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A womb and a tomb: mothers' experiences of single fetal loss in a twin pregnancy

Avital Gershfeld-Litvin[1,2*] and Nathalie Yael Nur[1]

Abstract

Background Twin pregnancies carry a higher risk of complications and negative outcomes compared to single fetal pregnancies. The incidence of twin pregnancies has increased over the last three decades due to the use of assisted reproduction technologies and advancing maternal age. While extensive research exists regarding the experiences of women following perinatal loss, research on the experiences of women following single fetal loss in a twin pregnancy is very limited. The purpose of this study was to explore the experiences of women who endured the loss of a single twin in a twin pregnancy.

Methods Semi-structured interviews were conducted with 12 Israeli women whose losses had taken place between six months and 11 years prior to their enrollment in the study. Interviews were analyzed using thematic analysis.

Results Four themes were generated: (1) in the beginning there was joy; (2) a period of tremendous darkness; (3) then they took him away; and (4) the main thing is that you have a living child.

Conclusions Addressing both individual and societal aspects of this grief may foster better support for mothers in their dual roles as parents and mourners. Further research is needed to generalize these findings to a wider population and to deepen our understanding of grief experiences among women following twin pregnancies.

Keywords Bereavement, Grief, Perinatal loss, Twin pregnancy, Single fetal death

Introduction

Twin pregnancies (TP) are pregnancies in which two embryos develop simultaneously in the uterus. They are presently more common than they have ever been. A recent study reports that over the last 40 years, the global twinning rate has increased by a third, from 9 to 12 births per 1,000 [24]. This increase is mainly attributed to a greater use of assisted reproduction technologies (ART) and owing to advancing maternal age [2, 17]. The highest rate of utilization of ART in the world has been reported in Israel, where sociocultural and political measures encourage reproductive health [9]. Even with the remarkable stride made in reproductive medicine, perinatal loss, or the death of a fetus or newborn during pregnancy, at birth, or within the first weeks of life, continues to devastate parents and families around the world [3].

TP carry a higher risk of perinatal mortality, with prevalence varying from 0.5 to 6.8%, compared to single fetal pregnancies (SFP) [22, 27, 32]. Medical complications in TP stem from a myriad of causes, such as placental insufficiency, twin-to-twin transfusion syndrome, congenital abnormalities, cord complications, and others [10, 29]. To mitigate these risks, a procedure known as fetal reduction was developed; this procedure typically entails a selective termination or reduction of the number of fetuses [14]. Given the high incidence of morbidity and

*Correspondence:
Avital Gershfeld-Litvin
avitalgr@mta.ac.il
[1]School of Behavioral Sciences,The Academic College of Tel Aviv-Yaffo, Rabenu Yeruham 2, Tel Aviv-Yaffo 6818211, Israel
[2]Sheba Medical Center, Ramat GanDerech Sheba 2, 5262000, Israel

mortality in multiple pregnancies, a reduction to twins or a singleton is often recommended to improve survivability and minimize risks for the surviving fetuses and the mother [1].

Only a limited number of studies on the psychological experience of loss in TP have been carried out. One study has found that the experience of single fetal loss can involve traumatic reactions to the loss, including major changes in behavior, perception, decision making, and risk assessment [26]. Another study reported that mothers who experienced perinatal loss in TP are at a higher risk for psychiatric disorders and display a higher incidence of postpartum depression, difficulties in attachment, anxiety disorders, and sleep disorders, compared to singleton-parent counterparts [31].

