studies (Stroebe et al.,2013; Wijngaards-de Meij et al., 2008).

Wijngaards-de Meij et al. (2008) examined the association between the coping strategies of bereaved couples, focusing on the deceased child (loss orientation) or on secondary stressors resulting from the loss (restoration orientation), and parental adjustment (depression and grief response). For fathers, having a spouse who had high restoration-oriented coping was related to less depression and a less severe grief response. For mothers, however, the spouse's coping was unrelated to their adjustment, perhaps because mothers used more loss-oriented coping strategies (thoughts and feelings focused on the relationship between the mother and the deceased child), for which there is no need to involve the spouse. Stroebe et al. (2013) examined how partners influence each other's grieving process. The authors focused on a phenomenon called partner-oriented selfregulation (POSR), which they defined as the avoidance of

talking about the loss and remaining strong in the partner's presence with the intention to protect the partner. It was found that POSR can increase both partners' grief responses. Paradoxically, the wish to protect the partner may backfire and interfere with a parent's coping with his/her child's death, thus stimulating an interpersonal cycle of dysfunction in the relationship and grieving processes.

DISCUSSION

This systematic review aimed to collect and synthesize existing empirical literature on how the death of a child impacts couples' relationships (marital relationship as an outcome) and how the marital relationship influences parents' individual adjustment (marital relationship as a predictor). Despite the wide range of literature on parental bereavement, only a limited number of studies have focused on these two perspectives.

The first part of this review aimed to present current knowledge on how couples' relationships are affected by the death of a child. A former literature review on the theme (Schwab, 1998) advocated for the dispelling of the myth that the death of a child precipitates a severe marital crisis and/or divorce. In light of the empirical evidence provided by large-scale quantitative studies, we can conclude that the death of a child can in fact lead to marital distress and divorce, and therefore, must be regarded as a serious risk factor for marital dissolution. However, despite the struggles that couples go through, there is also evidence (particularly on the qualitative studies) suggesting that some couples' relationships can be enhanced by their shared ordeal, contributing to greater cohesion and support within the relationship.

In addition, several variables – situational, dyadic and individual – that influence marital adjustment to the loss of a child were identified, and conclusions can be drawn regarding risk and protective factors. Parents whose child died from suicide (Bolton et al., 2013) and was an adult (Rogers, 2005) and parents who experienced pre-death relationship instability and conflicts (Barrera et al., 2009; Rellias, 2001), communication difficulties (Barrera et al., 2009; Murphy, Johnson, Wu, et al., 2003; Toller & Braithwaite, 2009) and lack of preparedness for dealing with trauma (Rellias, 2001) may be at higher risk for marital difficulties. In contrast, infant death (Song et al., 2010), good communication and openness in the relationship (Essakow & Miller, 2013; Rellias, 2001; Song et al., 2010; Titus & Souza, 2011; Toller & Braithwaite, 2009), understanding andacceptance of incongruent grieving (Essakow & Miller, 2013; Toller & Braithwaite, 2009), effective social support (Rogers, 2005; Toller & Braithwaite, 2009) and

finding meaning (Murphy, Johnson, & Lohan, 2003) emerged as protective factors for relationship problems. Mixed findings were found regarding two variables: the presence of other children and incongruent grieving. Regarding the presence of other children, although some studies have found that the presence of and focus on other children in the family at the time of the death can function as a protective factor for marital disruption (Rogers et al., 2008), other studies have found that having other children is associated with marital difficulties (Murphy, Johnson, Wu, et al., 2003; Rogers, 2005). Regarding incongruent grieving, Reilly-Smorawski et al. (2002) reported that struggles between the members of a couple appeared to be related to differing individual experiences of grief, whereas Vollbehr (2011) did not find significant differences between congruently and incongruently grieving couples in marital satisfaction. These particular findings challenge the incongruity hypothesis presented by Oliver (1999) to explain why marital problems can develop when a child dies.

In the second part of this review, the focus was on the marital relationship as a predictor of parents' individual adjustment, which has been however subject of lesser empirical attention. Marital closeness was found to be a significant predictor of HRQoL (Song et al., 2010), and joint dyadic coping (sharing of emotions and maintenance of continuing bonds) helped parents work through their grief both individually and as a couple (Bergstraesser et al., 2014). Polatinsky and Esprey (2000) found a trend for married respondents to have higher post-traumatic growth and Wijngaards-de Meij et al. (2007) found that marital satisfaction partially mediated theassociation between anxious attachment and depressive symptoms. Finally, in a number of studies conducted in The Netherlands, Wijngaards-de Meij et al. (2008) and Stroebe et al. (2013) underlined how parents, as an interdependent dyad, affect each other's individual adjustment. These findings highlight the potential protective role of the marital relationship after the loss of a child and the interdependency within the couple.

Strengths and limitations of the studies reviewed

In the literature review conducted by Oliver (1999) on the effects of the death of a child on marital relationships, the author noted some of the shortcomings of most of the studies reviewed, including small sample sizes, selection bias, attrition rate, the lack of a control group and an exclusive focus on mothers. In addition to these methodological considerations, Schwab (1998) stated that future studies should aim to controlvariables such as parents' life cycle stages, the type and circumstances of the death, the quality of the marital relationship prior to the offspring's death, and concurrent stressors to obtain a more accurate

picture of marital discord and dissolution following the death of a child. Studies in the last 14 years have attempted to manage some of these limitations, but also to use more sophisticated methods of analysis. Further advances on methodological and statistical approaches, in order to obtain more robust findings, will be however discussed in the section "Directions for future research".

