



Complicated Grief After the Loss of a Baby: A Systematic Review About Risk and Protective Factors for Bereaved Women

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Abstract

This study sought to identify the factors associated with the development and prevention of complicated grief in women who have lost a baby. This is a systematic review of scientific articles in the main mental health databases: MEDLINE (PubMed), EMBASE, Latin American and Caribbean Health Sciences Literature (LILACS), and APA Databases (PsycINFO). The selection and data extraction processes occurred independently and blindly by two authors, considering the eligibility criteria. The analysis included publications from 2013 to 2021 of observational studies with adult women who had experienced losing a baby (during pregnancy up to 2 years of life) and that employed standardized instruments to evaluate grief. From the 8,200 records found, 23 articles were selected for analysis. As risk factors, we identified the presence of mother's psychopathology, history of gestational loss, and social pressure for a new pregnancy, while as protective factors, we identified the presence of another child other than the deceased one, the quality of specialized healthcare, and the social support provided by either a partner, community, or spiritual activities. Furthermore, the studies pointed to the event of losing a baby as an opportunity for posttraumatic growth. Although complicated grief is often associated with other mental health conditions, such as anxiety, depression, or post-traumatic stress, it is necessary to differentiate it for a clearer understanding of the complicated grief as a singular condition, to enable access to appropriate care for bereaved mothers and families, as well as to promote public policies which provide support to them.

Keywords Complicated grief · Prolonged grief · Parental mourning · Bereavement · Child loss

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Introduction

The understanding of complicated grief as a singular and distinguished condition in the field of mental health is recent. This experience represents a complex process, triggered by the reality of the death of someone with whom the individual has established a close relationship. The loss of a baby is especially considered a risk factor for the development of complicated grief (APA, 2013). It is understood that the early death of a baby or a young person breaks the logic of life cycle and makes it hard for parents to elaborate on this loss (Coelho Filho & Araújo Lima, 2017). Losing a baby has an expressive impact on the family, especially on mothers. This loss entails the break of expectations and idealizations about the baby and demands a painful process of coping (Mendonça, 2018). The rupture of the parent–child bond denotes a complex identity change for parents, making the process of parental mourning an extremely unique experience, with consequences on parenthood and conjugality (Coelho Filho & Araújo Lima, 2017; Franqueira et al., 2015; Morelli et al., 2013).

The fifth update of the *Statistical Manual and Diagnosis of Mental Disorders* (DSM-V) has designated, for the first time, a special and distinct category for this condition, called persistent complex bereavement disorder (PCBD) (APA, 2013; Weir, 2018). PCBD is characterized by the persistence of mourning symptoms for at least 12 months after the loss. Such symptoms include, from the moment of the loss, (1) persistent yearning or longing for the deceased, (2) intense sorrow and emotional pain, (3) concerns with the deceased, and (4) concerns with the circumstances of death (APA, 2013). These symptoms must be related to at least six additional symptoms to point to the presence of the disorder, such as difficulty in accepting the reality of the loss, distressing memories, anger towards the loss, maladaptive assessments regarding both themselves and the deceased, excessive avoidance of memories about the loss, desire to die to be close to the deceased, low trust in others, isolation, disbelief in a purpose of life without the deceased, impaired sense of identity, and difficulty in performing activities and planning for the future (APA, 2013).

There is, however, a wide scientific debate about whether such criteria, especially concerning the duration of symptoms, may contribute for the grievers in serious conditions not to be identified and treated in the initial stages of suffering, which could help prevent chronic conditions of grief (Weir, 2018). It is also pointed out that the inclusion of this condition as a disorder could represent a risk of “pathologizing” grief, as it is also part of expected life experiences. Moreover, such criteria could exclude important particularities that describe different types of losses (Franco, 2010; Rando et al., 2012; Santos, 2017). The discussion is extensive, and, therefore, researchers and clinicians in the grief area have decided to include the PCBD as a “special condition” in the DSM-V, not yet for clinical use, but for stimulating the development of

research to clarify and deepen the understanding of the topic, confirming or refuting the ideas proposed in the fifth update of the manual. As advantages of improving knowledge on mourning, there is the possibility of acknowledging the condition in public policies, expanding the bereaved population's access to specialized care, as well as preventing serious cases (Franco, 2010; Rando et al., 2012; Santos, 2017).

Systematic reviews published on this topic (Burden et al., 2016; Burke & Neimeyer, 2012; Hunter et al., 2017) have limitations regarding recentness, presenting an analysis of articles up to 2015, which reveals a need for an update (Burden et al., 2016); eligibility criteria, due to the consideration only of studies with case–control design (Hunter et al., 2017); and sample characteristics, as they did not include as participants women who specifically lost a baby (Burke & Neimeyer, 2012). These aspects justify the continuity of studies and the organization of this systematic review to improve them. To provide health professionals with an acquaintance with the scarcely understood and little studied theme of complicated grief after the loss of a baby, we organized a systematic review based on the following research question: “What are the factors associated to complicated grief in women who lost a baby (from the pregnancy up to the first 2 years of the baby's life)?”.

Methods

This systematic review was conducted following the Cochrane Collaboration Handbook (Cumpston et al., 2019) and reported according to the PRISMA guideline (The PRISMA 2020 statement: an updated guideline for reporting systematic reviews) (Page et al., 2021). The study protocol was recorded at PROSPERO—International Prospective Register of Systematic Reviews (<http://www.crd.york.ac.uk/PROSPERO/>), under the approval number CRD42019130209.

Search Strategy

The search was conducted in relevant databases in the mental health area: MEDLINE (PubMed), EMBASE, Latin American and Caribbean Literature on Health Sciences (LILACS), and APA Databases (PsycINFO) until May 03, 2021. The search strategy was composed of indexed (i.e., subject headings) and free-text terms related to the participants (mothers), the exposure (experience of child loss), outcome (complicated grief), and type of study (observational studies). All terms were combined with Boolean operators, and the search strategy was adapted to the specifications of each database, as shown in Table 2 in Appendix. Language or date restrictions were not applied at this search stage but were considered after, in the study selection process.

Eligibility Criteria and Study Selection

All records identified in the database search were grouped in a reference manager software (*EndNote20*), and duplicates were removed. Following the typical process for selecting studies in systematic reviews, the selection was performed in two main stages, by two independent reviewers (KF; NGG), considering the following eligibility criteria:

- Inclusion criteria: year of publication (2013 to 2021), language (English, Portuguese, and Spanish), study design (observational studies), sample (adult women who had experienced losing a baby during pregnancy, childbirth, or after birth, up to 2 years of life), and use of standard instruments to measure the presence of grief or/and complicated grief
- Exclusion criteria: lack of full publication (such as abstracts of congress annals) or impossibility to obtain the full article, studies lacking descriptions of specific results about bereaved mothers, or the relationship of women with the lost person (making it impossible to identify maternal status), studies with mourners for loss of family members other than children, test validation studies, and multiple publishing

Potentially eligible and uncertain registers identified at the title and abstract screening (stage I) were selected for full-text assessment (stage II), in which the study eligibility was confirmed. After reading the full texts, disagreements regarding the eligibility of the studies were discussed among the reviewers, and if consensus was not reached, a third independent reviewer (DCL) was called to decide. At this stage, some articles were still excluded.

Data Extraction and Quality Assessment

From the included studies, the following information was extracted: country of origin, year of publication, methodological characteristics, including sample characteristics, and main results, especially the assessment of risk and protective factors associated with complicated grief.

The methodological quality of the included studies was also assessed. For this purpose, we employed the Study Quality Assessment Tool (National Heart, Lung, and Blood Institute [n.d.](#)), tailored to the study design (cohort and cross-sectional studies). This quality assessment comprised 14 questions about methodological characteristics, which all can be answered as “yes,” “no,” or “other” (which includes “cannot determine,” “not applicable,” and “not reported”). Considering the presence or absence of each methodological aspect assessed by the tool, the overall study quality can be graded as “good,” “fair,” or “poor,” following the tool guidance, which considers the potential risk of bias generated by methodological limitations identified in the studies. All data extraction and quality assessment were performed by two independent reviewers (KF; NGG) and validated by a third reviewer (DCL).

Results

Study Selection

A total of 8,200 records were identified in the searches. After exclusion of duplicates and selection by titles and abstracts, 31 studies were fully read, of which 23 met the eligibility criteria and were included in this review. Figure 1 summarizes the selection process.

The results are presented considering authorship, year of publication, country of origin, methodological characteristics (design, instruments, and participants), main results, and the quality rating of the studies, as shown in Table 1.

