

PSYCHOLOGICAL INTERVENTIONS FOR PREGNANT WOMEN EXPERIENCING INTRAUTERINE FETAL DEATH (IUFD): A SCOPING REVIEW

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Abstract

Pregnancy is a sensitive period that may predispose women to emotional and psychological changes. The loss of a fetus in utero, known as Intrauterine Fetal Death (IUFD), can result in severe psychological consequences, including grief, stress, and depression. However, research examining psychological interventions for women experiencing IUFD remains limited. This study aims to provide an overview of psychological interventions for mothers who experience Intrauterine Fetal Death (IUFD). This review employed a scoping review approach using three databases: PubMed, EBSCO, and ScienceDirect. The article selection process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The search keywords included pregnancy or gestation, fetal death, IUFD, stillbirth, psychology, and nursing interventions. The inclusion criteria included peer-reviewed journals, English language publication, and RCT or Quasi-experimental studies. Based on the screening and eligibility process, seven articles met the inclusion criteria. The findings indicate that structured therapeutic approaches such as mind body group therapy, yoga, and art therapy are effective in reducing symptoms of depression and stress, while also enhancing self-acceptance and quality of life. Future research is recommended to integrate psychological, social, and spiritual approaches into nursing practice to support the emotional well-being of mothers following fetal loss.

Keywords: Fetal death, pregnancy, psychological well-being

INTRODUCTION

Pregnancy is one of the most significant and joyous experiences for women. Nevertheless, pregnancy induces emotional and psychological adaptation in women (Ídem & Söner, 2025). Pregnancy can also be regarded as a sensitive period for a woman, as it carries the risk of a decline in psychological well-being (Arnal-Remón et al., 2015). This decline is influenced by physiological changes, including hormonal changes. Various changes in pregnant women are influenced by the hormone oxytocin. Oxytocin regulates the cardiovascular system of the mother and fetus, enhances mood and well-being, alleviates physiological and psychological stress, and reduces anxiety and pain (Romano et al., 2016; Szczepanska-Sadowska et al., 2020). The pregnancy process has a substantial impact on a woman's daily life, as it induces a series of changes in her psyche, lifestyle, and social responsibilities. This can also result in In India, hospital-based studies report prenatal depression in 22–36% of pregnant women (Sheeba et al., 2019). The severity of depression in expectant women is primarily caused by anxiety, stress, and a lack of social support, as indicated by these findings. However, if the condition is exacerbated by a problematic fetal condition, it can lead to Intrauterine Fetal Death (IUFD).

Intrauterine fetal death (IUFD) refers to the demise of a fetus in utero at 20 weeks of gestation or later (if gestational age is established) or with a birth weight of 350 grams or over (if gestational age is indeterminate) (American College of Obstetricians and Gynecologists, 2020; MacDorman & Gregory, 2015). The U.S. National Center for Health Statistics defines fetal death as the lack of respiration, cardiac activity, umbilical cord pulsation, or discernible muscular movement (MacDorman & Gregory, 2015). In 2023, around 2.4 million infants in the United States were stillborn at 28 weeks of gestation or later. The intrauterine fetal death rate (IUFD) in Indonesia is 27 per 1,000 live births (Indarti et al., 2024). The elevated incidence of intrauterine fetal demise signifies that numerous pregnant women face potential health complications, particularly psychological ones.

Intrauterine fetal death is a multifaceted occurrence with significant emotional, psychological, and social repercussions for parents and families. It is frequently unforeseen and may result in sorrow, remorse, rage, and disorientation (Pettersson et al., 2025). These intricate emotions present a risk for mental health issues, including sorrow, sadness, anxiety, PTSD, and psychological distress. Moreover, parents who endure fetal loss frequently encounter significant insomnia, marital strain, social isolation, and diminished well-being and quality of life (Herbert et al., 2022). Conversely, a study conducted by Sinaga et al. (2020) indicated that health institutions in Indonesia predominantly perceive IUFD as a clinical issue

and fail to offer postpartum care, particularly psychological support for pregnant mothers. This issue can be resolved by incorporating diverse interventions, including support and therapeutic communication, into healthcare procedures for moms following infant loss in utero (Sinaga et al., 2020). Nevertheless, research on psychosocial therapies for intrauterine fetal death (IUFD) remains limited. This study aims to examine diverse psychological interventions for women experiencing IUFD, with the expectation of enhancing the overall quality of nursing care.