Regarding sample size, more recent quantitative studies have included increasingly larger samples. Of note, the study of Lyngstad (2013) is particularly relevant, since it used a high-quality large-scale representative data source, which provides data virtually free of sample attrition and self-reporting bias. Nevertheless, sample sizes may be smaller than desired because of the difficulty in recruiting parents to participate in these studies. The loss of a child is such a traumatic event that parents may refrain from completing questionnaires or participating in interviews on such a disturbing theme. Also, it may be that individuals who are more distressed do not participate in these studies (Dyregrov & Gjestad, 2011), which limits the generalizability of the results.

Concerning the samples' composition, given the sharing of the circumstances of death (both parents lost a child), it is important to include couples in the research. Parents within a couple lose the same child and have more in common than do two independent parents who lose different children. Given the similarities and interdependence within a couple, it is of major importance to recognize the interpersonal context in which grief occurs and, therefore, the importance of using the couple as the unit of analysis. In this review, we have noticed a growing effort in this direction (9 out of 20 studies included couples). In addition, as shown in the diagram of the study selection process, only three studies were excluded for including only mothers. We can therefore conclude that recent studies are beginning to consider the father's perspective. This constitutes a remarkable difference and an advantage in relation to previous studies that strengthens the applicability of the findings. However, particularly in studies that did not rely on couples, the number of participating fathers was substantially lower than the number of mothers (e.g., Titus & Souza, 2011).

Regarding the study design, the number of longitudinal studies (9 out of 20) is also noteworthy. Longitudinal prospective studies may produce more reliable data and may capture changes in behaviors and processes over time. It is also important to note that most of these studies had a quantitative design. The longitudinal studies specifically addressed the immediate (short-term) individual/marital adjustment of grieving parents given that most of them adopted 20 months post-death as the last assessment time

(e.g., Wijngaards-de-Meij et al., 2007; Wijngaards-de Meij et al., 2008). Nevertheless, as stated by Murphy, Johnson, and Wu et al. (2003), parents reported thinking about the death of their child daily 3 and 4 years after the event. Therefore, it is important that studies include not only recent deaths but also losses that occurred long in the past.

Several studies presented particular limitations, some of which were similar to those stated by Oliver (1999). These limitations should be considered when interpreting the studies' findings. In relation to the sample selection, several studies recruited parents through grief organizations, support groups, or clinical settings and/or the sample was self-selected (volunteer sampling). In addition, and regardless of methodological design, most studies' samples were heterogeneous, mainly in relation to the age of the child (from infancy to adulthood), the time since death and causes of death. This limitation can be attributed to the small size of these subgroups. If these subgroups were considered, the statistical power of the analyses would be reduced (e.g., Murphy, Johnson,

& Wu et al., 2003).

Most studies were conducted in developed countries and mainly with Caucasians. In addition, although 20 studies were included in this systematic review, the studies by Rogers (2005) and Rogers et al. (2008) reported overlap of the samples, as did the studies by Wijngaards-de Meij et al. (2007), Wijngaards-de Meij et al. (2008) and Stroebe et al. (2013). Therefore, the diversity of contexts included in this review might be even more limited. The lack of cultural and ethnic diversity also limits the generalization of the results and does not allow for an examination of the influence of culture on the grieving process. In grief research, future efforts should include participants from diverse cultural and ethnic backgrounds. As Rosenblatt (2013) noted, by examining how loss is understood and experienced in diverse cultures, we may be able to develop theories and prescriptions for dealing with loss that are sensitive to different cultural realities.

In the quantitative and mixed studies, there was also an inconsistency in the measures that were used, and some studies used unstandardized questionnaires and single-item measures. The majority of studies did not use a control group in their design. However, this approach may be justified by the primary purpose of these studies and by the fact that some variables cannot be compared. Indeed, most studies did not aim to examine whether these parents were more or less well-adjusted than normative samples; the main focus

was on how these parents were affected by the death of their child and which variables influenced their adjustment (e.g., Barrera et al., 2009; Kamm & Vandenberg, 2001; Murphy, Johnson, Wu, et al., 2003; Rellias, 2001; Rogers et al., 2008).

Limitations and strengths of the present review

Some aspects related to the methodology of conducting systematic reviews should be acknowledged. The systematic search was limited to publications published in English, which may have introduced publication bias. English language journals are predominantly published in developed countries, and this may limit exposure to other contexts. However, we believe that the use of broad terms in our searches, cross-referencing, searches by author name, and a hand search in journals of interest produced a thorough systematic review. Furthermore, to provide a comprehensive review of the existing literature, a broad range of study types (including qualitative) were considered relevant for the analysis. Conversely, the diversity of measurements and study types included (e.g., qualitative; mixed), did not allow us to conduct a meta-analyses in this systematic review.

Besides collecting information on the issue of central focus (marital outcomes after the loss of a child and the marital relationship as a predictor of individual adjustment), relevant information regarding demographics, study design and sample selection was also included. As previously stated, in addition to challenging some of the results reported in the literature reviews of Oliver (1999) and Schwab (1998), this systematic review also thrived by addressing the multidirectional relationship between grief (and individual adjustment) and the marital relationship, considering both what influences and what is influenced by the marital relationship. Finally, besides including useful implications for therapy, to the best of our knowledge, this work was the first attempt to systematically assess and summarize the methodological aspects of recent studies in this area. Some useful insights for future studies are provided below.