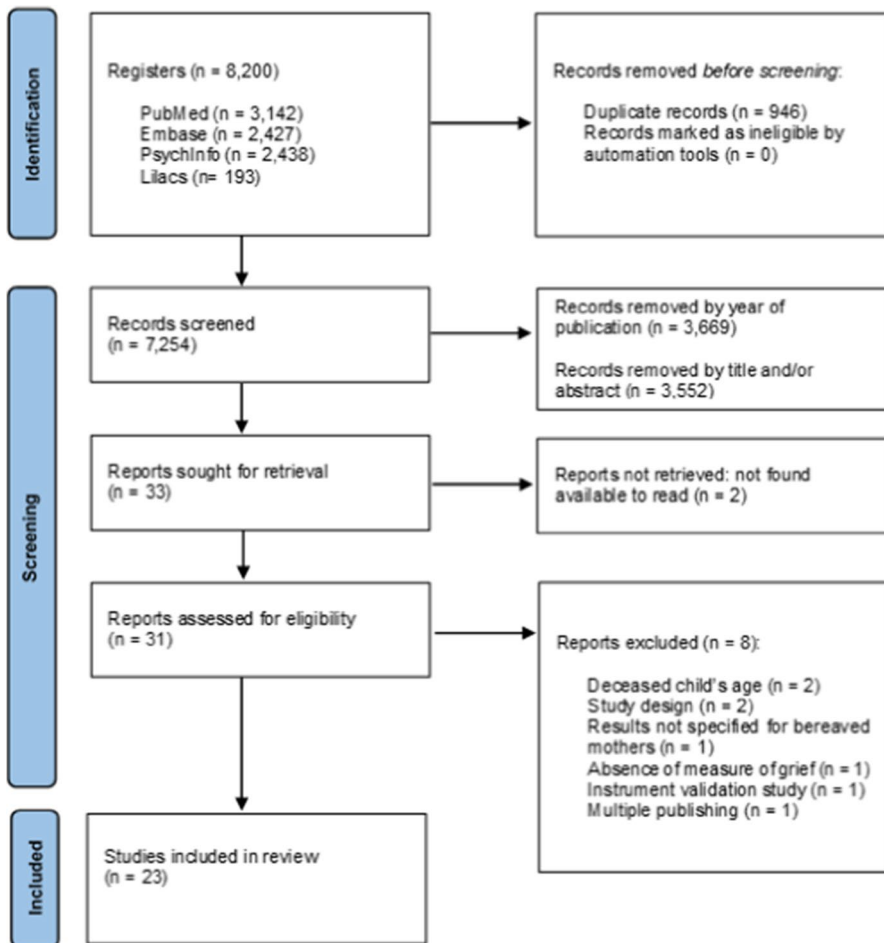


Fig. 1 Flow diagram of the selection process by PRISMA

Table 1 Authorship, DOI, country of origin, title, sample characteristics, main results, and quality rating of the articles included in this review ($n = 23$)

Authors, year, and DOI	Country	Title	Sample characteristics	Main results	Quality rating*
Al-Maharma et al., 2016 https://doi.org/10.1002/hmhj.21570	Jordan	Maternal grieving and the perception of and attachment to children born subsequent to a perinatal loss.	190 mothers of healthy newborns born at term after a recent perinatal loss.	The study showed that, shortly after the birth of a healthy child, women with a previous history of perinatal loss had low to moderate levels of grief intensity, activated grief, and difficulty in dealing with despair Emotional pain due to perinatal grief was negatively related to maternal affectivity with the child following perinatal loss.	Fair
Clark et al., 2021 https://doi.org/10.1016/j.jpainsym-man.2021.02.015	USA	Parent perceptions of infant symptoms and suffering and associations with distress among bereaved parents in the NICU.	40 mothers and 27 fathers of infants who died within the previous 5 years in a large NICU.	Findings indicated that parents bereaved in the NICU reported elevated levels of distress, and the symptoms and suffering at the end of life were associated with greater PTSS and prolonged grief More specifically, maternal perception of several symptoms was associated with elevated PTSS and PG, while the paternal perception of infant suffering was associated with elevated PTSS and PG.	Fair
DeMontigny et al., 2017 https://doi.org/10.1007/s00737-017-0742-9	Canada	Women's persistent depressive and perinatal grief symptoms following a miscarriage: The role of childlessness and satisfaction with healthcare services.	245 women who had experienced at least one miscarriage in the past 6 years.	The study indicated that depressive symptoms and perinatal grief may persist long after a miscarriage, for more than 2 years after the loss Results also revealed that symptoms of perinatal grief decreased significantly over time only for women with children and for women who were satisfied with health services.	Fair

Table 1 (continued)

Authors, year, and DOI	Country	Title	Sample characteristics	Main results	Quality rating*
DeMontigny et al., 2020 https://doi.org/10.1590/1518-8345.3382.3350	Canada	Protective and risk factors for women's mental health after a spontaneous abortion.	231 women who had experienced spontaneous abortion in the past 4 years.	The results pointed to two potential protective factors for women's mental health after spontaneous abortion: quality of the conjugal relationship and satisfaction with healthcare The results also indicated that the women who had a miscarriage within the past 6 months had higher scores for depression than those who had miscarried 7 to 12 months ago.	Good
Druguet et al., 2018 https://doi.org/10.1016/j.jogn.2018.01.004	Spain	Emotional effect of the loss of one or both fetuses in a monochorionic twin pregnancy.	28 women who had lost one or both fetuses in pregnancy of twins after fetal surgery or who had had a previous loss of 1 to 3 years.	Women who experience intense suffering related to the loss of one of the fetuses in twin pregnancies are at risk of developing psychological disorders that can negatively affect the surviving newborn.	Fair
Goldstein et al., 2019 https://doi.org/10.1017/S0033291718003264	USA	Pre-loss personal factors and prolonged grief disorder in bereaved mothers.	50 mothers whose children had died from sudden infant death syndrome.	Risk factors in mothers during normal pregnancy (anxiety, depression, alcohol use, previous loss, having a living child, and maternal age) provide for a significantly higher risk for prolonged grief after the unexpected and sudden deaths of their babies Risk factors have been identified as cumulative and with limited time, with a decrease after 2 years of loss, as well as symptoms of prolonged grief at high levels.	Fair

Table 1 (continued)

Authors, year, and DOI	Country	Title	Sample characteristics	Main results	Quality rating*
Hawthorne et al., 2016 https://doi.org/10.1016/j.pedn.2015.07.008	USA	Parent spirituality, grief, and mental health at 1 and 3 months after their infant's death in an intensive care unit (ICU).	165 bereaved parents (114 mothers, 51 fathers) of 124 deceased babies/children (69 in Neonatal ICU and 55 in pediatric ICU).	Most bereaved parents reported that spiritual, non-religious activities were more effective in helping them cope with their pain and mental health for a longer period.	Good
Inati et al., 2018 https://doi.org/10.1111/ajio.12661	Australia	A survey of the experiences of families with bereavement support services following a perinatal loss.	47 women who had had a perinatal loss.	This study found a high proportion of women after perinatal loss who had high scores for posttraumatic stress disorder (PTSD) and complicated grief Despite access to grief support services, these women had complicated grief for at least 3 years after the loss.	Fair
Keim et al., 2017 https://doi.org/10.1016/j.jogn.2017.01.009	USA	Parent distress and the decision to have another child after an infant's death in the NICU.	42 mothers (20%) and 28 fathers (18%) who had lost their babies at least 3 months before in a Neonatal ICU.	It was identified that the presence of another child besides the deceased baby (before or after loss) can promote resilience or serve as an indicator of adjustment among bereaved parents by infant death in the NICU.	Fair
Kerns et al., 2018 https://doi.org/10.1016/j.contraception.2018.02.007	USA	Effect of counseling quality on anxiety, grief, and coping after second-trimester abortion for pregnancy complications.	145 women who had undergone abortion in the second trimester of pregnancy due to medical complications.	The study showed that the quality of counseling has a significant effect on the psychological responses of women who have had a perinatal loss.	Fair

Table 1 (continued)

Authors, year, and DOI	Country	Title	Sample characteristics	Main results	Quality rating*
Kokou-Kpolou et al., 2018 https://doi.org/10.1016/j.jad.2018.08.063	France	Persistent depressive and grief symptoms for up to 10 years following perinatal loss: Involvement of negative cognitions.	98 women who had lost a baby between 28 weeks of gestation (prenatal death) and 1 month after birth (neonatal death).	Covariance and regression analyses revealed that when the death occurred after birth, parents reported a high level of depressive symptoms The results indicated that when the death occurred before birth, depressive symptoms were closely related to negative beliefs about themselves, while when the death occurred after birth, they were related to negative beliefs about the world.	Fair
Kulathilaka et al., 2016 https://doi.org/10.1186/s12888-016-0812-y	Sri Lanka	Depressive disorder and grief following spontaneous abortion.	137 women 6 to 10 weeks after spontaneous abortion and 137 pregnant women attending a prenatal clinic (control group).	The study found a relationship between depressive episodes and conditions to perinatal grief for women who had a spontaneous abortion The study showed that the relative risk of developing a depressive episode after miscarriage was not higher compared to pregnant women when considering age and amenorrhea period.	Fair

Table 1 (continued)

Authors, year, and DOI	Country	Title	Sample characteristics	Main results	Quality rating*
Lafarge et al., 2017 https://doi.org/10.1080/10615806.2016.1278433	UK	Posttraumatic growth following pregnancy termination for fetal abnormality: the predictive role of coping strategies and perinatal grief.	161 women who had pregnancy termination for fetal abnormality (TFA).	This study represents the first step to an understanding of post-traumatic growth in the context of TFA. Levels of perinatal grief in this study were high indicating that these participants had demonstrated pathological levels of grief Coping strategies considered to be “adaptive” (e.g., “positive reframing,” “emotional support,” and “acceptance”) were associated with lower levels of perinatal grief and higher levels of posttraumatic growth. “Positive reframing” was also a significant predictor of posttraumatic growth.	Fair
Lafarge et al., 2020 https://doi.org/10.1037/trm0000440	UK	The role of rumination in adjusting to termination of pregnancy for fetal abnormality: Rumination as a predictor and mediator for post-traumatic growth.	161 women who had undergone termination of pregnancy for fetal abnormality (TFA).	This study aims to extend previous research (Lafarge et al., 2017). This study proposes that deliberate rumination positively predicts posttraumatic growth and acts as a mediator in the relationship between grief and posttraumatic growth and between coping (i.e., positive reframing and religious coping) and posttraumatic growth in the women who had an undergone termination of pregnancy.	Fair

Table 1 (continued)