METHODS

Design

This study used a scoping review design to explore the current state of psychological interventions for pregnant women experiencing intrauterine fetal death (IUFD), an underresearched topic. Scoping reviews are designed to provide an overview of a developing topic, describe interventions used, and identify gaps in existing research (Munn et al., 2018). This method helps understand previous research and related variables, and provides a foundation for future systematic reviews and meta-analyses.

Searching Strategy and Eligibility Criteria

The design and development of this scoping review followed the five-step methodological framework outlined by Peters et al. (2021): (1) identifying the research question, (2) identifying relevant studies, (3) selecting studies, (4) data collection and analysis, and (5) summarizing and reporting the results. Study screening, summarizing, and reporting of articles ultimately included in the review are described in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR).

Stage 1: Research Question

This scoping review was guided by the research question: What forms of psychological interventions have been implemented for pregnant women experiencing intrauterine fetal death (IUFD)? Specifically, the authors aimed to identify and map the various types of psychological interventions used to support maternal emotional recovery after IUFD, the research methodologies used to evaluate the effectiveness of these interventions, and specific approaches or protocols focused on reducing psychological distress, improving emotional well-being, and adjusting after fetal loss.

Stage 2: Identification of Studies

The authors used three bibliographic databases to search for articles: PubMed, Science Direct, and EBSCO. The literature search was conducted in October 2025 and limited to three

dimensions, with search strings for each: population (dimension 1), concept (dimension 2), and context (dimension 3). To ensure a comprehensive search, variations or synonyms of predefined search terms were used. The authors applied the PCC framework to identify keywords that helped formulate the research question in a structured and detailed manner.

Table 1. PCC Search Terms

Search Terms	
Population	Pregnant women with IUFD
Concept	Psychological intervention OR psychological treatment
Context	Intrauterine fetal death OR pregnancy loss OR miscarriage OR stillbirth OR perinatal loss

Stage 3: Study Selection

The search phase involved three authors (AS, FF, and NS), all of whom had experience with previous reviews. The three authors then screened and selected articles resulting from each database search. Any doubts or disagreements, as well as further filtering, were resolved by the remaining authors (FA and RN). This scoping review focused on qualitative and quantitative research published in peer-reviewed scientific journals regarding the description of psychological interventions for pregnant women with intrauterine fetal death (IUFD).

Inclusion criteria for this scoping review included: (1) research exploring or evaluating psychological interventions provided to pregnant or postpartum women experiencing intrauterine fetal death (IUFD); (2) interventions could include individual therapy, group therapy, counseling, emotional support, or other psychotherapeutic approaches aimed at improving psychological well-being and adjustment after loss; (3) research using a quasi-experimental randomized controlled trial (RCT), retrospective study, quantitative, or qualitative study design to assess the effectiveness of the intervention; (4) articles published in English between 2016 and 2025. and (5) articles that are available in full text and can be accessed through the PubMed, EBSCO, and ScienceDirect databases. The exclusion criteria included articles that did not clearly contain psychological interventions, did not involve mothers with a diagnosis or experience of IUFD, were in the form of literature reviews, case reports, editorials, or gray publications (such as unpublished theses and conference proceedings), and articles that were not relevant to the focus of this study.