Directions for future research

Considering the limitations mentioned above, some directions for future research emerge. Research studies have traditionally focused on the personal effects of a traumatic event on individual family members, whereas less attention has been given to systemic outcomes. By understanding the effects of a

traumatic event such as the death of a child on each member of a couple individually and as a dyad, important information about why couples' relationships grow stronger or weaken may be gained. Therefore, studies should continue to focus on the variables that may influence marital adjustment. For example, Toller and Braithwaite (2009) found that parents' acceptance of differences in grieving increased their cohesion. This ability to accept dissimilarities may be influenced by pre-death relationship characteristics. However, the role of this variable has been explored only superficially. Longitudinal studies that include data collection during pre-loss and post-loss time periods could be particularly important. However, the pre-loss data would have to be confined to long-term disease situations, where the parents' relationship characteristics could only be gathered at the diagnosis and disease phases. Also, although the retrospectively gathering of data related to pre-death relationship characteristics can be seen as a limitation, this still represents the guide that parents have of their marital reality before the death and therefore it is relevant on its own. Regarding the post-loss periods, it will be important to avoid data collection immediately after the dead of a child and periods particularly sensitive (e.g., 12 months after the event).

In the present review, some relevant variables, such as the child's age at the time of death, the family of origin's processing of trauma, and finding meaning, were mentioned in only one study. These aspects require further examination to corroborate the findings of the reviewed studies. Also, the direction of the association between the existence of surviving children and marital adjustment remains unclear. It is plausible that the influence of having other children might be dependent on the quality of the parent-child relationship. In addition, how does the marital relationship influence the parent-surviving child relationship? Given the limited evidence on this question the roles of different family relationships during the parental grieving process may also be the focus of future studies. To achieve this, it would be relevant to collect data from both informants, that is, to take into account the perception of both the parents and the surviving children.

Research also seems to have neglected not only the impact of the death of a child on the couple's relationship but also the potential role of marital characteristics in coping with bereavement. Future research on the role of marital quality in individual adjustment is needed. Efficacy studies should observe the contribution of interventions focused on the marital relationship. Moreover, previous research has focused on the importance of considering interactive processes when studying bereaved parents (Stroebe,

Schut, & Finkenauer, 2013). These authors have particularly highlighted the relevance of interdependence theory, which recognizes mutual influences between partners. This directionality may be examined by adhering to proper statistical analyses, such as the Actor-Partner Interaction Model (Cook & Kenny, 2005), which enables the examination of both between- and within-person processes. Future studies should therefore take into account the actor and partner effects and should assess the characteristics and outcomes of both members of the dyad. This approach would enhance understanding of how one partner's characteristics (e.g., coping, perceptions of the partner's responses to loss, attachment representations) affect his/her partner's characteristics and outcomes. Another feasible approach was provided by Stroebe et al. (2013), who analyzed the associations between partners' ratings of their own POSR and grief, and their partner's POSR and grief. By acknowledging the plausibility of the reverse relation, these authors conducted multilevel regression analyses with grief as the independent variable and POSR and concern as dependent variables. This approach provides therefore a valuable example on how to examine bidirectional effects.

Given the theoretically meaningfulness of bidirectional effects, some important research questions should be considered in future research: what happens in couples when one member of the couple shows low distress after the loss, whereas the other spouse experiences intense distress? In such cases, would the individuals who are more distressed benefit from the presence or availability of a more resilient spouse? Would the lack of congruence in the experience of individual members lead to misunderstandings and individual coping efforts that interfere with one another? Some of these questions address the importance of interpersonal dynamics and are likely to assume considerable prominence in the examination of couples' adjustment after the death of a child.

Regarding relationship status, most of the studies reviewed included only married parents, with only two studies (Dyregrov & Gjestad, 2011; Eilegard and Kreicbergs, 2010) including cohabiting parents. The question of whether relationship status is important is an aspect that remains unanswered and therefore warrants focus in future research.

Finally, as argued by Hooghe, Mol, Baetens and Zech (2013), future studies should use a multi-method approach by including both quantitative and qualitative methods. Qualitative research can provide a particular contribution by exploring themes about which there is little knowledge or theory and exploring questions that quantitative methods cannot address. By complementing each other, qualitative and

quantitative research can contribute to understanding the multidimensional and dynamic complexity of couples after the loss of a child.

Also, by exploring the robustness of the main findings using sensitivity analysis, a meta-analysis approach should be considered in future studies.

Clinical implications

Bereaved parents have a need for support and connection from their spouses. However, in this context, the ability of partners to meet these needs may be compromised. These parents have experienced a mutual loss, and they may not have the resources to comfort each other (Rosenblatt, 2000). Therefore, when involving both parents in interventions, it is essential to assess how this traumatic event may have altered the relationship (e.g., communication, sexuality, intimacy) and which bereaved parents might be at higher risk of maladjustment. At the same time, given the evidence of resiliency in couples (e.g., Barrera et al., 2009), bereaved couples need to be informed and reassured that relationships can and do survive after a child's death (Rosenblatt, 2000). Assessment should also focus on the mechanisms by which couples can maintain or develop marital closeness and prevent relationship breakdown (Song et al., 2010). Furthermore, given the potentially protective role of marital closeness on parents' individual adjustment (Song et al., 2010), psychological interventions should focus on helping couples manage their difficulties and on maximizing couples' resources to cope with the loss of their child.

