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A proposed framework for perinatal loss trauma informed care

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ABSTRACT

Perinatal loss is often an emotionally traumatic experience for parents. Up to 60% of parents continue to experience symptoms of trauma for up to five years. Adverse health outcomes include cardiovascular, endocrine, sleep, and eating disorders, and a host of psychosocial disorders, including depression, anxiety, substance misuse, and suicidality. To mitigate the adverse symptoms of emotional trauma, it is necessary to approach care through a trauma informed lens. The Perinatal Trauma Informed Care framework incorporates the six principles of Trauma Informed Care outlined by the Substance Abuse and Mental Health Services Administration to the perinatal loss experience. Specific examples of strategic application of the six principles are discussed to equip healthcare professionals with the tools and skills necessary to mitigate the traumatic nature of the perinatal loss experience. With this framework, healthcare professionals can decrease the risk of traumatization throughout the perinatal loss experience. Using a Trauma Informed approach and reducing traumatization may decrease the overall burden of associated adverse biopsychosocial outcomes.

Trauma occurs with the unexpected exposure to violence, neglect, natural disasters, or loss (Elisseou et al., 2019; Kartha et al., 2008). Approximately 89% of the population in the United States have been exposed to at least one traumatic event in their lifetime (Elisseou et al., 2019). Trauma exposure and the subsequent hyperarousal of the sympathetic nervous system (SNS) results in a confounding assortment of physical, psychological, and emotional symptoms. In the hours, weeks, and potentially years following trauma, individuals may continue to experience hyperarousal of the SNS when exposed to direct or indirect stimuli (i.e., "triggers") related to the traumatic event (Corrigan et al., 2011). Without social support, intrusive recollection and persistent, recurrent symptoms brought on by triggering stimuli often develop into chronic conditions such as heart disease, compromised immune system, and endocrine disorders (Cacciatore et al., 2021; Elisseou et al., 2019).

In 2022, perinatal loss was recognized as a traumatic event for parents (Berry, 2022). Perinatal loss, the death of a fetus or neonate between conception and birth, results from miscarriage, stillbirth, termination, and life-limiting fetal diagnoses. Up to 60% of parents worldwide experience symptoms of posttraumatic stress up to five years following perinatal loss (Ordóñez et al., 2020). Additionally, 25–75% of parents who experience perinatal loss develop complicated grief, a preventable adverse biopsychosocial outcomes characterized by depression, anxiety, suicidality, substance misuse, eating and sleep disorders, obesity, hypertension, diabetes, cancer, and premature death (Berry et al., 2021; Fernández-Sola et al., 2020; Hutti et al., 2017). The prevalence of trauma and complicated grief following perinatal loss is concerning, especially when compared to the 4% of complicated grief experienced by the general population following the loss of a spouse, parent, friend, or older child (Enez, 2018).

1. Background

Death is an inevitable reality. Grief, the emotional response which arises following the death of a loved one, is a natural human response. With time and social support, most grieving persons adjust to a world without their loved one. The freedom and ability to express grief is an important part of the healing process following the loss of a loved one (Worden and James, 2018). Societal expectations establish grieving norms and dictate the types of losses which are recognized and considered 'real' or 'meaningful' (Enez, 2018). In the event of an unexpected death or a death that is not recognized by society, individuals may experience disenfranchised grief, which frequently manifests into traumatic grief (Degroot and Vik, 2017; Enez, 2018; Prigerson et al., 2009). Traumatic grief often complicates the healing process, particularly in the absence of social support (Cacciatore et al., 2021). Perinatal loss is an example of a loss which is rarely recognized by society (Lang et al., 2011; Obst et al., 2020). Without societal recognition, bereaved parents are not extended societal permission to outwardly grieve their loss. In the absence of societal recognition of the emotional impact of perinatal loss, parents often experience emotional distress which compounds the grief of their loss. In essence, perinatal loss results in a disenfranchised loss, often leading to traumatic grief.