Stage 4: Data Charting and Analysis

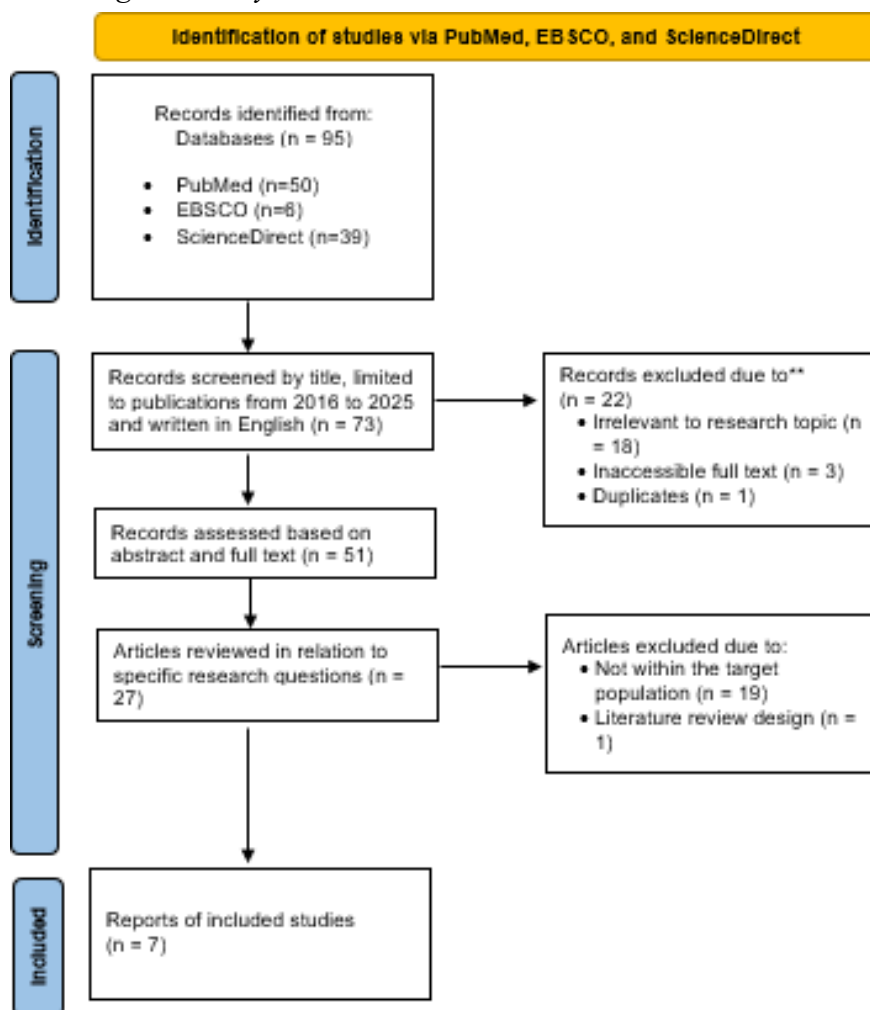


Figure 1. PRISMA Flow Diagram

Figure 1 shows a PRISMA flowchart, illustrating the identification, screening, and selection process. Searching for the terms described above across all databases used yielded 95 articles. The first phase of screening, based on title, year range 2016-2025, study design, and English language, yielded 73 articles. Twenty-two articles were then removed for not being relevant to the research topic, leaving 51 articles inaccessible and duplicated. After re-examining the articles specifically for the research question, 27 were excluded as not relevant to the study population. Articles were reviewed again for relevance to the target population and study design, resulting in 7 meeting the inclusion criteria for this review. Data was extracted and tabulated (Table 2). Analysis was then performed, comparing it with previous research, and this was presented in the results and discussion section.

RESULTS

Search Results and Study Characteristics

Based on the article extraction table, seven articles demonstrated that non-pharmacological psychological interventions had a positive impact on women's mental health after stillbirth. The results showed significant reductions in symptoms of depression, anxiety, PTSD, stress, grief, and improved quality of life and health. The interventions used varied, including Cognitive Behavioral Therapy (CBT)-based counseling, Mindfulness-Based Stress Reduction (MBSR), online programs such as perinatal grief and yoga, art therapy, and multicomponent psychosocial interventions. Studies by Zahmatkesh et al. (2025), Nasrollahi et al. (2022), Bar et al. (2025), and Navidian and Saravani (2018) demonstrated the effectiveness of structured interventions in reducing psychological distress, while Loughnan et al. (2025), Huberty et al. (2020), and Xie et al. (2025) confirmed the potential of digital and mindfulness-based interventions, especially in high-risk groups (Table 2). Nursing interventions using various approaches have been shown to have a positive impact on reducing stress in mothers experiencing IUFD. Interventions with a clustering format have the potential to increase the effectiveness of nursing care.