Since most research to date has explored the experiences of perinatal loss among mothers and fathers without a specific focus on experiences of single fetal loss in TP [23, 26], it begs the question – do these experiences manifest in similar ways? Past research on parents' experiences of perinatal loss have noted that, in addition to other psychological responses, the grief that follows is often long-lasting, intense, and complicated [7]. When symptoms become more pervasive and persistent, a Prolonged Grief Disorder (PGD) may ensue and emerge as identity disruption, disbelief about the loss, avoidance of reminders of the loss, and intense emotional pain [30, 34]. Theoretical frameworks and models have also recognized commonalities in grief processes, among women and men [25]. Progressing beyond stage-based conceptualizations of grief, which put emphasis on acceptance or recovery, later models highlight oscillations between modes of coping [28], and the existence of continuing bonds (Klass, Silverman, & Nickman [21]), that acknowledge the remaining connection between the bereaved and the deceased [25]. Perinatal loss is understood as having been significantly stigmatized for centuries, particularly in Western societies, based on supposed discord with religious morals pertaining to reproduction and life as well as societal hierarchies of loss [8]. When the organic oscillation between loss and restoration is disrupted, or continuous bonds are upended, due to a conflict with societal expectations of the bereaved to shift their focus toward other aspects of life, grief may be disenfranchised and further complicated [8, 12].

In cases where single fetal loss occurs, mothers may be compelled to continue carrying both the living and the deceased fetuses to allow development of the surviving fetus [19]. The continuation of pregnancy following single fetal loss can have an impact on grief processes and complicate mothers' ability to form attachment to the surviving fetus [6, 23]. Both mothers and fathers often feel unable to honor the memory of the deceased fetus. Past studies have reported that parents are not always offered an opportunity to connect with their deceased fetus, despite evidence suggesting that farewell rituals are a positive coping mechanism for parents following perinatal loss [6, 13].

The aim of the present study was to expand on and deepen existing knowledge on the experience of single fetal loss in TP. To achieve this, semi-structured interviews were conducted with 12 Israeli mothers who experienced single fetal loss in TP. An inductive thematic analysis was performed to analyze the interviews.

Methods

Sample

Participants were recruited through purposive sampling. Advertisements were posted in Facebook groups with administrator approval. The inclusion criteria encompassed women who: (1) experienced a single fetal loss in TP at least six months prior to the interview; (2) were not pregnant at the time of their enrollment in the study; (3) were living in Israel; and (4) spoke Hebrew. To allow for a more diverse sample, factors such as age or having other children did not serve as inclusion criteria. A small number of women contacted the research team who did not meet the inclusion criteria (specifically, their loss occurred less than six months prior to the initial contact) and were not included in the study. Otherwise, all the women who came forward met the inclusion criteria, participated in the study, and completed the interview.

Twelve women, aged 31–43, were interviewed (see Table 1 for participant characteristics). Informed consent was given by all women prior to their enrollment in the study. The interviews were conducted in Hebrew and lasted 82.5 min on average (between 45 and 120 min). Identifying information was removed from all transcripts to ensure anonymity. All recordings and transcripts were saved in a password protected format to ensure confidentiality. Quotes were translated into English by the second author, a native speaker of Hebrew with bilingual proficiency in English. They were approved by the first author, a native speaker of Hebrew who is also proficient in English.

Design

Participants were interviewed by the second author, a medical psychology graduate student at the time who had extensive training in conducting interviews. The interviews were semi-structured and took place between March and June 2020 (see Table 2 for interview guide). All interviews were conducted on the online videoconferencing platform Zoom, due to social distancing measures set at the time in response to the COVID-19 pandemic.

A general question opened each of the interviews: "Please tell me about your experience during your

Table 1 Participant characteristics

Name	Age	Marital Status	Number of Living Children	Ethnicity	Time Since Loss	Gestation
Leah	31	Married	3	Jewish	2.5	18
Hannah	40	Married	1	Jewish	2.5	n/a
Ella	34	Married	2	Jewish	1.5	31
Tamar	43	Married	2	Jewish	10	32
Shelly	33	Married	2	Jewish	1	12+1
Rachel	35	Married	5	Jewish	5	23
Dana	38	Single	1	Jewish	3	30
Maya	34	Married	3	Jewish	9	31+1
Karen	37	Married	4	Jewish	0.5	8
Ariel	35	Married	3	Jewish	3	14
Miriam	38	Married	4	Jewish	10.5	35
Abigail	43	Married	3	Jewish	6.5	18