Based on a scoping review, there are four critical milestones within the perinatal loss experience which influence the healing trajectory (Berry, 2022). The milestones include the Diagnosis, Birth, Disclosing the loss to Others, and Beyond the Birth (Table 1). A milestone is a significant event in an individual's life which triggers change. Milestones include obtaining a driver's license, graduating high school or college, getting married or divorced, or becoming a parent. Such

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Table 1
Critical milestones.

Milestone	Inherent Elements	Capacity to Mitigate Trauma	Capacity to Potentiate Trauma
The Diagnosis	• Communicating the life-limiting nature of the pregnancy • Discussing treatment options • Decision-making	• Empathy throughout care interactions • Sensitivity of language • Foster shared decision-making • Avoid pressure to make decisions • Allow ample time for care interactions • Repeat information as necessary • Encourage parent(s) to return in a few days for further discussions	• Lack of empathy • Insensitive language and medical jargon • Undisclosed treatment options • Withholding/not discussing information • Inhibiting shared decision-making • Excluding pregnant person and/or supporting partner from care discussions
The Birth	• Resuscitation • Pain & symptom management • Birth modality • Support persons present • Birthing person's partner • Living children	• Allow parents to guide care • Offer suggestions on memory-making • Allow multiple support persons • Allow sibling to guide involvement • Communicate loss to interprofessional team • Companioning by *being with*	• Lack of empathy • Rushing decision-making • Not adhering to pre-established birth plan • Lack of flexibility • Limiting support persons • Attempting to "fix" grief • Not addressing end-of-life symptoms of neonate
Disclosing the Loss to Others	• Communicating the loss within the social sphere • Discussing decisions with friends and family • Discussing the loss with living children • Receiving a lack of support • Insensitive comments from others • Misunderstanding of grief experienced • Pressure to "return to normal"	• Warn parents for potential of insensitive comments • Equip parents with healthy responses to social insensitivity • Connect parents to support groups/mental health resources • Provide resources to discuss loss with living children • Normalize parents' grief	• Avoidance • Absence of support • Dissolution of relationships • Insensitive comments • Lack of resources
Beyond the Loss	• Returning home • Fulfilling role(s) • Returning to work • Reentering life • Reestablishing relationships • Partner intimacy • Pregnancy after loss • Living/coping with grief	• Follow-up appointments • Routine assessment of grief intensity, coping, symptoms of trauma, etc. • Resource referrals • Addressing topics of lactation, bleeding, hormonal changes, intimacy, and subsequent pregnancy • Observance of "angel-versary"	• Absence of support • Lack of follow-up care

milestones disrupt the status quo of daily life, requiring the individual to evolve and adapt as they learn to live in their new reality. The change triggered by milestones can be either positive, fostering growth, or negative, resulting in maladaptive coping behaviors. Identifying key milestones within the perinatal loss experience is significant in understanding how to support parents in their grief. Health care professionals can intervene and support parents at each milestone, with the overall goal of facilitating healing.

Recognizing the emotional trauma within the perinatal loss experience is the first step in supporting bereaved parents. With two thirds of parents experiencing persistent symptoms of trauma following perinatal loss, it is necessary to adopt an approach to care to mitigate the prevalence of trauma. Health care professionals are instrumental in facilitating healing and can strategically intervene to support parents throughout their loss experience (Berry et al., 2021; Nuzum et al., 2018). In this paper, we will discuss how to implement a Trauma Informed framework to decrease the emotional trauma throughout the perinatal loss experience. The examples within are based on research and non-profit care organizations in the United States; thus, the examples will be framed within the context of care in the United States. It is the hope of the authors that the examples can be translated into care settings throughout the world.