Authors, year, and DOI	Country	Title	Sample characteristics	Main results	Quality rating*
Mashiach et al., 2013 https://doi.org/10.3109/14767058.2012.722714	Israel	Psychological response to multifetal reduction and pregnancy termination due to fetal abnormality.	65 women with an interruption of pregnancy and 41 women with a multifactorial reduction.	Women in both groups (multifetal reduction and termination of pregnancy) reported a significant degree of grief and anxiety before and after the procedure, although anxiety levels on the day of the procedure and anxiety and grief in the follow-up were higher in the group of termination of pregnancy. In both groups, there was a gradual decrease in anxiety over time.	Fair
Paris et al., 2016 https://doi.org/10.1590/S0080-623420160000500002	Brazil and Canada	Factors associated with the grief after stillbirth: A comparative study between Brazilian and Canadian women.	26 Brazilian women who had had fetal death in 2013 and 18 Canadian women who had had fetal death (between 2010 and 2014).	The high prevalence of complicated grief status and its association with symptoms of depression and anxiety in Brazilian women were mainly due to the lack of professional groups to support grief, considering that 80% of Canadian women without grief had participated in support groups There was a similarity between the two countries regarding the greater presence of complicated grief in the duration of pregnancy of more than 28 weeks, demonstrating that maternal investment in the baby tends to be higher at the end of pregnancy.	Fair

Table 1 (continued)

Authors, year, and DOI	Country	Title	Sample characteristics	Main results	Quality rating*
Pollock et al., 2021 https://doi.org/10.1016/j.midw.2020.102884	Australia	Breaking the silence: Determining Prevalence and Understanding Stillbirth Stigma.	889 bereaved mothers who had a stillbirth in high-income countries (Australia, UK, the USA, and New Zealand).	This study indicates that a majority (54%) of bereaved mothers experienced stigma following stillbirth. Self-stigma was the predominant type of stigma experienced (80%). Bereaved mothers had discriminating experiences in their community. The first-time mothers with a self-reported history of mental illnesses had the most risk of higher levels of stigma.	Fair
Ridaura et al., 2017 https://doi.org/10.7334/psicothema2016.151	Spain	Depressive symptomatology and grief in Spanish women who have suffered a perinatal loss.	70 women who had had a perinatal loss at any time of pregnancy or in the first weeks of the postpartum period (up to 28 days).	Symptoms related to grief and depression were observed in the first month after the loss and a significant decrease in scores in both follow-ups.	Good
Roberts & Lee, 2014 https://doi.org/10.1080/07399332.2013.801483	India	Autonomy and social norms in a three-factor grief model predicting perinatal grief in India.	347 women of reproductive age with perinatal loss.	Not only traditional social norms contribute to the high levels of grief experienced in the daily lives of these women (probably by sustaining social gender discrimination). Specific social norms of disparity in health and education, child preference, low autonomy, and early marriage and pregnancy are risk factors for stillbirth and the identity of these women.	Fair

Table 1 (continued)

Authors, year, and DOI	Country	Title	Sample characteristics	Main results	Quality rating*
Roberts et al., 2021 https://doi.org/10.2147/IJWH.S297292	India	Perinatal grief among poor rural and urban women in Central India.	217 poor and rural Indian women with a history of stillbirth and/or infant death.	In both samples, perinatal grief was high following perinatal loss. Both groups of women with perinatal loss had an increased risk of mental health issues. The rural women were more affected in how they experienced perinatal grief, with higher levels of grief and more social pressure and isolation.	Fair
Volgsten et al., 2018a, 2018b https://doi.org/10.1111/aogs.13432	Sweden	Women's experiences of miscarriage related to diagnosis, duration, and type of treatment.	102 women who had suffered a miscarriage up to 21 weeks +6 days of pregnancy.	Psychological well-being significantly improved four months after miscarriage. Separated by treatment, women treated only with misoprostol had more depressive symptoms than women treated with misoprostol and subsequent vacuum aspiration, which had shorter treatment time and improved emotional health related to isolation, grief, coping, and despair.	Fair

Table 1 (continued)

Authors, year, and DOI	Country	Title	Sample characteristics	Main results	Quality rating*
Volgsten et al., 2018a, 2018b https://doi.org/10.1016/j.midw.2018.05.003	Sweden	Longitudinal study of emotional experiences, grief and depressive symptoms in women and men after miscarriage.	103 women and 78 male partners after a miscarriage.	In this study, grief and depressive symptoms were reduced over time, while emotional experiences such as isolation, loss of the baby, and a devastating event persist for longer than 4 months. The lack of children born before the loss, the previous diagnosis of miscarriage, and infertility could intensify negative emotional experiences after miscarriage, which was especially evident for the grief reaction.	Fair
Wilson et al., 2015 https://doi.org/10.1111/ajpo.12327	Australia	Holding a stillborn baby: The view from a specialist perinatal bereavement service.	26 mothers and 11 fathers who had had a loss of a baby at birth (stillborn).	Most (20 mothers; 9 fathers) chose to see and hold their stillborn baby. Little regret was reported regarding the decision. The most intense grief does not equate to worse mental health for mothers who have chosen to see and hold their stillborn baby.	Fair

*The quality assessment results can be checked in more detail in Table 3 in Appendix

Origin and Year of Publication

According to Table 1, it is possible to note that, among the selected studies, 34.78% were published by researchers from North America (the USA and Canada) (Clark et al., 2021; DeMontigny et al., 2017, 2020; Goldstein et al., 2019; Hawthorne et al., 2016; Keim et al., 2017; Kerns et al., 2018; Paris et al., 2016), being 4.34% originated in Latin America, resulting from a partnership between Brazil and Canada (Paris et al., 2016). The other articles include Europe (UK, Spain, Sweden, and France), corresponding to 30.43% of the publications selected (Druguet et al., 2018; Kokou-Kpolou et al., 2018; Lafarge et al., 2017, 2020; Ridaura et al., 2017; Volgsten, et al., 2018a, b; Volgsten, et al., 2018a, b), Asia (India, Jordan, Sri Lanka, Israel), with 17.39% of the publications selected (Al-Maharma et al., 2016; Kulathilaka et al., 2016; Roberts & Lee, 2014; Roberts et al., 2021), and Australia (13.04%) (Inati et al., 2018; Pollock et al., 2021; Wilson et al., 2015). As for the year of publication, a greater number of articles were found in 2018, as shown in Fig. 2.

Methodological Characteristics

From the articles included, 60.86% used a cross-sectional design (Al-Maharma et al., 2016; Clark et al., 2021; deMontigny et al., 2017, 2020; Druguet et al., 2018; Inati et al., 2018; Keim et al., 2017; Kerns et al., 2018; Kokou-Kpolou et al., 2018;

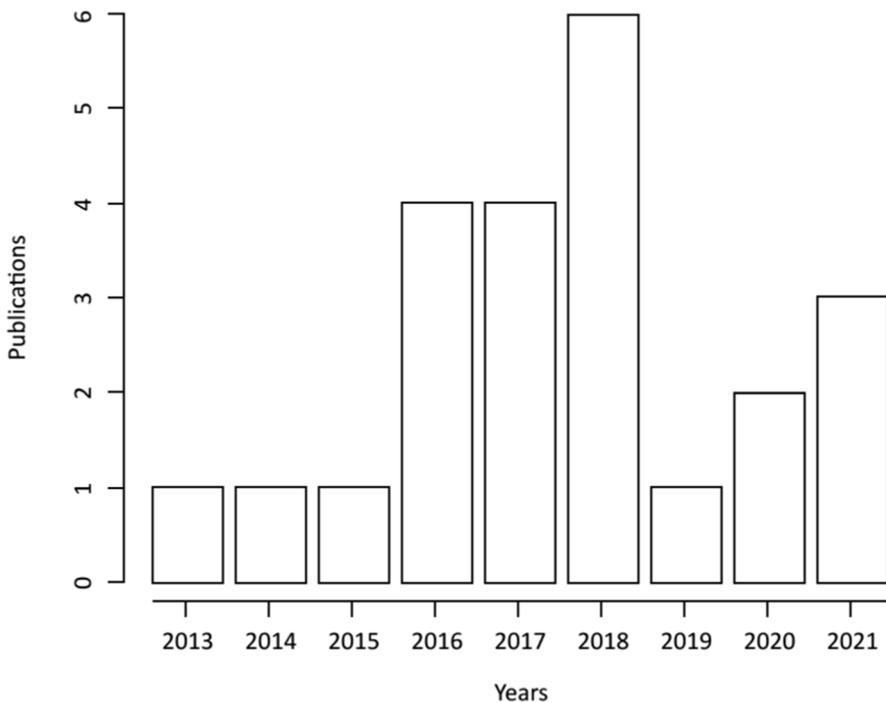


Fig. 2 Distribution of included articles by year of publication (from 2013 to 2021) ($n=23$)

Lafarge et al., 2017, 2020; Paris et al., 2016; Pollock et al., 2021; Roberts et al., 2021), and 39.13% used a cohort design (Goldstein et al., 2019; Hawthorne et al., 2016; Kulathilaka et al., 2016; Mashiach et al., 2013; Ridaura et al., 2017; Roberts & Lee, 2014; Volgsten, et al., 2018a, b; Volgsten, et al., 2018a, b; Wilson et al., 2015).