Pseudonyms were assigned to participants to maintain their anonymity. The ages presented are ages at the time of the interview. The number of living children includes the living twin. Time since loss is in years. Gestation refers to the gestational age when the loss occurred

Table 2 The interview guide

1. Please tell me about your experience during the pregnancy.
2. How did you deal with the loss?
3. Please tell me about the medical procedures you underwent.
4. Do you feel as if you have gone through a process of mourning?
5. Could you describe the reactions of your immediate relatives and friends?
6. How did this experience affect your relationship with the living twin?

pregnancy". Subsequent questions included follow-up, exploratory, and open-ended questions, including: "How did you cope with the loss?"; "Do you feel as if you have gone through a process of mourning?"; and "How did the experience of loss affect your relationship with the other twin?". Participants were provided the phone number of a clinic for postpartum and pregnancy loss mental health care at Sheba Medical Center in Israel, in case they experienced any distress during or after the interviews.

Data analysis

Data analysis was conducted according to Braun and Clarke's guide for thematic analysis [4]. This approach was adopted as it can accommodate a more varied sample and for its underscoring of the authors' reflexive role in shaping the interpretation of the text [4]. The interviews were transcribed manually by the second author, then read several times by both authors to familiarize themselves with the data. Initial codes were generated on paper for each transcript by both authors individually, then converted into categories based on conceptual relations between them. These categories were sorted into themes. The themes were reviewed to check whether theme definitions could need refinement. The most descriptive quotes were chosen to complement the themes. The authors analyzed the data independently, then compared and discussed the analyses until agreement was reached regarding themes and quotes.

Reflexivity

The authors are experienced in the field of medical psychology. Both authors have worked directly with patients living with pregnancy loss in hospital settings. The authors also have experience in collecting and interpreting qualitative data; experience they gained through their work on previous qualitative studies about pregnancy loss. The first author is both a mother and a twin. The second author was pregnant and later gave birth to her firstborn child during the analysis stage (after the interviewing stage). While the authors did not personally experience pregnancy loss, they have known loss in their personal lives. The authors adopted a grounded approach for the analysis of the data, which means that the interview guide was created with the intention of allowing the participants to have as much freedom as possible to describe their experiences, from their perspective, without being encumbered by the authors' preconceived notions. However, the authors' experiences were considered throughout the analysis as they engaged reflexively with the text. The authors discussed their analyses throughout the study and resolved disagreements based on exploration of alternative explanations for the data.

Findings

Four themes were generated: "In the beginning there was joy", "A period of tremendous darkness", "Then they took him away", and "The main thing is that you have a living child".

First theme: "In the beginning there was joy"

The subthemes of 'In the beginning there was joy' were 'Anticipation for twins' and 'Practical concerns'.

Anticipation for twins

The anticipation of carrying and giving birth to twins was described by participants with excitement and emotional investment. As one participant recalls: "In the beginning

of the pregnancy there was so much joy, especially when I found out I had twins" (Leah). Miriam shared that she could not contain her anticipation and felt she needed to share the news with her relatives and friends:

> *I was overwhelmed with joy. I knew from friends that it's customary not to share news of pregnancy so early. But I could not contain myself. It was bigger than us, the happiness, the joy.*

The anticipation extended to envisioning what taking care of twins would be like. After the loss, all that anticipation became a painful reminder of what was no longer to be, as Hannah recounts:

> *We prepared in advance for two [babies]…I wasn't too concerned with taking care of two. I knew we could do it. Everyone kept saying it would be difficult…But I wasn't concerned. Let's just say we had almost bought a stroller fit for twins…I guess it's luck we never did.*

Practical concerns

Preparing for twins required careful planning, turning anticipation to concern: "We had to recalibrate…It was our third pregnancy, but suddenly three became four. We didn't plan for two more…We had to think about how soon we could get a new car and everything" (Leah). Concern for practicality extended beyond the immediate future, as visions of significant milestones in the distant future materialized as well, as Ella recalls:

> *It was terrifying. [People] really freaked me out too. My husband and I are very calculated people.… What about when they want to go to university? We would have to ensure that we have the money, because we want to finance their higher education… I kept thinking about this kind of stuff. I even went ahead and told my boss right away, after the Nuchal Translucency Test, which is something I don't normally do.*

Another participant shared that she was concerned about supporting two children, considering that the pregnancy had not been planned: "We did not plan to be pregnant, let alone having twins. I was panicking. How will we support one child? Let alone two?" (Maya).