Considering the results of this review, two particular aspects emerge as especially important in work with bereaved couples: incongruent grieving and communication. Couples' mutual understanding of theirindividual grief responses has been associated with marital adaptive adjustment (Essakow & Miller, 2013). In order to provide the parents with valuable anticipatory guidance, mental health professionals should focus on early interventions such as psychoeducation. Both parents should be given information about differences in coping with the loss, grief manifestations and their potentially detrimental role on the marital relationship. Moreover, parents may also hold rigid expectations about how their partner should grieve. Therefore it is important to assist couples in exploring the similarities and differences in their own grief responses and in understanding the origin of these differences (Rosenblatt, 2000).

Additionally, given the importance of communication within a couple and the likelihood that difficulties in this area may arise after the loss of a child, information about couples' communication strategies should be made available to the parents. For example, the complexities of communication with regard to talking as well as remaining silent should be discussed, and dissimilar meanings related to sharing grief experiences with the other parent should be explored (Hooghe, Neimeyer & Rober, 2011). In addition to the sharing of emotions, the importance of rituals to cope with the loss of the child has also been highlighted as an important aspect of dyadic coping (Bergstraesser et al., 2014). These interventions may help parents increase their empathy toward each other. In sum, for parents to rebuild their lives and relationships and move on following the loss of a child, it is important that they to do so together as a couple (Essakow & Miller, 2013) and acknowledge, communicate and respect their individual grieving needs (Toller & Braithwaite, 2009).

Ethical considerations

Despite acknowledging the undeniable vulnerability of bereaved parents and the expected expression of negative emotions associated with the research process, there is sufficient evidence that bereaved individuals can participate safely in research and that many parents find this process helpful (Barrera et al., 2009; Dyregrov, 2004; Stroebe, Stroebe, & Schut, 2003). However, a positive research experience can also be difficult, distressing or painful (Cook, 1995). Therefore, specific ethical considerations that may minimize the potential risks of the research process should be considered.

Recommendations for conducting ethical bereavement research include standard ethical considerations, such as the use of voluntary consent, the ability to refuse participation during enrollment in the study or to withdraw at any time, information about the risks and benefits of participation and the assurance of anonymity and confidentiality (Stroebe et al., 2003). However, given the sensitivity of the theme, additional specificities should be considered. For example, in a study by Dyregrov (2004), participants recommended that grief researchers should contact them by letter when approaching for the first time, provide detailed written information before participation, allow participants to decide on the location of the meeting, listen respectfully, be empathetic and cautious, allow participants to think and ask questions, give participants extra and adequate time and provide care, discuss the results with the participants and allow them to give feedback. Additionally, participants recommended the use of trained interviewers with knowledge of bereavement processes and offers of follow-up conversations. In fact, not only must the

research project staff be qualified in general but the researcher responsible for data collection must also be particularly skilled to proceed adequately during sample collection in the event that a participant becomes distressed after sharing his/her emotions in the context of the study (e.g., establish a backup system of professional help; Stroebe et al., 2003).

Conclusion

The present review systematically assessed and summarized the methodological aspects and findings of recent studies on how the marital relationship is affected and how it affects individual adjustment after the loss of a child. Bereaved parents are not a homogeneous group. Although the death of a child can constitute a serious risk factor for marital dissolution, this event can also impact a couple's relationship in a positive way (cohesive effects). This article sheds light on the factors – situational, dyadic and individual – that contribute to adaptive and maladaptive marital responses to the loss of a child. The findings of this review also show that the potential role of marital quality, support and dyadic coping in the individual adjustment to the death of a child (e.g., HRQoL, post-traumatic growth and depressive symptoms) should be considered. It is important for future research to include larger samples, privilege the use couples, and use longitudinal data while consistently taking into account the ethical aspects of studying such a vulnerable group and such a sensitive theme. When working with bereaved parents, the two aspects that are of utmost importance are the marital assessment (including risk and protective factors) and the maximization of parents' strengths, with the aim of improving parents' functioning in a way that is supportive to each of them individually.