Table 1. Article Summary

Authors&Years	Country	Context	Methods	Analysis	Result	Limitation	Recommendations
Zahmatkesh et al. (2024)	Iran	Women experiencing pregnancy loss (abortion or stillbirth) and its impact on quality of life	Randomized Controlled Trial (RCT)	Descriptive statistics; independent & paired <i>t</i> -tests; chi-square; Fisher’s Exact test	Art therapy significantly improved overall quality of life as well as physical, psychological, social, and environmental domains compared to routine care	Small sample size; short follow-up period (8 weeks); single-country study; no blinding	Longer follow-up studies; multicenter trials; comparison with other non-pharmacological interventions
Bar et al. (2025)	Israel	Psychological distress (depression, anxiety, PTSD, suicidal ideation) in women after stillbirth	Retrospective cohort study (pre-post design)	Paired <i>t</i> -test; effect size (Cohen’s <i>d</i>); McNemar test; correlation & linear regression	Significant reduction in depression, anxiety, PTSD symptoms, and suicidal ideation after MBGT	No control group; retrospective design; self-reported data	Randomized controlled trials; partner involvement; long-term follow-up
Qin et al. (2025)	Tiongkok	Psychological distress in women undergoing pregnancy termination due to fetal abnormalities	RCT	Generalized Estimating Equation (GEE) model; intention-to-treat analysis; subgroup analysis; effect size	Significant improvement in PTSD avoidance symptoms and social support; depression improved among high-risk participants	Group-by-time interaction not significant overall; short follow-up (3 months); single region	Multicenter studies; longer follow-up; risk-based intervention tailoring

Navidian & Saravani (2018)	Iran	Severe grief symptoms and lack of psychological support in mothers after IUFD	Quasi-experimental study with control group	Paired & independent <i>t</i> -tests; chi-square; ANCOVA	Significant reduction in total grief and all subscales (active grief, coping difficulties, despair)	Short intervention duration; no blinding; single-center study	Long-term evaluation; family involvement; integration into routine services
Huberty et al. (2020)	Amerika Serikat	High rates of PTSD, depression, anxiety, and grief after stillbirth and limited access to services	RCT	Descriptive statistics; repeated-measures ANCOVA; dose-response regression	Depression decreased and subjective well-being improved; high intervention dose perceived as too hard	High dropout rate; not yet powered for full effectiveness testing; technological barriers	Large-scale RCTs; integration of online peer support
Nasrollahi et al. (2022)	Iran	Anxiety, depression, and stress after early pregnancy loss	RCT	Mann-Whitney U test; Wilcoxon signed-rank test; ANCOVA; Cohen's	Significant reductions in anxiety, depression, and stress in the MBSR group	Family support not controlled; short follow-up period; single-center study	Cross-cultural replication; comparison with online CBT and mindfulness-based interventions

Loughnan et al. (2025)	Australia	Limited access to psychosocial support services for parents experiencing stillbirth or neonatal death; increased need for digital support post-COVID-19	RCT	Linear mixed-effects regression; group × time interaction analysis	The <i>Living with Loss</i> program significantly reduced psychological distress post-intervention compared to care-as-usual; high program satisfaction and acceptability; effects were not sustained at 3-month follow-up; no significant between-group differences in anxiety, depression, and grief	Relatively small sample size; moderate-to-high attrition; low module adherence; lack of sustained long-term effects; majority of participants were highly educated, urban mothers	Larger-scale, multicenter RCTs; longer follow-up periods; evaluation of blended/stepped-care models (self-guided + therapist/peer support); adaptation for fathers, rural populations, and culturally diverse groups
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DISCUSSION