Second theme: "A period of tremendous darkness"

The subthemes of 'A period of tremendous darkness' were 'Overwhelmed or detached', 'Should I function or should I grieve', and 'Delaying grief'.

Overwhelmed or detached

Upon learning about the loss of the fetus, participants' descriptions reflect an oscillation between feeling overwhelmed and completely detached. As Rachel shares:

> *The doctors ran the tests again and again. One doctor said, "This is probably very hard to hear…", and I quite simply couldn't…didn't feel anything. I went back home, and my husband was already worried because I had said I would get back to him as soon as I left, and I haven't called with an update. Only later that night did it hit me. One of the fetuses had a serious heart defect.*

Oscillation between emotional upset and detachment seems to have set the tone for the early grieving process, as participants struggled with the reality of the loss. Dana recalls:

> *I remember I called…I called my dad, and I asked him to remain calm as I was telling him that I had gone to the hospital…I called. I told them [my parents] that there was no heartbeat. My mom called me and said that I screamed at her on the phone…I yelled out that "She was dead" and "Why did it happen?". But I can't honestly say that I remember any of that.*

Should I function or should I grieve

Some participants found themselves torn between a need to grieve and a need to continue functioning, suggesting that one would have to come at the expense of the other. As Karen recounts: "I had dived deep into grief. I couldn't get out of bed, out of the house, or meet people. I couldn't talk to people without crying. I would drive my kids to school and cry all the way there" (Karen). Other participants maintained that focusing on everyday functioning was a form of coping with the loss: "The lack of sleep, dealing with your other kids…In hindsight, I did all those things, I carried on through a period of tremendous darkness" (Ella). Processing the loss involved different coping mechanisms, and while participants regarded grieving and functioning differently, there was palpable tension between these processes.

Delaying grief

Both the prospect of losing and the actual loss of one twin, while continuing to carry the surviving twin, often led participants to experience delayed grief. Participants shared feelings of guilt, and even relief, in the aftermath of the loss. Some expressed guilt related to the unexpected nature of the loss, questioning whether they could have done something to prevent it or whether they had missed signs that something was wrong. As Dana reflects:

Maybe if I identified it a few hours earlier…I know I am not guilty of this, I know I am not to blame. I know that even if I had a monitor at home, I probably would not have been able to save her. I understand it, I accept it, but that doesn't mean it's easy for me.

Alongside guilt, some participants described an initial sense of relief, in terms of the clarity the loss offered for the remainder of the pregnancy. As Abigail recalls:

Up until we made the decision [to go ahead with the reduction], I was crying all the time. It was completely out of character for me. After that, there was a sense of relief. It was like when you bury someone. People say that when someone dies, burying them changes something in you, it's a different kind of pain. For me it came with a bit of relief.

Abigail's account of a "different kind of pain" suggests that her grief was on the verge of transitioning toward the restorative aspects of grief, moving away from the immediate and acute phase. Participants also found a sense of relief in having certainty. As Tamar describes:

I have had pregnancies before, they all failed at some point. At least this time we had certainty early on. Knowing what was going to happen calmed me down. I could breathe. It felt as if a burden was taken off me.

Third theme: "Then they took him away"

The subthemes of 'Then they took him away' were 'To see or not to see' and 'The moment of separation from the dead twin'.