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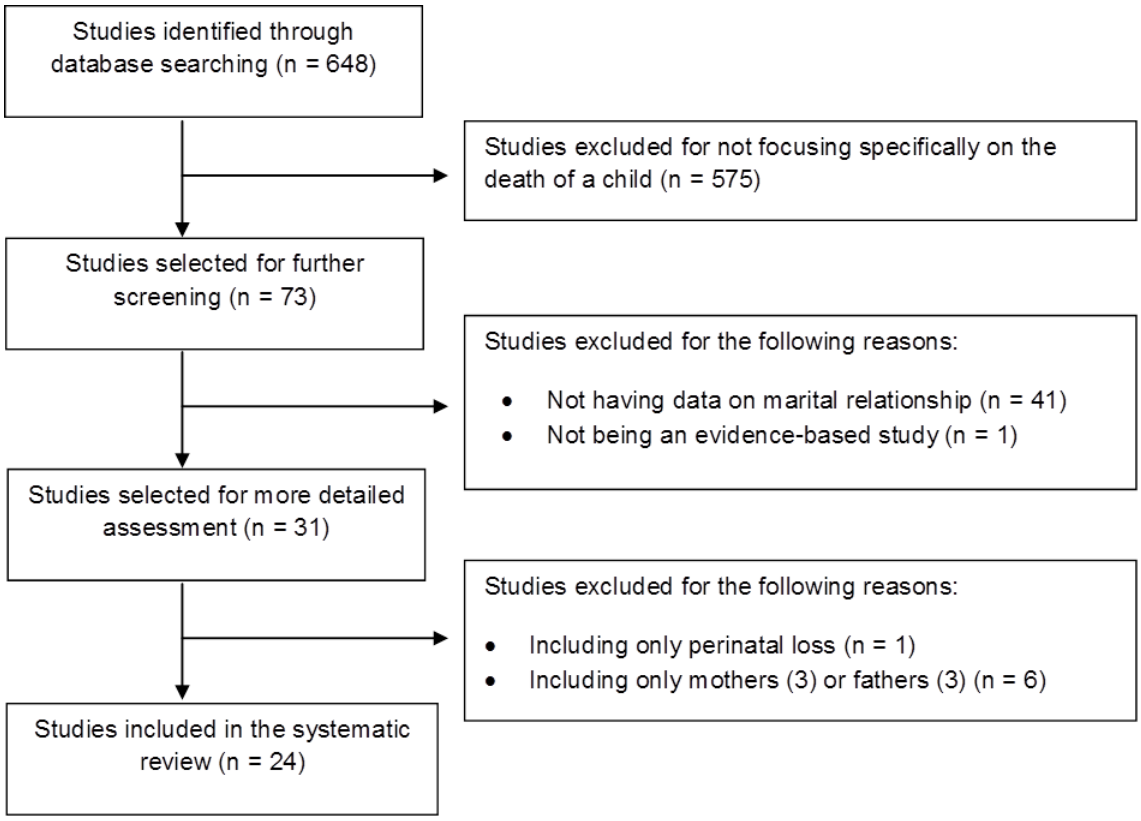


Figure 1. Flow diagram of the study selection process

Table 1.

Summary of quantitative studies reviewed

Authors	Study design	Sample	Child's age *M* (*SD*) / range	Assessment time / Time post-death	Relevant measures	Relevant results (for this review)
Bolton et al., 2003	Quantitative, longitudinal	1415 parents of children who died by suicide 1132 parents of children who died in a motor vehicle crash (MVC) 1415 non-bereaved parents	Suicide *M (SD)* = 30 (10.8) MVC *M (SD)* = 25 (11.0)	Pre-death period (2 years prior to offspring death) Bereavement period (2 years following offspring death)	Marital status (Health Registry Databases)	Parents had higher rates of marital breakup after their offspring's death by suicide compared with non-bereaved parents and parents who lost their child in a MVC.
Eilegard & Kreicbergs, 2010	Quantitative, cross-sectional	561 bereaved parents whose children died from cancer 659 control parents	Under the age of 25 year *M* (*SD)*: NA	4 to 9 years post death *M* (*SD)*: NA	Swedish national registers Questions about marital status	Bereaved parents were found to be significantly more likely than controls to be married to or living with their child's other parent.
Kamm & Vandenberg, 2010	Quantitative, cross-sectional	36 couples who experienced the death of a child. Circumstances of death: NA	2 to 18 years *M* (*SD)*: NA	*M* = 4 years and 10 months *SD*: NA	Attitudes towards Emotional Expression Scale Index of Marital Satisfaction	No significant association between attitudes about communication and marital satisfaction was found. Positive attitudes about grief communication were related to marital satisfaction only for women.
Lyngstad, 2013	Quantitative, longitudinal	120,417 divorced parents in Norway from 1970 to 2003 4170 bereaved couples Circumstances of death: NA	Under 20 years of age. More than half of these deaths took place at first six months after the child's birth; three quarters took place before the child's fifth birthday *M* (*SD)*: NA	NA	Norwegian national registers	Bereaved parents have higher divorce rates than other parents. This difference was observed across several family sizes and strengthens somewhat over time. Post-bereavement fertility did not affect the increase in divorce risk.

Polatinsky & Esprey, 2000	Quantitative, cross-sectional	67 parents Circumstances of death: motor vehicle accidents, suicide, homicide, illness, and unspecified.	NA	6 months to 8 years post death *M* (*SD)*: NA	Demographic data Post Traumatic Growth Inventory (PTGI)	Mean scores in total PTGI total and in four of the five factor scores (excepting Spiritual Change) were higher for married than for non-married respondents (single, divorced, widowed). There was a significant difference only in the factor Appreciation of Life.
Rogers, 2005	Quantitative, longitudinal	713 bereaved and 713 non-bereaved parents Circumstances of death: NA	Under the age of 1 year to older than 25 years *M* (*SD)*: NA	*M* = 20 years post death *SD*: NA Data from three time points were used: Time 1 (1957) -pre-parenthood; Time 2 (1975-77) parenting children in middle childhood; and Time 3 (1992-94) - midlife parenting.	Questions developed by the author regarding marital history (number of times married, duration of current marriage, marriage to spouse of deceased child)	Having other children at the time of death was associated with higher divorce rates for bereaved women.
Rogers, Floyd, Seltzer, Greenberg, & Hong, 2008	Quantitative, longitudinal	428 parents per group (144 fathers and 284 mothers) Control group (*N* = 428; 144 men and 284 women)	Infancy to age 34 *M (SD)* = 10.23 (10.44)	*M* = 18.05 years post death (*SD* =10.57) 1992: when participants were 53 years old and had experienced the death of a	Duncan's Socio-Economic Index	Compared to the parents of the control group, bereaved parents were more likely to have experienced marital disruption. Having other living children in the household at the time of the death predicted less marital disruption for the bereaved parents.