Regarding the materials and measures employed, assessment measures of grief and loss, depression, anxiety, posttraumatic stress, and coping strategies were identified. Among the instruments to assess grief and loss, the Perinatal Grief Scale (PGS) was the most often used, in 78.26% of the reviewed studies, in its complete (Toedter et al., 1988) or reduced version (Potvin et al., 1989), both internationally validated and adapted to different cultural contexts, such as English, Spanish, Portuguese, Sinhalese, Indian, French, and Swedish (Al-Maharma et al., 2016; deMontigny et al., 2017, 2020; Druguet et al., 2018; Kerns et al., 2018; Kokou-Kpolou et al., 2018; Kulathilaka et al., 2016; Lafarge et al., 2017, 2020; Mashiach et al., 2013; Paris et al., 2016; Pollock et al., 2021; Ridaura et al., 2017; Roberts & Lee, 2014; Roberts et al., 2021; Volgsten, et al., 2018a, b; Volgsten, et al., 2018a, b; Wilson et al., 2015). The number of times that instruments to measure grief and loss were employed in the included studies is shown in Fig. 3.

Participants in the included studies were divided into two groups. One group was that with perinatal loss, defined as losses occurring at any time during pregnancy until the baby's first month of life (Al-Maharma et al., 2016; deMontigny et al., 2017, 2020; Druguet et al., 2018; Inati et al., 2018; Kokou-Kpolou et al., 2018; Kulathilaka et al., 2016; Paris et al., 2016; Pollock et al., 2021; Ridaura et al., 2017; Roberts & Lee, 2014; Roberts et al., 2021; Volgsten, et al., 2018a, b; Volgsten, et al.,

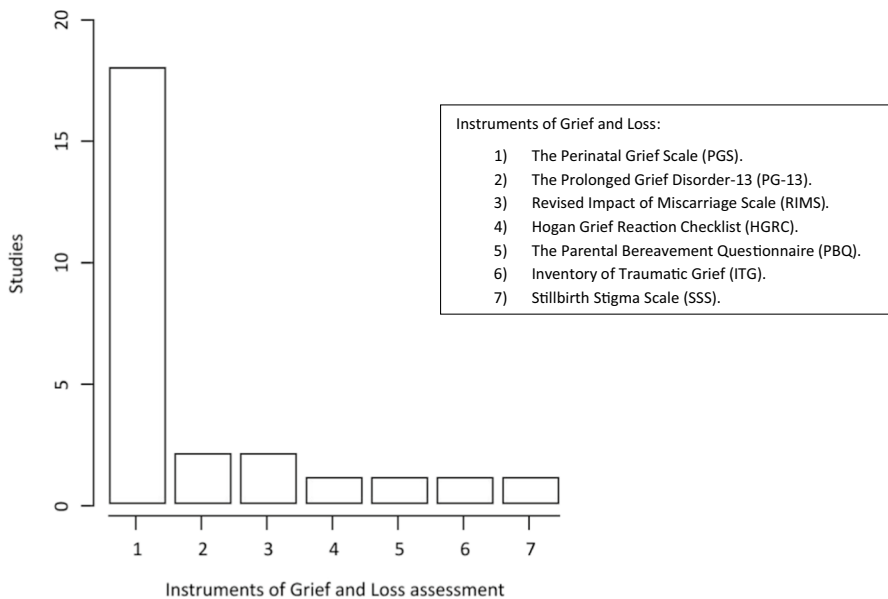


Fig. 3 Distribution of the studies considering the instruments employed for grief and loss assessment ($n=23$)

2018a, b; Wilson et al., 2015). Some of these studies specified the reason for pregnancy termination as some complication with the fetus (Kerns et al., 2018; Lafarge et al., 2017, 2020; Mashiach et al., 2013). The other group was that of participants who lost their children during early infancy after admission to a Neonatal Intensive Care Unit (NICU) (Clark et al., 2021; Hawthorne et al., 2016; Keim et al., 2017), or due to sudden death of the baby (Goldstein et al., 2019).

Main Results

Through the main results of the included studies, it was possible to observe the risk and protective factors involved in complicated grief in women bereaved by the loss of a baby. Below, we show the main results of the studies in these two thematic axes (risk and protective factors for complicated grief).

Risk Factors

Most studies have shown a positive association between symptoms of depression, anxiety, and posttraumatic stress and the presence of complicated grief, as women had higher scores both in the evaluations of these disorders and in the scores of complicated grief (Clark et al., 2021; deMontigny et al., 2017, 2020; Druguet et al., 2018; Goldstein et al., 2019; Hawthorne et al., 2016; Inati et al., 2018; Keim et al., 2017; Kerns et al., 2018; Kokou-Kpolou et al., 2018; Kulathilaka et al., 2016; Mashiach et al., 2013; Paris et al., 2016; Ridaura et al., 2017; Volgsten, et al., 2018a, b; Wilson et al., 2015). The presence of depressive symptoms after the loss was a predictor of complicated grief 2 years after this experience (Goldstein et al., 2019). In addition, symptoms of posttraumatic stress were shown to be predictors of complicated grief at least up to 3 years after the loss (Inati et al., 2018).

Besides the development of complicated grief being associated with the existence of psychopathological conditions in the mother, some studies have identified that symptoms of complicated grief for the loss of a baby may persist for a long time (deMontigny et al., 2017, 2020; Goldstein et al., 2019; Inati et al., 2018), being the first month the most critical, especially to mothers who have had a perinatal loss (Ridaura et al., 2017; Roberts & Lee, 2014). The study by DeMontigny et al. (2020) showed that depressive symptom scores were higher in the first 6 months after the loss than 7 to 12 months after the loss, in a sample of women who have had a miscarriage. However, even though the first months after the loss are more painful for bereaved mothers, in this same study, the perinatal grief scores did not vary depending on the moment of the loss, leading the authors to consider that the symptoms of grief over the loss of a baby during pregnancy may remain long after the loss. In the study conducted by Goldstein et al. (2017), anxiety, depression, alcohol use, previous loss, having a living child, and mothers' age were associated with prolonged grief in mothers due to the unexpected and sudden death of a baby. Despite noting that the symptoms of prolonged grief can remain for at least 2 years after the loss, the authors point out that the symptoms of grief show a gradual decrease. Also, in DeMontigny et al.'s (2017) study,

the symptoms of complicated grief remained stable for at least 2 years, but with a tendency to gradually decrease in intensity. In the study by Inati et al. (2018), which evaluated women who had a perinatal loss, it was found that symptoms of complicated grief can persist for at least 3 years after the loss.

Regarding the impact of the moment of child loss for the development of maternal complicated grief, there is still no evidence concerning whether the moment of the loss may influence the development of complicated grief (Kokou-Kpolou et al., 2018; Ridaura et al., 2017; Volgsten, et al., 2018a, b). In the study of Ridaura et al. (2017), which assessed 98 women with losses in different moments and contexts, as well as losses due to medical termination of pregnancy and prenatal/postnatal losses, the hypothesis was not confirmed; besides stronger symptoms of depression found in women with losses in a more advanced state of pregnancy, there was no difference concerning the moment/context of loss for complicated grief. In the study of Kokou-Kpolou et al. (2018), 98 women who lost a baby between 28 weeks of pregnancy (prenatal death) and 1 month after birth (neonatal death) were assessed for the association of symptoms of complicated grief and depression for both groups (according to the moment of loss). Significant differences were found only for depressive symptoms, showing that these symptoms were greater when the loss of the child occurred after birth. Nevertheless, the results regarding depression were not confirmed for symptoms of complicated grief. The other studies included in this review did not observe differences in complicated grief related to the moment of the loss.

Some studies included in this review showed that previous experience of loss of a child may be linked to increased negative emotional reactions if a new loss of a child occurred (due to miscarriage, a perinatal loss, or sudden death), indicating that the history of a child loss may be a risk factor for complicated grief for women who experience another child loss (Goldstein et al., 2019; Roberts & Lee, 2014; Volgsten, et al., 2018a, b; Volgsten, et al., 2018a, b). Also, gender differences can be observed concerning this experience. Women who have had a miscarriage suffer significantly more negative emotional consequences than men. This disparity can, conferring to these authors, generate conflicts for the couple, a fact that justifies emotional care also for men after this experience of loss (Volgsten, et al., 2018a, b).

Concerning women who have had a perinatal loss, the study conducted by Roberts and Lee (2014) showed that the social pressure for the conception of a new child after this loss can be considered a risk factor for the development of complicated grief. According to this study, the recovery of women bereaved by perinatal loss can be eased if social pressure to get pregnant again is reduced (Roberts & Lee, 2014). In this regard, the study of Al-Maharma et al. (2016), which investigated the perception and the attachment of mothers who had a perinatal loss to a subsequently born child, observed that women who intended to replace their previous deceased child with a new baby had significantly higher levels of grief than did those without such an intent. Also, the authors observed that, although trying to cope with their grief, the women who had another child in an attempt to replace the one they lost had problems with mother–child interaction. This means that a subsequent pregnancy can lead to complications in their grieving process and predispose them to both intense grieving and absent/delayed grieving.

Protective Factors

The presence of other children was associated with more adaptive grieving processes in the reviewed studies. For women who had an abortion, according to DeMontigny et al. (2017), having a living child seemed to be associated with the reduction of grief symptoms, which did not happen with bereaved women without children, as the symptoms of both grief and depression remained stable for them. However, in this study, it was not possible to identify whether alive children were born before or after spontaneous abortion (deMontigny et al., 2017). The study by Keim et al. (2017) demonstrated that having another child, born after or before the infant's death in NICU, may be an indication of more adaptive experiences in the face of grief, as women presented fewer symptoms of prolonged grief and posttraumatic stress compared to those who did not have another child. The researchers discussed the relationship between the variables—presence of another child and greater resources for coping with grief—because the former can act as a facilitator for the second, as well as parents with better mental health conditions may be more willing to have children after this loss. The same authors also pointed out that although they consider it important not to discourage parents from having another child after the loss, or even advise that they can wait to have a new child after the loss, it is essential to pay attention to these parents, since the history of perinatal loss means a higher risk of complications in subsequent pregnancies, as well as a factor that may complicate grief after a new loss. Furthermore, in cases of loss of one of the babies in twin pregnancies, the study conducted by Druguet et al. (2018) observed risk for the development of psychological disorders in the mother, which may affect the surviving baby. Therefore, despite being identified as a protective factor of the mother's experience of mourning, the presence of a child after the loss can be a risk to the baby's mental health, according to Al-Maharma et al. (2016), as the ability to direct affection to the subsequent baby is impaired among mothers with a history of perinatal loss.