To see or not to see

Participants were concerned about the possibility of encountering a distressing vision of their baby. The moment of giving birth brought participants face-to-face with the decision of whether to see and hold their deceased baby or not. As Dana recalls:

The doctor suggested it's best not to see the baby. I understand that after three weeks of intrauterine death, in a liquid environment, she will not look like a baby coming out of the womb. But maybe there was another way, maybe wrapping her in a sheet, or getting her hand or footprint. I only wanted to touch her. How am I supposed to cope with it? All you are left with is nothing. You are left with the memory. The memory is all yours.

Some participants regretted their decision not to see the baby and often wished they had taken the opportunity to say goodbye, in the hope of closure. As Maya recounts:

I spoke to the nurse in charge of the ward. I asked to speak to her because I had many questions about how birth goes in such cases. She told me I'd better not look, because they "look like rats". That sentence clung to me. That sentence alone was the reason I chose not to see him. That's also my biggest regret. I'm sorry I did not get to see him.

Other participants felt resolute about this decision and did not regret it, as Ella recalls:

I wanted to be able to tell my child, "Look, they open mommy's belly, they take the baby out, they close the belly, and here's a baby". I did not want to know what was going on there. I do not want to think about what would have happened if I had seen something [during birth]. Many women regret this decision terribly, I do not. I wanted a c-section. I said from the beginning that this was what I wanted. I didn't want to see or feel anything. My husband agreed with me, he knew it would affect me forever.

The moment of separation from the dead twin

The physical act of giving birth to the deceased baby was a profoundly painful moment. It marked the irreversible separation between mother and baby. Participants recounted how delivering their deceased baby brought a sense of finality, as Dana recalls:

I remember crying terribly before birth. I was effectively saying goodbye to her. Then they took her away from me. Up until that moment I managed to keep her "safe" with me. But I won't see or feel her anymore. She will no longer actually be there.

Some accounts reflected grief reactions to the separation, as Miriam shares:

He was wrapped in a blanket. I only saw his face. I saw an angel baby. A sleeping, stunning, unwrinkled, smooth, and beautiful baby. I was in shock, because I saw myself. We had the same lips. Of course I cried. The nurse asked if I wanted to kiss him goodbye, and I was shocked by the suggestion. I reached out and caressed him. Then they took him away.

While some participants found comfort in brief opportunities to hold or say goodbye to their baby before the separation, they also described feelings of shock, later replaced by feelings of emptiness and longing as the baby

was taken away. Another participant shared how mental and emotional preparation assisted her through separation and early grief, as Shelly recalls:

> *I did a very thorough preparation with my psychologist. I talked to him [the deceased baby]. I said goodbye. It was the smartest and healthiest thing I could do. I apologized to him and told him I loved him. I told him I was sorry and explained why I was doing this. I repeated those things like a mantra.*

Fourth theme: "The main thing is that you have a living child"

The subthemes of 'The main thing is that you have a living child' were 'Mirror twin', 'An unrecognized bond', and 'To conceal or to reveal'.

Mirror twin

Participants felt that their surviving twin often served as an enduring reminder of the baby they had lost. Visual similarities between the living and the deceased twin triggered memories of the deceased, bringing comfort to some and sorrow to others. As one participant shares: "I was not prepared to have mirrors in our house. I could not pass near a mirror with my son [the living twin]. I couldn't bear to see his reflection in the mirror" (Maya).

These visual reminders also ensure that the connection between the living and the deceased endures, allowing mothers to maintain a sense of parenthood for both twins. This connection lives in the present as well as in the future, as mothers described how they anticipated experiencing these reminders throughout their child's life, from milestone to milestone. As Dana shares:

> *I see what I have lost. I see it every day. I get up in the morning and go to bed at night and I see what I have lost. When she [the living twin] took her first steps, when she said "Mom" for the first time, and when she begins the 1st grade. It is a constant reminder of the fact that she [the deceased twin] was supposed to be a child of the same age. No one understands it.*

This connection can also be seen in the various ways mothers imagined what their deceased twin would have looked and behaved like if they had lived. As Hanna shares:

> *I think he [the deceased twin] would be more energetic. My child [the living twin] is good, adorable, disciplined, quiet, one that everybody loves and hugs. He is such a sweet boy. Maybe the other one would be like, I don't know, more like a bully. I don't know…I guess that usually twins are the opposite of one another, in terms of personality. Are they not?*

An unrecognized bond

The loss of one twin was accompanied by a sense of isolation. Participants described feeling pressured to focus solely on the surviving twin, with people even implying that their grief was inappropriate because they still had one living child to care for. As Maya recounts:

> *My mother's family was pressuring me in a way that was almost poisonous, I can say that today with full certainty. They said: "You have to forget about him, the main thing is that you have a living child. Concentrate on the living child. As if it never happened." My mother told me: "You have a living child; you didn't even know the other one."*

Participants were also confronted with other people's belief that losing one twin does not merit support in grief, because the other twin survived. As Leah shares:

> *People hold that losing one twin should not be considered equal in hardship to experiencing a stillbirth. They think that going through a stillbirth is higher in the hierarchy of loss. Unfortunately, I have heard it not only from my family, but from many other people too. Some told me that I couldn't say I went through stillbirth, even though I did, because I went back home with a living child.*

Another participant reflected that hospitals are not prepared for such events, effectively leaving mothers feeling abnormal and alone. As Tamar recalls:

> *I think that in contrast to a situation where there is a stillbirth of one fetus, hospitals seem to have not really addressed it yet. I felt that they responded as if I did not go through a stillbirth. You know, even though I went home with a baby, I also left without a baby. It felt as if they neglected to prepare me for what was going to happen. They never talked to me about the emotional consequences.*

To conceal or to reveal

Experiencing the loss, either through planned reduction or spontaneous abortion, mothers grappled with the complex decision of whether to share the loss with the surviving twin or keep it from them. This decision was tied to a desire to protect both themselves and the surviving twin. Participants expressed fear of being judged for their choices, particularly in cases of reduction, where they worried their surviving child may one day have tough questions. As Shelly reflects:

> *It's perfectly clear to me that someday I'll have to tell them. I don't know how I'll do it. I'll have to tell them*

that there were five before them, and that we waited for them. It'll be harder to explain that they had a twin brother. I know I'll have a hard time telling them this. They may one day come to me and say, "How could you choose to let one of us go?"

Participants were also concerned with sparing their child the emotional burden of carrying the memory of the lost twin. Some described how the presence of this knowledge could weigh heavily on the surviving twin, engendering in them a sense of obligation or even guilt. As Maya recounts:

I do not want him to take his brother's death upon himself. I do not want him to ever have to live with the feeling that it was "because of him". I do want him to know, but I want him to accept it as – "You were both weak, but you managed to survive." I do not want to ever tell him that we made such a decision [regarding reduction].

Discussion

The present study found that experiences of single fetal loss in a twin pregnancy reflect deeply emotional and dynamic processes. The findings can be interpreted based on three seminal theoretical frameworks – the Pushing On Theory of Maternal Bereavement [33], Continuing Bonds Theory [21], and Disenfranchised Grief [11].

Pushing on theory of maternal bereavement

Pushing On Theory indicates that grief after perinatal loss follows a pattern that consists of experiencing the pregnancy, losing the baby, bearing the burden of loss, working through the pain, and transcending the suffering it entails [33]. In line with past findings in support of Pushing On Theory, the present findings also demonstrate that, at the outset of the pregnancy, the anticipation of carrying twins brought excitement and emotional investment, as mothers focused on the joys and challenges of raising twins. Upon discovering that there was a problem with the pregnancy, or upon learning of the single twin loss, this anticipation became fraught with shock. The initial reaction was marked by an oscillation between feeling overwhelmed by the loss and detaching emotionally as a means of coping. Giving birth had a further impact on mothers' experiences, as they faced the moment of separation from their deceased twin. Following the birth of the surviving twin, mothers continued to grapple with the dual processes of parenting and grieving. These processes embodied a continuing bond with the deceased twin, maintained through memories of the deceased and reflections through the surviving twin.