		Cause of death: complications of pregnancy, childbirth, and at the puerperium, congenital anomalies, illnesses, external causes of injury and poisoning, accidents and suicide.		child between 1957 and 1992.		
Song, Floyd, Seltzer, Greenberg, & Hong, 2010	Quantitative, cross-sectional	233 bereaved couples 229 comparison couples Circumstances of death: infant death (before the child's first birthday); after the child was one year of age: violent death; illness.	NA	*M* = 21.1 years (*SD* = 13.8)	Health Related Quality of Life measured by Health Utilities Index Mark 3 (HUI-3)	Marital closeness was a significant predictor of better health-related quality of life of bereaved couples.
Stroebe et al., 2013	Quantitative, longitudinal	219 couples whose children died by neonatal/stillbirth, illness/disorder, accidents/suicide or homicide.	*M (SD)* = 10.2 (10)	6, 13, and 20 months post death	Dutch version of the Inventory of Complicated Grief Item constructed by the authors based on the Relationship-Focused Coping Scale to assess the Partner-Oriented Self-Regulation (POSR).	One partner's POSR was associated not only with an increase in his or her own grief but also with an increase in the other partner's grief. These relationships persisted over time: self-reported and partner-reported POSR predicted later grief.
Vollbehr, 2011	Quantitative, longitudinal	27 couples who had lost a child: 21 participated in the experimental group (attended the support group) and 6 in the control group (did not attend the support group) Circumstances of death: violent and non-violent	Experimental group *M (SD)* = 16.7 (11.1) Control group *M (SD)* = 26.3 (16.0)	Before the program started (T1), shortly after the program has ended (T2) and at three follow-up points: 6 months, 18 months and 42 months later Experimental group: *M* = 9.2 months post death *SD* = 5.9 months	Dyadic Adjustment Scale Inventory of Traumatic Grief	No statistically significant differences were found between congruently and incongruently grieving couples on marital satisfaction, although fathers scored higher on marital satisfaction when the grief symptoms of their spouse were more intense. Mutual support group participation did not significantly increase marital satisfaction in bereaved couples. A significant interaction effect was found for Time x Group x Congruency on marital satisfaction; however, this effect was mainly caused by low

				Control group: *M* = 22.5 months post death *SD* = 20.0 months		baseline scores of congruent couples in the control group.
Wijngaards-de-Meij et al., 2007	Quantitative, longitudinal	219 couples whose child died by neonatal death or stillbirth, through illness or disorder, accident, SIDS, suicide, or homicide.	Stillborn to 29 years old *M (SD)* = 10.2 (9.8)	6, 13, and 20 months post death	Symptom Checklist-90 Inventory of Complicated Grief Adult Attachment Scale Relational Interaction Satisfaction Scale	Marital satisfaction partially mediated the association between anxious attachment and depressive symptomatology. There was a resemblance in depressive symptoms within the couples.
Wijngaards-de Meij et al., 2008	Quantitative, longitudinal	219 couples whose children died by neonatal death or stillbirth, through illness or disorder, accident, SIDS, suicide or homicide.	Stillborn to 29 years *M (SD)* = 10.2 (9.8)	6, 13, and 20 months post death	Dual Coping Inventory Symptom Checklist-90 Inventory of Complicated Grief	In the interpersonal context, results indicated that for men, having a female partner high in restoration-oriented coping was related to positive psychological adjustment.

Note. NA: Not available; SIDS: Sudden infant death syndrome.

Table 2.

Summary of qualitative studies reviewed

Authors	Study design	Sample	Child's age *M* (*SD*) / range	Assessment time / Time post-death	Interview topics / Research Questions Data Analysis	Relevant results (for this review)
Barrera et al., 2009	Qualitative, cross-sectional	18 mothers and 13 fathers whose child died from cancer	8 months to 20.7 years *M (SD)* = 9.2 (6.2)	6 months post death	Open-ended questions regarding changes in daily routines, work, and relationships with friends and family following the death. Data Analysis: grounded theory methodology	The majority of parents described the marital relationship as a source of stability and support throughout the bereavement and adjustment process (partner-stability) and believed that they and their partners had become closer. Additionally, many parents felt that their relationship had strengthened.
Essakow & Miller, 2013	Qualitative, cross-sectional	8 married parents (3 males and 5 female) whose child died by drunk-driving fatalities, suicide and homicide	18 to 22 years *M* (*SD*): NA	8 to 18 years post death *M* (*SD*): NA	Nine questions concerning how their marriage/partnership had changed since the child's death. Data Analysis: thematic analysis	The essence of relationship resilience included: (1) feeling safe, secure, and protected; (2) mutually understanding; and (3) ability to reintegrate and reorganize their relationship.
Paley, 2008	Qualitative, cross-sectional	5 couples	1-14 years of age *M* (*SD*): NA	2 to 9 years post death *M* (*SD*): NA	Main interview question: How have you coped as a couple with the transition from having an ill child receiving palliative care to being bereaved? Data Analysis: holistic categorical content methods	Themes emerged: (1) the last thing you worry about are issues about us; (2) accommodating one another's coping; (3) recognizing sources of support and limitations; (4) two souls against the world; and (5) we have a common bond: lessons and legacy of the child.
Reilly-Smorawski, Armstrong, & Catlin, 2002	Qualitative, cross-sectional	54% of bereaved parents of babies who were in the NICU *N* = NA Circumstances of death: NA	NA	3 to 5 months post death (*M* = NA)	Categories of topics for discussion: (a) the baby's death and related events, (b) personal grief experiences, (c) couple issues including gender-related grieving and communication, and (d) the future. Data Analysis: NA	During a 12-week bereavement program, bereaved parents talked about couple issues including gender-related grieving and communication.