2. Trauma informed care

Trauma exposure negatively impacts the individual's sense of safety, autonomy, and trust (Elisseou et al., 2019). Depending on the nature of the trauma, triggers may result from interactions with health care professionals, physical exams, and exposure to the healthcare environment (Elisseou et al., 2019). Thus, trigger avoidance often results in decreased healthcare utilization (Kartha et al., 2008). In response, the Unites States Substance Abuse and Mental Health Services Administration (SAMHSA) developed a taskforce in 2018 to identify essential components to Trauma Informed Care (TIC). The integration of TIC into the care setting involves three central criteria: awareness, detection, and integration. The criteria refer to awareness of both the pervasive impact of trauma and the possibility of subsequent healing, detection (recognition) of symptoms of trauma experienced by individuals, and the act of responding fully by incorporating trauma knowledge into policies, procedures, and practices in the effort to avoid retraumatization (integration).

There are six principles of TIC as identified by SAMHSA: 1) safety, 2) trustworthiness and transparency, 3) peer support, 4) collaboration and mutuality, 5) empowerment, choice and voice, and 6) cultural, historical, and gender issues. Integrating the six principles of TIC (discussed below) into care interactions is key in preventing retraumatization. Retraumatization occurs when an individual who has experienced trauma is triggered, causing them to relive the traumatic event in a very real, tangible sense. The term "trigger" refers to anything that sparks a memory of a past trauma. A trigger can be a smell, article of clothing, statement, location, person, etc. While the long-term goal of TIC is to empower individuals to manage triggers, it is also critical to avoid retraumatizing the individual in the immediate events surrounding the trauma.

2.1. Safety

When an individual experiences trauma, the neurological pathways in the brain are neurochemically altered, which negatively impacts relationships, attachment, and daily life (Boelen and Lenferink, 2020; Christiansen, 2017; Corrigan et al., 2011; Faleschini et al., 2021). Following trauma or retraumatization, the SNS hijacks the autonomic nervous system, causing the individual to exist in a state of hyperarousal. When the SNS is activated, the brain interprets ordinary, daily

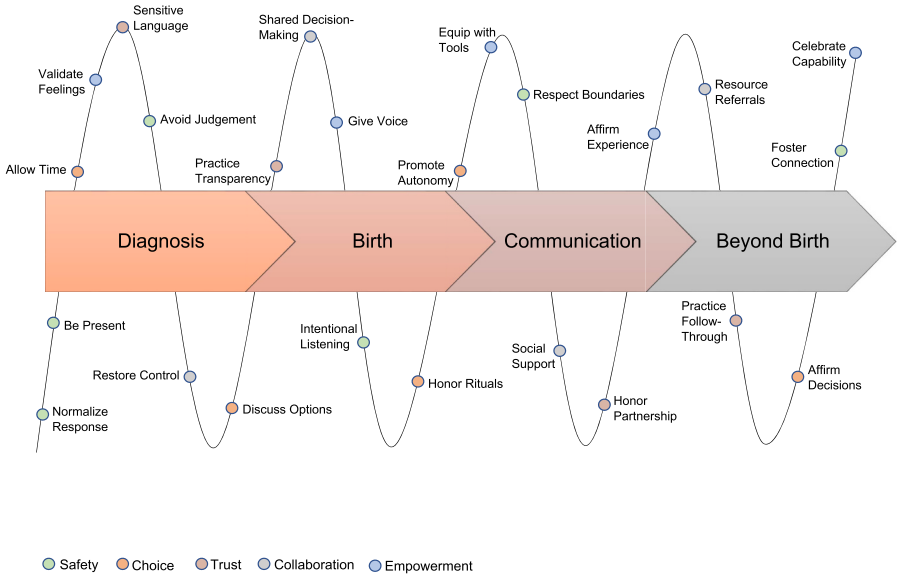

Fig. 1. Application of TIC to critical milestones.

input as *danger*. Individuals in this prolonged state of hyperarousal necessitate an alternate approach to healthcare services. Safety, both physically and psychologically, must be experienced by the individual to override the SNS, allowing them to return from a chronic state of hyperarousal.