The presence of complicated grief was also associated with the quality of health services accessed by women during the experience of loss. There is evidence that women provided with specialized support and satisfied with it have had more adaptive conditions to cope with grief (deMontigny et al., 2017, 2020; Inati et al., 2018; Kerns et al., 2018; Paris et al., 2016). Data on a Brazilian sample, compared to a sample of Canadian women (Paris et al., 2016), showed that the high prevalence of complicated grief and its association with symptoms of depression and anxiety found in Brazilian women were mainly due to the scarcity of professional groups to support their grief process. Canadian women satisfied with the support provided by health services showed a lower number of symptoms of complicated grief.

In the study conducted by DeMontigny et al. (2017), 245 women who received specialized care during their miscarriage (by nurse, physician, or gynecologist) or afterwards (support groups) were assessed. Those who were satisfied with the service presented a reduction of the symptoms of depression and grief. The subsequent study by DeMontigny et al. (2020) also pointed out satisfaction with the same health services (including care by nursing professionals, medicine during an abortion, or even through support groups after the loss) as a protective factor for the mental

health of women who suffered a miscarriage. Also, the study by Kerns et al. (2018), when analyzing a sample with perinatal loss (including abortion), found that the quality of specialized healthcare, through participation in online reference support groups, had a significant effect on psychological responses of these women.

Furthermore, the study conducted by Inati et al. (2018) sought to evaluate support services for perinatal mourning, including phone service, professional counseling, support groups, and even donations to bereaved families. Despite having access to specialized services, the participants in this study showed high scores for complicated grief and posttraumatic stress. Nonetheless, the authors, after a careful qualitative analysis of these results, observed that most women reported that there could be improvements in the services. Among the points they were satisfied with, positive responses regarding the availability of services and the possibility of connecting with other people who have had similar experiences were mentioned. Still, regarding the experiences with health services, the study by Wilson et al. (2015), which evaluated women who could choose to see and hold their deceased babies at the hospital, highlighted that even though these mothers presented greater intensity of grief, it did not necessarily mean a worse mental health condition, since there was no association between these variables and a “non-coping” or “despair.” In this sense, these experiences promoted by the healthcare services, which was seeing and holding the dead babies, were considered positive to the mother’s process of grief.

The role of social actors was also observed in the included studies as protective factors for the mental health of mothers who lost a baby. Among these, the relationship with the partner and the support of the community in which these mothers are inserted were highlighted. Spirituality was also mentioned as a source of support for coping with grief (deMontigny et al., 2020; Hawthorne et al., 2016; Pollock et al., 2021; Roberts et al., 2021).

The quality of the conjugal relationship was revealed in DeMontigny et al. (2020) study as a protective factor for the mental health of women who lost a baby during pregnancy. This data was highlighted in this study because the quality of the conjugal relationship was negatively associated with variables corresponding to symptoms of depression, anxiety, and perinatal grief. The authors thus emphasize that women who were more satisfied with the conjugal relationship had better mental health, while the inverse relationship could also be considered, indicating that the mental health situation of women bereaved by the loss of a baby during pregnancy may also affect the quality of the conjugal relationship.

In the same way, the importance of community support as a protective factor for bereaved mothers appeared in the included studies (Pollock et al., 2021; Roberts et al., 2021). Pollock et al. (2021) investigated the stigma of the loss of a stillborn baby suffered by women from different high-income urban centers (namely in countries such as Australia, the UK, the USA, and New Zealand). In this study, it was observed that 54% of women who had the loss of a stillborn baby experienced stigma after the event, being the most prevalent the self-stigma (80%), which refers to the internalization of negative self-conceptions and community stereotypes. These mothers with self-stigma reported feelings such as guilt and shame. First-time mothers who had a history of mental illness were at higher risk of stigma. As well, samples of women from rural areas and urban centers with perinatal loss

were compared in the study carried out by Roberts et al. (2021), in which conditions of greater vulnerability in women living in rural areas were evidenced, being their experiences of perinatal mourning aggravated by greater social pressure and isolation. Apparently, these results indicate that no matter the socioeconomic status of the bereaved mothers for the loss of a baby, the influence by the community environment is quite relevant.

Spirituality was also identified as a protective factor by Hawthorne et al. (2016), in a paper about spirituality, grief, and mental health of parents after the loss of a child who has had an admission to a Neonatal ICU. In this study, mothers and fathers who maintained spiritual and religious activities for 1 month after the loss of their child were evaluated 1 and 3 months after the loss. While religious activities proved to be useful in reducing the fathers' pain in the first month after the loss, they were not related to the mothers' mourning at any point in time. It was the spiritual activities that proved to be most useful for fathers and mothers in the two periods of time evaluated. The findings by Hawthorne et al. (2016) suggest that religious activities may be more useful only for fathers mourning the loss of a child and may assist them in returning to their routine and work more quickly, but they are not useful in the same way for mothers. Spiritual activities are more effective over time for bereaved parents, which, according to the authors, may be related to higher levels of interaction with friends and peers, allowing mothers to externalize their emotional needs and therefore giving them a greater opportunity to receive social validation for their grief.

Even though the experience of losing a baby brings so many challenges, some studies have pointed out that this experience can lead to posttraumatic growth, when there is the presence of adaptive coping strategies. The initial study by Lafarge et al. (2017) showed, in a sample of women who had an abortion due to a fetal abnormality and with high levels of perinatal grief, that strategies such as positive reframing, emotional support, and acceptance were associated with lower perinatal grief scores and, in turn, with high scores of posttraumatic growth. The strategy called "positive reframing" was considered a predictor of posttraumatic growth for this sample. In the ensuing study (Lafarge et al., 2020), conducted by a similar group of researchers and with the same sample, it was found that "rumination," which can be understood as a cognitive activity involved in rebuilding the worldview following a traumatic event, might be an important ally for the posttraumatic growth of these bereaved mothers, predicting posttraumatic growth and acting as a mediator variable between grief, posttraumatic growth, and coping (positive reframing and religious coping).

Discussion

This study aimed to identify risk and protective factors in the development of complicated grief in women who lost a baby. The results show the scenario of publications in this field of study, with several papers that comprehend the complex challenges after the loss of a child, especially for mothers. The studies included in this review presented the set of grieving reactions due to the loss of a baby during pregnancy or early childhood (up to 2 years of the child), and the repercussions of this

experience in mothers' life. In addition, after carefully analyzing the main results, we could reach our goal: to identify the risk and protective factors most present in the development of complicated grief in mothers who have lost a baby.

Regarding the scenario of publications, the origin of the included articles is concentrated in North America, whereas less evidence was found from South America. Even so, regarding the year of publication, the results show that there were a greater number of articles being published between 2016 and 2018. The number of publications on the subject dropped from 2019 onwards, different from the increasing trend that it had been showing. This fact may be related to the initial impact of the COVID-19 pandemic. After that, it began to grow gradually, but there are still few publications about this topic. These findings reinforce the need for further studies in different sociocultural contexts, to make it possible to discuss cultural differences regarding the experiences of mourning for mothers who lost a child and the specifics of living this experience during the pandemic.

Several instruments of complicated grief assessment were identified in this review, being the most used the Perinatal Grief Scale (PGS) (Toedter et al., 1988). Although we find that most studies use the PGS, there is a variety of instruments, based on different theoretical conceptions of complicated grief (for example, traumatic, prolonged), for the evaluation of women who had lost a baby, according to the moment of loss (during pregnancy, after birth, or even during the baby's early childhood). For that reason, it is impossible to compare and generalize the results. It is known that the mourning process is complex and involves multiple factors (Coelho Filho & Araújo Lima, 2017), which imposes many challenges to the standardized evaluation of this phenomenon. It highlights the need for a contextual analysis of the bereaved, and to reinforce the understanding of complicated grief, considering its particularities (Freitas & Michel, 2014). There is a paradoxical and challenging scenario for both care and research of bereaved women who have lost a baby (Casellato, 2015).

Risk Factors

The presence of symptoms of depression, anxiety, and posttraumatic stress (Clark et al., 2021; deMontigny et al., 2017; Druguet et al., 2018; Goldstein et al., 2019; Hawthorne et al., 2016; Inati et al., 2018; Keim et al., 2017; Kerns et al., 2018; Kokou-Kpolou et al., 2018; Kulathilaka et al., 2016; Mashiach et al., 2013; Paris et al., 2016; Ridaura et al., 2017; Volgsten, et al., 2018a, b; Wilson et al., 2015) was identified as a risk factor for the development of complicated grief, as they were often related to the prolongation of the mourning process. Similar data were found in a meta-analysis study conducted by Hunter et al. (2017), in which 19 studies with a case-control design were assembled, with 5,114 women with a history of perinatal loss. Symptoms of anxiety, depression, and stress were assessed during a new pregnancy after a perinatal loss. The results showed that anxiety and depression in particular were significantly related to the experience of perinatal mourning. It should be noted that, although the findings of the present study corroborate these conclusions, this meta-analysis used only validated measures for anxiety, depression, and

stress, not using a specific evaluation measure for grief, thus assuming only the presence of a loss experience as criteria for perinatal grief. The findings of a systematic review conducted by Burden et al. (2016), considering 144 publications which included the grieving experience of parents, grandparents, and siblings (including subsequent children and twin brothers who survived the loss of a stillborn child) after a stillborn, were also corroborated by our findings. This systematic review pointed to the pre-existence of psychological problems (including symptoms of depression, generalized anxiety, and posttraumatic stress).