Rellias, 2011	Qualitative, cross-sectional	21 parents (13 females and 8 males) whose child died from premature birth, car accident, hit-and-run car accident, SIDS, drowning, sleep apnea, drug overdose.	6 hours to 18 years old *M* (*SD*): NA	3 to 15 years (*M* = 6.5 years)	General and specific questions regarding (a) pre-death couple´s relationship; (b) life style/roles and changes in these areas; (c) views concerning the death of the child; (d) post-death changes in all areas of the couple's relationship; (e) marital status before and after the child's death and reason for any changes; (f) other changes in self and as a couple; (g) support system after the death of a child; (h) grieving process; (i) perceived problems and perceived ability to solve problems; and (j) perceptions on overall change in relationship after the death of a child. Data Analysis: grounded theory methodology	The majority of the participants noted that their relationship with their partner was better than it was prior to the death of their child. The aspects that influenced marital outcomes were pre-existing conflicts in the relationship; the nature and quality of togetherness and support that the couple perceived in their family and with each other; the ways that trauma and loss were processed in the family of origin and families of participants prior to the loss of their child; closeness/rigidness or openness of the couple system; and ability to share experiences with the partner and grieving as a couple.
Titus & Souza, 2011	Qualitative, cross-sectional	10 parents (8 women and a couple) whose child died from illness	5 days to 17 years *M* (*SD*): NA	1 to 5 years post death *M* (*SD*): NA	Each parent was asked to write life stories in response to four different prompts: (a) changes in family interactions before the death of the child; (b) changes in family interactions after the death of the child; (c) reactions of friends, family and others before the death of child; and (d) reactions of friends, family, and others after the death of child. Data Analysis: thematic analysis	For some parents, the death of the child brought them closer together, but others talked about how the relationship was destroyed. Communication also played a crucial part in the process of healing after the death, and talking about the deceased child helped families to grow and rebuild after undergoing changes following the death of the child.
Toller & Braithwaite, 2009	Qualitative, cross-sectional	37 bereaved parents whose child died by stillbirth or congenital anomalies and suicide (24 women and 13 men)	0 to 42 years (*M* = 14.3 years) *SD*: NA	6 months to 19 years post death (*M* = 6.75 years) *SD*: NA	Research questions: -What dialectical tensions do bereaved parents experience when communicating with their marital partner? - How do bereaved parents and their marital partners communicatively manage these dialectical tensions?	Bereaved parents expressed a desire to grieve with their spouse to provide each other with comfort and support. At the same time, parents indicated that they sometimes needed to grieve on their own because their experience of grief was different from that of their partner. Bereaved parents experienced competing needs to be both open and closed when it

	Data Analysis: thematic analysis	came to communicating with one another about their child's death.

Note. NA: Not available; NICU: Neonatal Intensive Care Unit; SIDS: Sudden infant death syndrome.

Table 3.