2.2. Trustworthiness and transparency

Along with the loss of control and absence of feeling safe, the individual who has experienced trauma no longer feels able to trust the world or the characters within. Developing a trust with the patient through honesty and transparency is an integral principle of TIC. To foster trust, it is critical to respectfully maintain the boundaries of the individual. Building a trusting relationship requires time and cannot be rushed or feigned. Trust requires transparency on the part of the health care professional, as well as dependability, follow through, and respect.

2.3. Peer support

TIC recognizes the impact of social support throughout the healing process. Individuals who are not connected to a strong support system, or who feel isolated and alone, have poorer outcomes in the wake of trauma. It's necessary to connect individuals to a strong support system and offer resources to foster healing.

2.4. Collaboration and mutuality

In TIC, collaboration refers to partnering with the individual who has experienced trauma to facilitate shared decision-making. Enabling the individual to make their own choices helps to return a sense of control that has been lost in the face of the traumatic event(s).

2.5. Empowerment, choice, and voice

Individuals who have experienced trauma have lost a sense of control over their lives (Corrigan et al., 2011). In TIC, providing choice is critical in promoting autonomy and allowing the individual to regain some semblance of control. Maintaining control also fosters a sense of safety for the individual. For healthy and effective coping to occur, it's necessary for the individual to feel empowered and *capable* of healing. Giving a voice to the individual living in the wake of trauma validates and affirms their experience. Along with regaining a sense of safety and control, the individual whose experiences have been genuinely validated are able to feel empowered to heal from their trauma(s) and to face life in the upcoming days, weeks, and years.

2.6. Cultural, historical, and gender issues

Throughout history, underrepresented and minority groups have endured untoward discrimination and hardship. It's important to recognize the layers of trauma experienced by individuals and people groups to avoid further systematic traumatization and retraumatization. Resources and support offered should be sensitive and appropriate to the individual's unique background, culture, and gender.

3. Proposed framework: Perinatal trauma informed care

This paper will discuss how to adapt the TIC framework to the perinatal loss experience (Fig. 1). The goal of TIC is to facilitate healing while avoiding retraumatization. In the event of perinatal loss, this can be accomplished by facilitating connection and empowering individuals to feel they are capable of surviving the death of their child. The principles of TIC will be applied to each of the four critical milestones (diagnosis, birth, disclosing the loss to others, and beyond the loss) during which parents are particularly susceptible to retraumatization.

The Perinatal TIC (PTIC) framework will be guided by Wolfelt's Companioning Model (Wolfelt, 2005). Wolfelt's model is founded in the philosophy that grieving persons should be "companioned" rather than "treated." In *companioning* following perinatal loss, the health care professional adopts an attitude of *being with*, of acknowledging perinatal loss as a life-altering event and becoming a partner with the bereaved parents throughout the experience. Heustis et al. (2005) book, *Companioning at a Time of Perinatal Loss*, is a guide for health care professionals in the obstetric setting. In the book, the authors discuss how to companion families, become part of their stories, and foster healing at the time of birth to beyond discharge.

In this paper, we will provide an overview of how to integrate PTIC into the perinatal loss experience. The specific examples provided are derived from the literature and from the TIC practice of two non-profit organizations (Be Not Afraid, String of Pearls) which provide perinatal palliative care coordination to families following the diagnosis of a life-limiting fetal diagnosis. The second (Winsor) and third (Huene) authors

are the founders, co-executors, and leading care coordinators of Be Not Afraid (https://benotafraid.net/) and String of Pearls (https://www.stringofpearlsonline.org/) respectively. Each are directly involved in supporting families throughout and in the years following perinatal loss (es).

3.1. Critical milestone: The diagnosis

The moment perinatal loss is identified is traumatic for many parents, regardless of loss etiology or gestational age (Ordóñez et al., 2020). Communicating the terminal nature of the pregnancy is a pivotal milestone within the perinatal loss experience. It sets the stage for the remainder of the pregnancy and influences the path towards healing (Berry, 2022; Berry and Colorafi, 2019). Understanding the impact of acute shock following emotionally devastating news is important to appropriately address parents' needs.