Complicated grief was associated with other mental disorders in articles included in this review, so the importance of differential diagnosis must be highlighted, as previously found in the literature (Burke & Neimeyer, 2012). Each disorder has particular symptoms and dynamics, and, even though at times convergent or linked, one is not represented by the other. For this reason, it is necessary to have a clear conception of specific characteristics of each mental health condition (Burke & Neimeyer, 2012). To help with this task, the present review has included only studies in which assessment instruments for differential diagnoses and standardized instruments to evaluate grief or complicated grief were employed. Many studies did not have an independent evaluation of each of these conditions, as we have noticed in the search process (Fig. 1). The lack of these independent measures may cause and reveal that there is still confusion and lack of consensus among researchers about the understanding of complicated grief as a different condition in the context of maternal mourning, compared to other mental disorders.

The issue of time, appointed as fundamental for the identification of complicated grief in the manuals (APA, 2013; WHO, 2019), was also present in this review. Symptoms of complicated grief were observed 2 and even 3 years after the loss of a child in women in the included studies (DeMontigny et al., 2017; Goldstein et al., 2019; Inati et al., 2018), and the first month is the most critical to parents (Ridaura et al., 2017; Roberts & Lee, 2014). It is hence necessary to broaden the understanding of the specifics of the process of maternal grief due to the loss of a child (Freitas & Michel, 2014). When expectations about the style and the time of mourning are not met, the process becomes unrecognized or not attended, as is the case of mourning resulting from a gestational loss. This lack of validation can occur in different dimensions and can be observed in the bereaved, in the family, or even in the community. This lack of social support favors the isolation of individuals and families and, consequently, creates a scenario that is not adaptive in dealing with loss and grief (Bellet et al., 2019; Casellato, 2018; Roberts et al., 2021).

In addition, it should not be forgotten that parental mourning is considered an extremely particular and complex process to be faced, due to the different spheres (individual, marital, social, etc.) that require adaptation, deserving, for this reason, the attention of researchers and health practitioners (Coelho Filho & Araújo Lima, 2017). Maternal grief, in particular, has an impact on women's identity, on the meaning attributed to life, on relationships after loss, among other specificities that still require a deeper understanding. Therefore, it is even possible to think that the mourning for the loss of a child is never overcome, although it can change over time (Freitas & Michel, 2014).

Moreover, it is possible to observe in this review that there is no evidence concerning that the moment of the loss may influence the development of complicated grief (Kokou-Kpolou et al., 2018; Ridaura et al., 2017; Volgsten, et al., 2018a, b). As other authors stated (Roberts & Lee, 2014), the hypothesis that complicated grief could be different depending on the moment of the baby's loss (during pregnancy or after birth) has not been confirmed. It has been identified that depressive symptoms are more present in women who lost a child after birth than in the ones who lost a child during pregnancy (Kokou-Kpolou et al., 2018), possibly because there was more time to develop a bond with the baby. The results of our review, therefore, reveal that there is still no data to support the existence of differences regarding complicated grief according to the moment of the baby's death. However, it is understood that there is more to be explored on this point in future studies.

Another risk factor identified for maternal mental health was a history of child loss. Some studies have shown that women who had had a previous loss may have had their experiences of grief aggravated by a new loss of a child (Goldstein et al., 2019; Mashiach et al., 2013; Ridaura et al., 2017; Roberts & Lee, 2014; Volgsten, et al., 2018a, b; Volgsten, et al., 2018a, b). This seems to be associated both with anxiety related to the moment of pregnancy and with fear and frustration of repeating the rupture of bonds at such an early stage of their formation. Furthermore, the history of child loss was shown to be an important risk factor for a mother's ability to bond with a child born after the loss. The history of perinatal grief was negatively related to maternal mental health and affectivity with the child born subsequently. It may be thought, in this sense, that, under the effect of perinatal grief anxieties, it becomes even more complex for some mothers to bond with a new baby, i.e., their availability to offer the necessary emotional care to the surviving child would be impaired, which can generate both emotional difficulties for the child and the mother-child interaction (Al-Maharma et al., 2016; Druguet et al., 2018).

In this sense, also as a risk factor, the observed social pressure for the bereaved women to get pregnant again soon seems to not contribute to an adaptive scenario of the grief process (Roberts & Lee, 2014). Burden et al. (2016) have also found a social pressure in the parents' reports to have a new baby as soon as possible after the loss of a child, even when they related the need to wait, avoiding "replacing" the loss. Besides the social pressure of having a new baby representing the non-recognition of loss in their surroundings, like an obstacle to the social validation of the grieving process (Teodózio et al., 2020; Casellato, 2018; Aguiar & Zornig, 2016), this may also represent a risk to the baby's development and mental health, as the subsequent baby may count on a bereaved mother, with less emotional availability to offer her continence and affection (Gravensteen et al., 2018; Smorti et al., 2021).

Protective Factors

Otherwise, the presence of other children was associated with more adaptive grief processes for mothers, being considered a protective factor (DeMontigny et al., 2017; Keim et al., 2017). Therefore, it is important not to discourage parents from having another child after the loss, but also to pay attention to their mental health, as the

history of perinatal loss means a higher risk of complications in subsequent pregnancies, as well for complicated grief after a new loss (Keim et al., 2017). In addition, the importance of mothers not trying to replace the loss of a child with a new pregnancy was emphasized, as they may be subject to problems in the interaction with a living newborn and to the development of intense grieving or even an absent/delayed grieving (Al-Maharma et al., 2016). These findings reinforce the importance of specialized care for women and babies who survive the loss and corroborate those already found in the literature. In the review by Hunter et al. (2017), it was shown that women who have had a pregnancy after a stillbirth or neonatal loss needed continuity of care, preferably with those who have already had a previous bond based on trust and good communication. As the authors suggest, the pregnancies following the loss of a child may also be an opportunity for taking care of the well-being of women who have a history of perinatal loss, helping to reduce the mortality rates and mental health complications.

In the same direction, the quality of health services provided to women and their families were scored as significant aspects for the development of adaptive responses to the loss of a baby in this review (deMontigny et al., 2017, 2020; Kerns et al., 2018; Paris et al., 2016; Wilson et al., 2015). The participation in specialized grief support groups (deMontigny et al., 2017; Paris et al., 2016), including online groups (Kerns et al., 2018), as well as adequate medical and hospital nursing care during pregnancy and delivery (DeMontigny et al., 2017, 2020; Wilson et al., 2015), showed to be related to more adaptive mourning experiences, being able to act as a protective factor for the development of complicated grief. From these results, it was evident that not only the access to specialized support services for mourning are important, but also the quality of the services provided, which depends on the adequate training of health professionals to assist the bereaved parents. Therefore, it is the quality of health services that is identified as a protective factor against the development of complicated mourning in women who have lost a baby.

Similar to these data, the review conducted by Burden et al. (2016) indicated that support through hospital care was considered a protective factor for the development of complicated grief. They noticed that the services that allowed parents to say goodbye, to see their baby, to make memories of their child, and even to have a postmortem assessment have had a better healing process after stillbirth. The same was also highlighted by Hunter et al. (2017), concerning the opportunity to see and to hold the baby following the perinatal loss as related to psychological well-being during subsequent pregnancies. According to this, the review carried out by Santos (2017) showed that even though there is a variety of types of interventions aimed at helping grief, there is still little scientific evidence about the effectiveness of grief interventions. This suggests a gap between research and clinical practice, which in turn may be related to the difficulty of establishing parameters for efficient services to bereaved families.

Activities related to spirituality showed to be relevant sources of support and strengthening of resources for coping, but not only religious activities. For that, spiritual activities emerged in this review as a protective factor for the development of complicated grief to bereaved mothers for the loss of a child in the early stages of life (Hawthorne et al., 2016). The issue of religion and spirituality as a strategy for coping with grief has already been discussed in the literature. For example, the study by Burke and Neimeyer (2014) aimed to investigate the different possibilities of spiritual coping for grief, though with a more diverse sample and for various types of death, including accidents, violent,

and natural deaths. Similarly with our review, the authors found that the use of religion as a resource for coping with mourning was not related to adjustment to loss and might be even maladaptive, due to beliefs that are not so effective to attenuate the pain of the bereaved emotional experience. Also, they noticed that people who lost a loved one due to a violent death reported more difficulties in accommodating the loss emotionally and spiritually than people bereaved by natural death, with the former significantly reporting more complicated grief. These considerations concerning the discussion between religiosity and spirituality are similar to our findings. It may be that the data found in this review, which put spirituality as a resource for coping with the grief due to the loss of a baby, bring a specificity of this type of grief and for these mothers. Notwithstanding, the spiritual practices should be directed according to the needs of the mourners, especially in clinical settings. In addition, spiritual activities can be understood as experiences that help to promote social validation for the experience of loss.