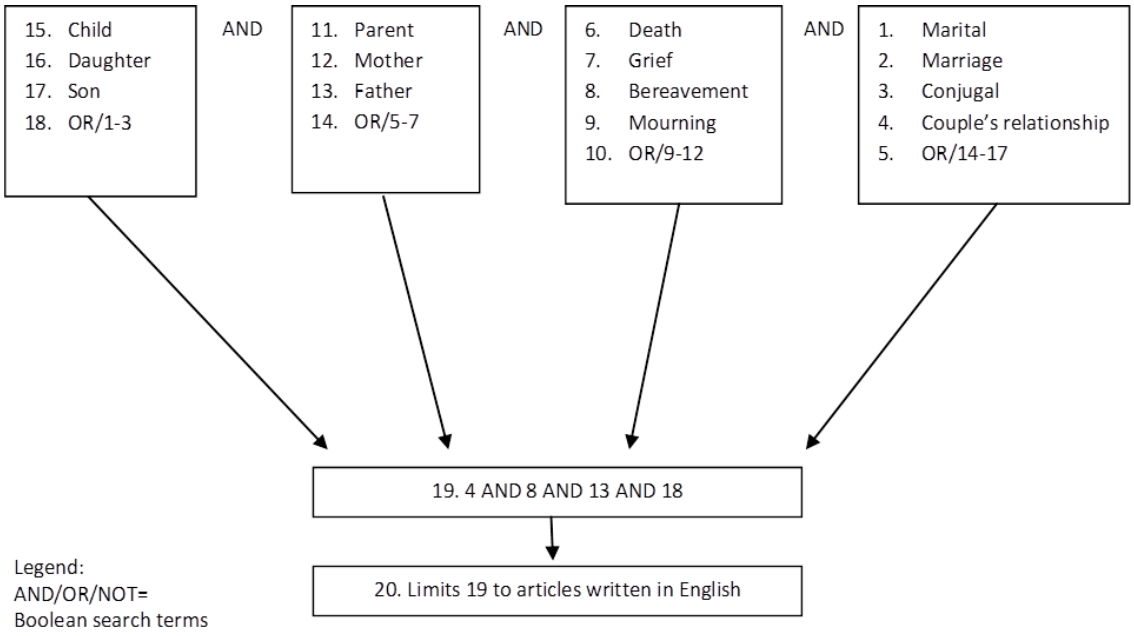
Summary of mixed studies reviewed

Authors	Study design	Sample	Child's age *M* (*SD*) / range	Assessment time / Time post-death	Relevant measures and Interview topics / Research Questions Qualitative Data Analysis (QDA)	Relevant results (for this review)
Arnold, Gemma, & Cushman, 2005	Mixed, cross-sectional	74 parents whose child died from congenital and prematurity/birth-related complications, illness and unexpected causes	40% of the children died at the age of 1 year or younger. The mean age of children older than 1 year was 22 years *SD*: NA	1 year or less to 62 years post death (*M* = 24.4 years)	The quantitative and qualitative items of the questionnaire were designed specifically for this project. Quantitative items were related to the child's death and the associated grief. Qualitative items allowed respondents to describe how specific images representing the experience of grief (including an erupting volcano; a well into which one descends; a tree that has lost a limb; and a hollow or empty space) related to their experiences of loss. QDA: thematic analysis; constant-comparative analysis	Nearly half the sample (n = 34) reported a wide range of marital changes, including strained relationships, reduced communication with spouses/partners, and significant distancing resulting in divorce.
Bergstraesser, Inglin, Hornung, & Landolt, 2014	Mixed, cross-sectional	23 couples whose child died due to a life-limiting illness	1 to 18 years old Deaths by: -oncology illnesses Girls *M (SD)* = 13.9 (5.3) Boys *M (SD)* = 7.4 (2.3) -non-oncology illnesses Boys *M (SD)* = 8.9 (5.7)	12 months to 5 years	Interview: individual and dyadic coping of parents after the child's death. SF-12 Health Survey Center for Epidemiological Studies Depression Scale Texas Revised Grief Inventory Dyadic Coping Inventory QDA: reconstructive-hermeneutical method; content analysis	Aspects of common dyadic coping (e.g., sharing emotions or maintaining bonds to the child) helped the parents work through their grief as a couple but also individually.
Dyregrov & Gjestad, 2011	Mixed, cross-sectional	169 women and 116 men, representing 175 couples whose child died by various causes:	The child's mean age at death was 14.4 months (*SD* = 34.4) but varied from 0 months (stillbirth	The mean time since the child's death was 73.1 months (*SD* =	Questionnaire developed by the authors about the deceased child and the couple's relationship	Approximately 2/3 of the parents had resumed sexual contact within the first 3 months after their child's death. The sexual activity of approximately 1/3 of parents decreased.

		stillbirth (39.1%); SIDS (25.5%); other illnesses (24.5%); accidents (7.3%); and unreported or other causes (3.6%) 10 couples who lost a child from SIDS, stillbirth and accidents were interviewed in depth	and deaths on the day of birth) to 17 years	66.1 months; range 2 months to 28 years). The amount of time since the death varied across causes (SIDS = 116.4 months; accidents = 94.9 months; illness = 69.4 months; and stillbirth = 47.2 months).	history, particularly related to intimacy and sexuality. QDA: interpretative phenomenological analysis	Significantly fewer mothers than fathers experienced sexual pleasure, and nearly 30% of mothers reported that this had decreased since the death. Only 11% of parents raised sexuality as an issue in follow-up conversations. Many parents had a few sexual problems following the child's death, but a minority, especially women, experienced major problems. There were clear gender differences in reactions and perceptions, often agreed upon by the two genders. Men were ready to resume sexual activity much earlier than women were. Women suffered much more from grief that interfered in multiple ways in their sexual lives and they more often perceived sex as somehow being wrong. Men easily misunderstood women's need for closeness as a wish for sex.
Murphy, Johnson, & Lohan, 2003	Mixed, longitudinal´	138 parents who lost an adolescent or young adult child by accident, suicide or homicide	12 to 28 years old *M* (*SD*): NA	4, 12, 24, and 60 months post death	Dyadic Adjustment Scale (Satisfaction subscale) Others questions constructed by the authors: "How have you searched for meaning in your child's death as well as in your own life?" QDA: analysis involved reading of the text by the first author, coding by response, and then counting the number of responses for each of the coded categories	Parents who found meaning in the deaths of their children reported significantly higher marital satisfaction.
Murphy, Johnson, Wu, Fan, & Lohan, 2003	Mixed, longitudinal	173 parents whose child died by accident, suicide, homicide or undetermined	*M* = 20.7 years *SD*: NA	4, 12, 24, and 60 months post death	Dyadic Adjustment Scale (Satisfaction subscale) QDA: NA	All parents reported deterioration in their marital satisfaction over time. In general, this decline was associated with communication problems, potential separation and divorce, and parenting other children. Marital satisfaction

					decreased significantly over time and reached its lowest levels 5 years post death. The child's cause of death did not significantly influence this outcome.

Note. NA: Not available; SIDS: Sudden infant death syndrome.



Appendix A Supplementary Figure