Emotionally traumatic news activates the SNS. With SNS activation, the brain cannot process, interpret, or retain information during or shortly after a traumatic event. Many parents have described feeling numb, dumbfounded, or as if they are no longer a part of their body (Kurz, 2020; Lisy et al., 2016; Nuzum et al., 2018). Parents further report being bombarded and overwhelmed by the sheer volume of information they receive immediately upon diagnosis (Berry et al., 2021; Côté-Arsenault and Denney-Koelsch, 2016; Nuzum et al., 2018). The expectation for parents to make decisions regarding their pregnancy at the time of diagnosis has been reported to compound the emotional turbulence (Berry et al., 2021; Connell et al., 2019; Côté-Arsenault and Denney-Koelsch, 2016). In contrast, parents who felt supported during the time of diagnosis had lower grief scores following the death of their baby (Berry et al., 2021). Healthcare professionals play an important role in helping parents feel safe, in restoring a sense of control, and in helping parents feel capable of surviving the loss of their baby.

To minimize the traumatic impact and foster healing, the principles of safety, choice, and empowerment become crucial at the time of diagnosis. The environment should be quiet, calm, and without distractions. It is also important to consider the *communicative stance*, or body language, tone, and terminology, during such discussions (Berry and Colorafi, 2019). Minimizing the use of medical jargon, terminology, or terms such as "non-viable" reduces the traumatic impact of the experience. Health care professionals should also assess parents' understanding of the diagnosis, address parents' concerns, explore parents' preferences, and emphasize parents' role in the decision-making process (Brann and Bute, 2017). Information often requires repetition and questions may need answered numerous times. Allowing ample time for care interactions and decision-making is necessary.

While many decisions must be made when a pregnancy will end in loss, it is important not to rush parents in the decision-making process. All options should be discussed in a non-biased manner. While health care professionals may consider one course of treatment superior over another, it is important not to "pull rank" or attempt to influence parents' decisions. Parents need to make a decision they can live with for the remainder of their lives. Thus, it is important for health care professionals to promote autonomy in the decision-making process, working *with* the parents rather than guiding them to a decision they may consider "best." Unless immediate, life-saving intervention is necessary, encourage parents to take several days to consider their options. Once the decision is made, it is important to respect parents' decisions.

Communication among the multiprofessional team regarding the loss is crucial. Cueing team members (sonographers, receptionists, phlebotomists, nurses, doctors, social workers, etc.) to the loss prevents the parent(s) from having to explain the details of their loss time and again. Multiple studies have highlighted the trauma parents experience when required to repeatedly recount their loss experience to the healthcare team (Berry et al., 2020; 2021; Faleschini et al., 2021; Lisy et al., 2016).

The diagnosis is the single moment in which many parents' lives change forever. The anticipated future is no longer a reality. The intense emotions parents feel and express often make health care professionals uncomfortable. The fear of saying the wrong thing or exacerbating the grief are common barriers to health care professionals caring for parents during this vulnerable time (Wool, 2012). However, being present, acknowledging parents' feelings, and normalizing the emotional responses are instrumental in fostering healing. Intentional listening, that is, listening with all attention and effort, offers parents the beautiful gift of being *heard* in their grief. It awards parents the opportunity to share their story, to explore their feelings, and to realize what is important to them. In coming alongside parents as a partner in their journey, health care professionals fill the powerful role of bearing witness to parents' suffering. Becoming a partner in their journey, health care professionals are able to restore some semblance of control to parents and set the stage for healing.

3.2. Critical milestone: The birth

When birth does not equate life, it is a deeply emotional experience for many parents, families, and healthcare professionals. The labor and delivery may become a traumatic and haunting memory for parents. With the application of PTIC, a traumatic and heartbreaking experience may be transformed into a beautiful memory. Healthcare professionals have the opportunity to "offer the family the most positive experience possible after the death of their baby or loss of their pregnancy" (Heustis et al., 2005, p. 69). In addition to attending to the physical and emotional needs of the family, healthcare professionals must help the family say goodbye to their baby. Through choice, collaboration, and empowerment, the birth experience may be transformed into a time of healing.