Regarding social validation, the importance of social support was also pointed out in this review as a protective factor for the grieving process after the loss of a baby, whether coming from the partner or the bereaved mothers' community (deMontigny et al., 2020; Pollock et al., 2021). As previously found in literature, social validation, through welcoming and empathy in the face of the experience of losing a child at the beginning of life, is of paramount importance for more adaptive results among bereaved mothers (Bellet et al., 2019; Casellato, 2018; Muza et al., 2013; Rios et al., 2016). Social validation is suggested as an essential element for easing the process of attributing meaning to loss, which is considered a predictor of experiences of posttraumatic growth and adaptive mourning (Bellet et al., 2019). Also, it can facilitate the adaptation of mourning mothers by validating their maternal identity and promoting personal growth from this painful experience (Bellet et al., 2019; Casellato, 2018). Support from the social environment is an essential factor for coping with grief, as when it allows the mourner to receive support from the community in effective ways, it dismisses any complementary intervention (Parkes, 1988; Santos, 2017; Stroebe et al., 2005). These data also corroborate those found in our study, as they consider that, even though facing a traumatic situation such as losing a baby, it is possible to build a context of posttraumatic growth for these bereaved women (Lafarge et al., 2017, 2020). Therefore, the relevance of socially addressing the theme of parental mourning is justified, because appropriate psychoeducation about it may have a positive effect on the mental health and adaptability of bereaved families and may also enable reliable evidence for the public policies making and care strategies relevant to this population (Muza et al., 2013).

Limitations

As limitations of this study, we point out the use of a diversity of complicated grief assessment instruments, based on different construct conceptions, which removed the possibility of generalization of the findings, as well as the achievement of homogeneity in the understanding of complicated grief by the loss of a baby. Furthermore, new studies about the interaction of variables that are present in the mothers' adaptation to this process of loss might be relevant.

Also, this study has limitations concerning the language of the studies included, considering the authors' skills. About the period of the revised publications, initially, a review of the last five years was stipulated, but during the organization of this study, updates in the search were applied, to make this paper as updated as possible to publication. Moreover, we understand that the review since 2013 is relevant because it considers the date of the first inclusion of complicated grief as a special condition in the DSM-V, thus it became possible to include the studies on the subject since then.

Conclusions

This systematic review sought to identify risk and protective factors for the development of complicated grief in women who have experienced the loss of a child in early childhood (from pregnancy up to 2 years of baby's life) participating in studies that employed standardized instruments to evaluate grief. From the analysis of the studies included in this review, it was possible to verify that some factors seem to be more frequently associated with complicated grief in women who experience the loss of a baby. As risk factors, we detected the presence of maternal psychopathology, history of gestational loss, and social pressure for getting pregnant again soon after the loss. As protective factors to complicated grief, we found the presence of a child other than the deceased one, the quality of available specialized healthcare services for grief, and social support provided by a partner, community, or spiritual activities. Also, it was pointed that losing a baby, although considered to be a traumatic event, might be an opportunity for post-traumatic growth. The main results showed that these factors may determine the development of an adaptive experience or even the aggravation and the recognition of a complicated grief process, as well as the prospects for recovery.

Moreover, it was observed that there is no consensus regarding the length of symptoms of complicated grief for bereaved mothers who lost a baby. A duration of at least 2 to 3 years was observed, but no time limit was stipulated for the duration of maternal mourning. The topic of symptoms of complicated grief duration remains open for discussion. Likely, the duration of grieving symptoms for women who have experienced the loss of a baby is understood as a peculiarity of this type of loss, so they could not be classified or regarded as complicated. Instead, in such cases, these symptoms should be considered part of an expected life experience for these bereaved mothers, whereas mourning the loss of a child can be re-signified throughout a person's entire life. As mentioned, this topic deserves careful attention for further studies.

Additionally, this systematic review pointed that there is no evidence to support differences concerning the moment of the baby's loss and the development of complicated grief. This might suggest that, regardless of the moment of the loss, losing a baby proves to be a singular experience that demands a painful and intense adaptation process for mothers, different from the grieving processes resulting from other

types of losses, i.e., of people with whom mourners have a distinct kind of bond (for example, parents, partners, siblings, or friends).

Understanding the factors specifically associated with the complicated grief of mothers who have lost a baby is key to improve the training and performance of health practitioners, as well as to increase the number of studies and reinforcing public policies necessary for more customized and effective care for this population. With the purpose of understanding the factors associated with the possible development of complicated grief processes, we intend to contribute to a broader view of the phenomenon of maternal grief for the loss of a baby, considering aspects of the social context of these mothers that can act as prevention. We understand that this study may be useful to promoting more contextual reflections by health professionals on the challenges faced by mothers after the loss of a baby. However, we know that there is still much to be developed in the scientific field for a refined understanding, and we emphasize the importance of further studies on complicated grief. Therefore, the risk and protective factors identified here can be confirmed and/or better understood in their relationship with the different possibilities of mothers' grieving process.

Appendix

Table 2 Search strategy to all the databases applied in this review: MEDLINE (via PubMed), EMBASE, Latin American and Caribbean Literature on Health Sciences (LILACS), and APA Databases (PsycINFO)

<i>Identifier</i>	<i>Strategy PubMed</i>
#1 Patient	"Women"[Mesh] OR "Women"[tiab] OR "Woman"[tiab] OR "Women's Group*"[tiab] OR "Mothers"[Mesh] OR "Mother*"[tiab] OR "Maternal"[tiab] OR "Adolescent"[Mesh] OR "Adolescent"[tiab] OR ("young"[tiab] AND ("woman"[tiab] OR "women"[tiab] OR "mother"[tiab]))
#2 Exposure	"Infant Death"[Mesh] OR "Perinatal Death"[Mesh] OR "Fetal Death"[Mesh] OR "Abortion, Spontaneous"[Mesh] OR "Abortion, Induced"[Mesh] OR ("Death"[tiab] OR "Demise"[tiab] AND ("Infant"[tiab] OR "Perinatal"[tiab] OR "Neonatal"[tiab] OR "Fetal"[tiab])) OR "induced Abortion"[tiab] OR "provoked Abortion"[tiab] OR "Spontaneous Abortion"[tiab] OR "Abortion"[tiab] OR "Pregnancy Loss"[tiab] OR "Miscarriage"[tiab] OR "pregnancy interruption"[tiab] OR "Grief"[Mesh] OR "Bereavement"[Mesh] OR "Grief"[tiab] OR "Mourning"[tiab] OR "bereavement"[tiab]
#3 Outcomes	"Mental Health"[Mesh] OR "Mental Disorders"[Mesh] OR "Depression"[Mesh] OR "Depressive Disorder"[Mesh] OR "Depression, Postpartum"[Mesh] OR "Depressive Disorder, Major"[Mesh] OR "Anxiety Disorders"[Mesh] OR "Anxiety[Mesh]" OR "Anxiety, Separation"[Mesh] OR "Stress Disorders, Post-Traumatic"[Mesh] OR ("Mental"[tiab] OR "Psychiatric"[tiab] OR "Behavior"[tiab] AND ("Disorder*"[tiab] OR "Diagnosis"[tiab] OR "health"[tiab])) OR ("Depress*"[tiab] AND ("Disorder"[tiab] OR "Symptom*"[tiab] OR "postpartum"[tiab] OR "postpartum"[tiab] OR "post partum"[tiab] OR "postnatal"[tiab] OR "post-natal"[tiab] OR "post natal"[tiab] OR "puerperal"[tiab])) OR "Depression"[tiab] OR "Anxiety"[tiab] OR "Anxiety"[tiab] AND ("disorder"[tiab] OR "separation"[tiab])) OR ("post-traumatic"[tiab] OR "posttraumatic"[tiab] OR "post traumatic"[tiab] AND ("stress"[tiab] OR "disorder"[tiab]))

Table 2 (continued)