Continuing bonds

In the early stages of pregnancy, mothers focused equally on both twins. In line with past literature on experiences of pregnancy loss [16], mothers were emotionally invested in their shared future and made practical preparations for their arrival. Imagining the future signified the formation of strong bonds with the twins. However, upon learning of the complication or the loss, the mothers' focus shifted from both twins to the deceased twin. The loss engendered emotional oscillation, between feeling overwhelmed and detached. Mothers' thoughts turned to what might have been, as they began to grieve for dreams and expectations that were now lost. The decision of whether to see and hold the deceased twin during delivery served as a pivotal moment in shaping this bond. Mothers either found solace in brief moments in physical contact with their dead baby or chose to avoid this at all costs. Some mothers expressed regret over not seeing their baby, citing discouragement by healthcare professionals as the main reason for not having done so. Whether by having contact with the deceased baby or in its absence, lasting memories of the deceased were created in those moments that stood to further solidify this bond.

The birth also shifted the mothers' focus on the surviving twin. The immediate needs of the living twin redirected the mothers' attention to their role as a parent of a living child. Past literature found that when parents reassume their parental role in the aftermath of pregnancy loss, they essentially distract themselves from the potential impact of the loss [15]. However, our findings suggest that the bond with the deceased twin remains, in line with the theory of Continuing Bonds [21]. The bond was often reinforced by the physical, visual reminders that the surviving twin provides. For most mothers, the living twin became a *mirror* of the deceased. This duality persisted as each milestone of the living twin inevitably accentuated the absence of the deceased twin. This way, mothers continued to be a parent to both twins – one in the physical world and one in memory. In line with past literature, our findings suggest that navigating the complexities of experiencing a single fetal loss in a twin pregnancy involves integrating both twins into one's identity as a parent [20]. Rather than representing a form of complicated grief, continuing bonds may be understood as cognitive, behavioral, and psychological manifestations of grief that facilitate the oscillation described in Stroebe and Schut's Dual-Process Model of Coping with Bereavement [18, 28]. That is, between loss- and restoration-oriented grieving [28].

Disenfranchised Grief

The grief experienced by mothers following the loss of one twin was influenced by societal and internalized

attitudes and perceptions. Disregarding the complexity of mothers' experiences, relatives and friends encouraged, and sometimes even demanded, that mothers focus solely on maintaining the health of the surviving twin during the remainder of the pregnancy and later concentrate on raising the child. During the pregnancy, emphasis on the health and well-being of the surviving twin overshadowed the mothers' grief for the deceased twin. Attitudes by healthcare providers discouraged mothers from seeing or being in physical contact with their deceased child upon delivery, thereby impeding their grief and fomenting feelings of guilt and regret. The lack of preparation and guidance by healthcare providers left mothers feeling isolated and their loss unworthy of attention and mourning. This represented an example of disenfranchised grief; an experience of loss that is not openly recognized, mourned, or socially supported [11, 12]. In line with past literature, this led mothers to experience a delayed onset of grief in the aftermath of the loss [23].

The disenfranchisement of the mothers' grief became even more pronounced after birth. Societal attitudes emphasized gratitude for the surviving twin, often diminishing or dismissing the significance of the loss. Mothers were encouraged to accept the notion that the presence of a living child mitigates the loss and cancels the need for mourning. Additionally, unlike other bereavements in Israeli society, where structured rituals tend to provide communal acknowledgement, mothers experiencing single fetal loss in a twin pregnancy lack comparable practices. Indeed, the mothers we interviewed did not sit *Shiva* for their deceased child. Over the years, research into disenfranchised grief has also identified a distinct form known as double disenfranchisement [5]. That is, an additional lack of societal recognition can add a level of disenfranchisement following perinatal loss [25]. In the case of single fetal loss in a twin pregnancy, the first level is the societal lack of recognition of fetal loss, the second level is the societal lack of recognition of grief beyond birth because these mothers have a living baby (the surviving twin). While Obst and colleagues mainly discuss the double disenfranchisement of fathers [25], their conclusion regarding the need to look beyond the individual grief response and consider the socioecological perspective, may ring true for mothers following single fetal loss in a twin pregnancy.