The death of a baby cannot be fixed. Similarly, the grief surrounding perinatal loss during birth cannot be fixed. Rather than attempting to "fix" the pain and hurt, healthcare professionals can provide a safe and respectful environment for parents to explore and express not only their grief, but also their love for their baby (Heustis et al., 2005). Being *present* throughout the birthing experience becomes the cornerstone to foster healing. Being present is remaining flexible and adapting to parents' needs as they arise. It means listening not only to parents' story, but to their silence. It is being an advocate and the stabile presence amidst a turbulent force of grief.

While parents should direct the birth experience, they may need encouragement and suggestions in deliberately creating meaningful moments. Suggestions such as bathing the baby, taking photographs, and involving siblings are often helpful, especially if the loss was not anticipated. Parents may be uncertain as to whether they want to see and hold their baby after death. While parents should not be pressured to hold their baby, many parents have found solace in holding their baby and should be offered the choice (Berry et al., 2021; Lisy et al., 2016). Cultural backgrounds must be respected, and it is important to avoid making assumptions based on culture. Follow the parents' lead on gathering mementoes such as photographs and hair clippings (Alaradi et al., 2022). Parents have expressed gratitude for healthcare professionals referring to their baby by name, stating it helps to solidify their humanity and brief existence in this world (Berry et al., 2021).

Sibling involvement throughout the perinatal loss experience may be a source of stress and anxiety for parents. The best approach to sibling involvement is ambiguous. Encourage parents to allow their children to dictate their level of involvement as appropriate. Often, sibling involvement is positive and healing, and parents frequently cherish family photographs after birth for later term pregnancy loss (Berry et al., 2021).

Leaving the hospital with empty arms is traumatic for many birthing persons. The Comfort Cub, a non-profit organization (www.thecomfortcub.org), provides weighted teddy bears to ease the pain of empty arms when leaving the hospital and in the weeks after. Intentional details such as discharging through a back exit to avoid contact with

celebrating families may also be helpful.

3.3. Critical milestone: Disclosing the loss to others

Social support plays a critical role in promoting biopsychosocial wellbeing when faced with life-altering events such as perinatal loss (Cacciatore et al., 2021). Unfortunately, due to the unique and paradoxical nature of perinatal loss, many parents lack the necessary social support throughout their loss experience (Bennett et al., 2008; Berry et al., 2020; 2021; Gillis et al., 2020). Parents often report feeling isolated and alone, stating that interactions with family, friends, and co-workers are often insensitive and hurtful (Berry et al., 2021; Côté-Arsenault and Denney-Koelsch, 2011; 2016).

Due to the silent and disenfranchised nature of perinatal grief, key principles of PTIC include peer support, empowerment, and attention to cultural, historical, and gender issues. Connecting parents to a supportive community becomes a priority. Educating parents on the importance of being connected to a strong support network should be coupled with information on what resources are available to them. Multiple online support communities are available to bereaved parents (prenataldiagnosis.org).

The potential for current support structures being unhelpful should also be addressed. Warning parents that well-meaning individuals within their social structure will make insensitive comments is instrumental in equipping parents to navigate their social circle. Lastly, throughout all the support provided, it's important to remain mindful of institutional barriers which have historically resulted in discrimination. More research and resources are necessary to support parents in navigating their social circle.