<i>Identifier</i>	<i>Strategy PubMed</i>
#4 Study type	“Epidemiologic Studies”[Mesh:noexp] OR “epidemiological study”[tiab] OR “Observational Study”[Publication Type] OR “Observational Study”[tiab] OR “Observational Studies as Topic”[Mesh:noexp] OR “qualitative research”[Mesh:noexp] OR “qualitative research”[tiab] OR “Case–Control Studies”[Mesh:noexp] OR “retrospective studies”[mesh:noexp] OR “Control Groups”[Mesh:noexp] OR (case[TIAB] AND control[TIAB]) OR (cases[TIAB] AND controls[TIAB]) OR (cases[TIAB] AND controlled[TIAB]) OR “control group”[TIAB] OR “control groups”[TIAB] OR “cohort studies”[mesh:noexp] OR “longitudinal studies”[mesh:noexp] OR “follow-up studies”[mesh:noexp] OR “prospective studies”[mesh:noexp] OR “retrospective studies”[mesh:noexp] OR “cohort”[TIAB] OR “longitudinal”[TIAB] OR “prospective”[TIAB] OR “retrospective”[TIAB] OR “Cross-Sectional Studies”[Mesh:noexp] OR “cross-sectional”[TIAB] OR “Prevalence”[mesh:noexp] OR “prevalence”[tiab] OR “transversal study”[tiab] OR “Incidence”[mesh:noexp] OR “incidence”[tiab]
Search	#1 AND #2 AND #3 AND #4
<i>Identifier</i>	Strategy EMBASE
#1 Patient	“female”/exp OR “mother”/exp OR “adolescent”/exp OR “women”:ti,ab OR “woman”:ti,ab OR “women group*”:ti,ab OR “mother*”:ti,ab OR “maternal”:ti,ab OR “adolescent”:ti,ab OR (“young”:ti,ab AND (“woman”:ti,ab OR “women”:ti,ab OR “mother”:ti,ab))
#2 Exposure	“child death”/exp OR “perinatal death”/exp OR “fetus death”/exp OR “spontaneous abortion”/exp OR “induced abortion”/exp OR “grief”/exp OR “bereavement”/exp OR (“death”:ti,ab OR “demise”:ti,ab) AND (“infant”:ti,ab OR “perinatal”:ti,ab OR “neonatal”:ti,ab OR “fetal”:ti,ab)) OR “induced abortion”:ti,ab OR “provoked abortion”:ti,ab OR “spontaneous abortion”:ti,ab OR “abortion”:ti,ab OR “pregnancy loss”:ti,ab OR “miscarriage”:ti,ab OR “pregnancy interruption”:ti,ab OR “grief”:ti,ab OR “mourning”:ti,ab OR “bereavement”:ti,ab
#3 Outcomes	“mental health”/exp OR “mental disease”/exp OR “depression”/exp OR “postnatal depression”/exp OR “major depression”/exp OR “anxiety disorder”/exp OR “anxiety”/exp OR “separation anxiety”/exp OR “posttraumatic stress disorder”/exp OR (“mental”:ti,ab OR “psychiatric”:ti,ab OR “behavior”:ti,ab) AND (“disorder*”:ti,ab OR “diagnosis”:ti,ab OR “health”:ti,ab) OR (“depress*”:ti,ab AND (“disorder”:ti,ab OR “symptom*”:ti,ab OR “postpartum”:ti,ab OR “post-partum”:ti,ab OR “post partum”:ti,ab OR “postnatal”:ti,ab OR “post-natal”:ti,ab OR “post natal”:ti,ab OR “puerperal”:ti,ab) OR “depression”:ti,ab OR “anxiety”:ti,ab OR (“anxiety”:ti,ab AND (“disorder”:ti,ab OR “separation”:ti,ab)) OR (“post-traumatic”:ti,ab OR “posttraumatic”:ti,ab OR “post traumatic”:ti,ab) AND (“stress”:ti,ab OR “disorder”:ti,ab))
#4 Study type	“epidemiology”/de OR “observational study”/de OR “qualitative research”/de OR “case control study”/de OR “retrospective study”/de OR “control group”/de OR “cohort analysis”/de OR “prospective study”/de OR “longitudinal study”/de OR “follow up”/de OR “cross-sectional study”/de OR “prevalence”/de OR “incidence”/de OR “epidemiological study”:ti,ab OR “observational study”:ti,ab OR “qualitative research”:ti,ab OR (“case”:ti,ab AND “control”:ti,ab) OR (“cases”:ti,ab AND “controls”:ti,ab) OR (“cases”:ti,ab AND “controlled”:ti,ab) OR “control group”:ti,ab OR “control groups”:ti,ab OR “cohort”:ti,ab OR “longitudinal”:ti,ab OR “prospective”:ti,ab OR “retrospective”:ti,ab OR “cross-sectional”:ti,ab OR “prevalence”:ti,ab OR “transversal study”:ti,ab OR “incidence”:ti,ab
Search	#1 AND #2 AND #3 AND #4
<i>Identifier</i>	Strategy LILACS
#1 Patient	(women) OR (mother) OR (adolescent)

Table 2 (continued)

<i>Identifier</i>	<i>Strategy PubMed</i>
#2 Exposure	(child death) OR (perinatal death) OR (fetus death) OR (spontaneous abortion) OR (induced abortion) OR (grief) OR (bereavement)
#3 Outcomes	(mental health) OR (mental disease) OR (depression) OR (postnatal depression) OR (major depression) OR (anxiety disorder) OR (anxiety) OR (separation anxiety) OR (posttraumatic stress disorder)
#4 Study type	(epidemiology) OR (observational study) OR (qualitative research) OR (case control study) OR (retrospective study) OR (control group) OR (cohort analysis) OR (prospective study) OR (longitudinal study) OR (follow up) OR (cross-sectional study) OR (prevalence) OR (incidence)
Search	#1 AND #2 AND #3 AND #4
<i>Identifier</i>	<i>Strategy PsycINFO</i>
#1 Patient	“mourning” OR “bereavement”) AND (“women” OR “woman” OR “women group*” OR “mother*” OR “maternal” OR “adolescent” OR (“young” AND (“woman” OR “women” OR “mother”)))
#2 Exposure	((“death” OR “demise”) AND (“infant” OR “perinatal” OR “neonatal” OR “fetal”) OR “induced abortion” OR “provoked abortion” OR “spontaneous abortion” OR “abortion” OR “pregnancy loss” OR “miscarriage” OR “pregnancy interruption” OR “grief” OR “mourning” OR “bereavement”)
#3 Outcomes	((“mental” OR “psychiatric” OR “behavior”) AND (“disorder*” OR “diagnosis” OR “health”) OR (“depress*” AND (“disorder” OR “symptom*” OR “postpartum” OR “post-partum” OR “post partum” OR “postnatal” OR “post-natal” OR “post natal” OR “puerperal”)) OR “depression” OR “anxiety” OR (“anxiety” AND (“disorder” OR “separation”)) OR (“post-traumatic” OR “posttraumatic” OR “post traumatic”) AND (“stress” OR “disorder”)))
#4 Study type	(“epidemiological study” OR “observational study” OR “qualitative research” OR (“case” AND “control”) OR (“cases” AND “controls”) OR (“cases” AND “controlled”) OR “control group” OR “control groups” OR “cohort” OR “longitudinal” OR “prospective” OR “retrospective” OR “cross-sectional” OR “prevalence” OR “transversal study” OR “incidence”)
Search	#1 AND #2 AND #3 AND #4

Table 3 Quality assessment of the articles selected for review, according to the Study Quality Assessment Tools of the National Heart, Lung, and Blood Institute (Quality Assessment Tool for cohort and cross-sectional studies; the answers can be “yes,” “no,” or “other” (that includes CA cannot determine, NA not applicable, and NR not reported). Quality can be graded as “good,” “fair,” and “poor”; this table shows the final version of the quality assessment, after checked by two independent reviewers and validated by a third reviewer) (*n* = 23)

Authorship	Study design	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Quality rating
Al-Maharma et al. (2016)	Cross-sectional	Yes	Yes	No	Yes	Yes	No	No	Other	Yes	No	Yes	Yes	Other	No	Fair
Clark et al. (2021)	Cross-sectional	Yes	Yes	No	Yes	No	No	No	Other	Yes	No	Yes	Yes	Other	No	Fair
DeMontigny et al. (2017)	Cross-sectional	Yes	Yes	No	Yes	No	No	No	Other	Yes	No	Yes	Yes	Other	Yes	Fair
DeMontigny et al. (2020)	Cross-sectional	Yes	Yes	No	Yes	Yes	No	No	Other	Yes	No	Yes	Yes	Other	Yes	Good
Druguet et al. (2018)	Cross-sectional	Yes	Yes	No	Yes	No	No	No	Other	Yes	No	Yes	Yes	Other	No	Fair
Goldstein et al. (2018)	Cohort	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Fair
Hawthorne et al. (2016)	Cohort	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Good
Inati et al. (2018)	Cross-sectional	Yes	Yes	No	Yes	No	No	No	Other	Yes	No	Yes	Yes	Other	Yes	Fair
Keim et al. (2017)	Cross-sectional	Yes	Yes	No	Yes	No	No	No	Other	Yes	No	Yes	Yes	Other	No	Fair
Kerns et al. (2018)	Cross-sectional	Yes	Yes	No	Yes	No	No	No	Other	Yes	No	Yes	Yes	Other	Yes	Fair
Kokou-Kpoloul et al. (2018)	Cross-sectional	Yes	Yes	No	Yes	No	No	No	Other	Yes	No	Yes	Yes	Other	Yes	Fair
Kulathilaka et al. (2016)	Cohort	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes	No	Yes	Yes	Other	Yes	Fair
Lafarge et al. (2017)	Cross-sectional	Yes	Yes	No	Yes	No	No	No	Other	Yes	No	Yes	Yes	Other	No	Fair
Lafarge et al. (2020)	Cross-sectional	Yes	Yes	No	Yes	Yes	No	No	Other	Yes	No	Yes	Yes	Other	Yes	Fair
Mashlach et al. (2013)	Cohort	Yes	Yes	No	Yes	No	Yes	Yes	Other	Yes	Yes	Yes	Yes	Other	Yes	Fair
Paris et al. (2016)	Cross-sectional	Yes	Yes	No	Yes	No	No	No	Other	Yes	No	Yes	Yes	Other	No	Fair
Pollock et al. (2021)	Cross-sectional	Yes	Yes	No	Yes	No	No	No	Other	Yes	No	Yes	Yes	Other	Yes	Fair
Ridaura et al. (2017)	Cohort	Yes	Yes	No	Yes	Yes	Yes	Yes	Other	Yes	No	Yes	Yes	Other	No	Fair
Roberts and Lee (2014)	Cohort	Yes	Yes	No	Yes	No	No	No	Other	Yes	Yes	Yes	Yes	No	Yes	Good
Roberts et al. (2021)	Cross-sectional	Yes	Yes	No	Yes	No	No	No	Other	Yes	No	Yes	Yes	Other	Yes	Fair
Volgsten et al. (2018a)	Cohort	Yes	Yes	No	Yes	No	Yes	Yes	Other	Yes	Yes	Yes	Yes	Other	No	Fair
Volgsten et al. (2018b)	Cohort	Yes	Yes	No	Yes	No	Yes	Yes	Other	Yes	Yes	Yes	Yes	No	No	Fair
Wilson et al. (2015)	Cohort	Yes	Yes	No	Yes	No	Yes	Yes	Other	Yes	Yes	Yes	Yes	Yes	No	Fair

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Declarations

Conflict of Interest The authors declare no competing interests.

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