Current bereavement theories suggest that continued integration of a loved one in one's life is a common practice representing a normal facet of grief [21, 28]. Despite the disenfranchisement they experienced, mothers adaptively navigated their grief. Many actively engaged in grief after the loss, during pregnancy and after birth. Grief was facilitated by having a continuing bond with the deceased twin. By integrating their loss into their lives, mothers resisted societal pressures to simply "move on" and thus asserted the significance of their bonds with both twins. The surviving twin often played a role in the process, either by rekindling maternal preoccupation or by serving as a reminder of the lost twin.

Limitations

While this study provides insights into the experiences of mothers following single fetal loss in a twin pregnancy, several limitations should be acknowledged. All participants were Jewish Israelis, which may impact the applicability of these findings to individuals from other cultures. Additionally, the relatively small sample size, while appropriate for qualitative research, may limit the generalizability of the findings. Self-selection bias may be at play, as women who chose to participate in the study could represent those more willing or able to reflect on their loss. Consequently, the findings may not fully capture the diversity of experiences among mothers who have experienced single fetal loss in a twin pregnancy. Furthermore, a lack of distinction between experiences of spontaneous abortion, stillbirth, and planned reduction, may limit one's ability to draw conclusions on the potentially unique aspects of each type of loss. The authors also recognize that the time that has passed since the event could introduce recall bias, as participants' recollections and interpretations of their experiences may have changed over time. While the authors are not aware of specific changes in support in hospital settings, it is possible that measures have been put in place over the past few years to better support women who experience single fetal loss in a twin pregnancy. Future research should consider a longitudinal design to explore the changeability of these experiences over longer periods.

Conclusions

The loss of one twin engenders a profound grief that is characterized by emotional duality and oscillation between grief processes. Mothers feel that this grief is unrecognized, both in the hospital setting and in everyday life, where attention tends to shift to the living twin. For mothers, the living twin is a child they yearned for and feel joy in raising, but also a constant reminder of the twin that was lost. The present findings make clear the need for support that honors both their ongoing role as parents and the grief they feel and carry. Due to the nature of the disenfranchisement experienced by these mothers, interventions should take place on two levels. First, healthcare providers should participate in a psychoeducation-based training, as part of their multiple pregnancy medical training, to familiarize themselves with mothers' experiences of losing a fetus in a twin pregnancy. The training should focus on the duality of losing one twin and parenting another, and its emotional implications for mothers. Healthcare providers should

also offer resources and guidance for mothers navigating decisions pertaining to the loss, particularly regarding long-term support for the family. Second, individual and group therapy should focus on validating mothers' grief and their role as mothers, while offering a pathway to maintaining both the organic oscillation between grief processes and the continuing bond with the lost twin. Future research should continue to explore and address the long-term needs of mothers. It should also explore the experiences of fathers.

Abbreviations

TP	Twin pregnancy
ART	Assisted reproduction technologies
SFP	Single fetal pregnancy

Acknowledgements
Not applicable.

Authors' contributions
A.G.L. and N.Y.N. contributed to the study conception and design. Data collection and curation were performed by N.Y.N. Formal analysis was conducted by A.G.L. and N.Y.N. Validation and visualization of the data were performed by A.G.L. and N.Y.N. The first draft of the manuscript was written by N.Y.N. A.G.L. and N.Y.N. read and approved the final manuscript.

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Data availability
The interview data collected in this study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
This study received ethical approval from the institutional review board at The Academic College of Tel Aviv-Yaffo (approval number: 2020030). The study was conducted in accordance with the guidelines and regulations set forth by the Declaration of Helsinki. Written informed consent was obtained from all participants.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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