3.4. Critical milestone: Beyond the loss

Continued follow-up care is a crucial element of PTIC. The grief of perinatal loss does not resolve with the conclusion of the pregnancy. Parents may continue to experience emotional trauma for years, and follow-up care should continue to at least one year following the loss experience (Berry et al., 2020; 2021). Continued support beyond the loss nurtures the trust that was previously built in the perinatal loss experience. Continued contact to collaborate with parents in their healing journey is necessary to equip and empower the individual(s) to move through their grief. Education, support, and resource allocation may include topics such as lactation, grief, partner intimacy and pregnancy after loss, parenting living children, and couple's therapy. Parents may struggle emotionally on milestone dates, such as the original due date, the death date (often referred to as the "angel-versary"), holidays, and Mother's and Father's Day. Cards, text messages, or phone calls may be very meaningful to parents on these important dates as it reminds them that their pain and their baby have not been forgotten.

Follow-up care is both critically important and starkly absent following perinatal loss. Without a neonate, continued support is not provided. Routine assessment of grief intensity, coping capacity, and symptoms of trauma is necessary. Resources should continue to be offered in the year following the loss experience. More research is needed regarding how to best support parents in the days, weeks, and months following their loss.

4. Framework application: A trauma informed environment

The PTIC framework can be applied to create a Trauma Informed environment across specialties, including Labor and Delivery units, Obstetric clinics, Emergency Departments, and Urgent Care clinics. The environment involves the physical environment (waiting area, furniture, wall art, etc.) and the non-physical environment (interactions with staff). The setting where the terminal diagnosis took place, often referred to as "D-Day" by parents, is essentially the "scene of the crime" and may pose multiple triggers to parents. Consider whether the bereaved parent(s) is sitting among other pregnant persons or surrounded by wall art of infants. Dedicating an enclosed side-room which minimizes triggers may be helpful to those awaiting an appointment. The non-physical environment should promote physical and psychological safety. A family focused approach which fosters shared decision-making empowers parents to negotiate necessary healthcare services.

Table 2
Training for healthcare professionals.

Organization	Website
Institute of Reproductive Grief Care	https://reproductivegrief.org/
Resolve Through Sharing	https://www.resolvethroughsharing.org/
End-of-Life Nursing Education Consortium	https://www.aacnnursing.org/ELNEC/Courses

The non-physical environment requires clear and frequent communication among the intra- and interprofessional team. Parents experiencing perinatal loss often have unique needs which require an interprofessional approach. Collaboration with social workers, mental health services, chaplains, and child life specialists is often necessary to address the complex needs of bereaved parents. Daily staff huddles are an opportune time to identify parents experiencing perinatal loss and discuss the potential need for screening, resource allocation, and follow-up care. Building additional time into clinic appointments may be necessary to more fully address parents' needs. To process the emotional trauma associated with perinatal loss, parents may need additional time to "unpack" their story and to understand what each treatment option means to them. Proactive planning in daily huddles may be instrumental in preventing retraumatization.

Staff wellbeing is also an important consideration in a Trauma Informed environment. Vicarious trauma, the significant emotional distress emerging form repeated exposure to the traumatic experiences of others, contributes to burnout and job dissatisfaction (Jacob and Lambert, 2021). Equipping staff with grief training may decrease the prevalence of vicarious trauma. Multiple organizations, such as the Institute of Reproductive Grief Care, offer evidence-based training to health care professionals on topics such as reproductive grief, caring for families following a life-limiting fetal diagnosis, and self-care (Table 2).

5. Conclusion

Perinatal loss is a traumatic experience for many parents. Up to 60% of parents experience persistent symptoms of trauma up to five years following their loss experience. Healthcare professionals play a pivotal role in decreasing the prevalence of trauma and fostering healing in the wake of perinatal loss. Regardless of the care setting, the PTIC framework can be applied to decrease the trauma parents experience throughout the perinatal loss experience. Application of the six principles of TIC to the four critical milestones within the perinatal loss experience may be instrumental to mitigate emotional trauma, prevent retraumatization, and foster healing. This paper proposes a framework with specific examples to guide trauma informed care throughout the perinatal loss experience. It is recommended that healthcare professionals use the proposed framework to develop policies and provide staff education to support families throughout the perinatal loss experience.

Ethical approval

Ethical approval was not required.

Declaration of competing interest

The authors have no conflicts of interest to report.

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