Improving Psychological Well-Being Through a Structured Therapeutic Approach

Studies have shown that various forms of effective psychological interventions, combining grief/trauma psychoeducation, emotion regulation training, and cognitive-behavioral/structuring strategies, can improve the psychological well-being of mothers experiencing intrauterine fetal loss (IUFD). Structured interventions focused on coping with grief can reduce symptoms of depression, stress, and post-loss trauma. For example, Mind-Body Group Therapy (MBGT) is an intervention proven to reduce depression, PTSD symptoms, and anxiety, as well as suicidal ideation in mothers experiencing stillbirth (Bar et al., 2025). This intervention is more effective in addressing the ongoing loss, depression, and anxiety than in preventing these feelings (Bar et al., 2025). The multicomponent intervention in (Xie et al., 2025) article extends these findings by showing that the most consistent effects on PTSD symptom reduction were avoidance and strengthening social support, while overall depression/PTSD was not significant, although it showed a trend towards improvement. This intervention emphasizes shifting coping mechanisms from avoidance to acceptance, with values-based action (Xie et al., 2025). This is crucial in supporting the gradual process of managing emotions, guilt, or regret, so that pregnant women not only feel better but also develop a change in coping strategies.

Pregnant women who experience fetal loss at an early gestational age, interventions such as Mindfulness-Based Stress Reduction (MBSR) have been shown to significantly reduce anxiety, depression, and stress (Nasrollahi et al., 2022). These interventions emphasize mechanisms of increasing self-awareness, coping, commitment, and non-judgmental acceptance (Nasrollahi et al., 2022). Emotional regulation in pregnant women can occur through two complementary aspects: physiological (relaxation/grounding, calm response) and cognitive-affective (reframing, self-compassion, acceptance). Furthermore, MBSR, an art therapy implemented by Zahmatkesh et al. (2025), shows that an expressive approach through art can be an alternative way to express feelings when verbal language is deemed inadequate to accommodate complex emotions such as shock, anger, and guilt. The application of art as an intervention to address grief in pregnant women supports a broader focus, not only on how interventions can reduce grief symptoms, but also on how media can be used by pregnant women to symbolize grief, externalize emotions, and reconstruct experiences (Zahmatkesh et al., 2025). An online yoga intervention has been shown to be effective in reducing depression and improving personal well-being (Huberty et al., 2020). This was assessed based on the

decrease in PTSD symptoms over time. The study also discussed the importance of determining the appropriate type, duration, and intensity of intervention for the bereaved group (Huberty et al., 2020).

Social Support as a Key Factor in Adaptation to Fetal Loss

Psychological interventions reviewed generally emphasize the importance of social and spiritual support as an integral part of the adaptation process to fetal loss. In this context, interventions for bereaved pregnant women can be more effective when they simultaneously improve support sources, such as partners, family, community, and healthcare professionals. In MBGT, the intervention format utilizes the group not only as a therapeutic platform but also as peer support, namely support from others experiencing the same experience (Bar et al., 2025). Furthermore, MBGT addresses the importance of social support in coping with severe grief, such as the loss of a child, through creating new memories and relationships with partners, family, and the surrounding community. This emphasizes the need to increase the involvement of those closest to the pregnant woman through interventions that acknowledge the burden of grief while improving relational communication. With adequate social support, perinatal grief is not considered absent, but rather has a mild social impact.

Research by Xie et al. (2025) shows that without structured support, pregnant women can experience decreased social support, while those who receive support experience increased perceptions and utilization of social support. This research supports health education interventions that help families understand the meaning of fetal loss and share experiences with peer support, thus encouraging the use of healthcare professionals, family, and other parents (Xie et al., 2025). This suggests that support from bereaved parents, family, and healthcare professionals can help foster a sense of validation, normalization, and more adaptive coping.

In the online-based "Living with Loss" program, social support is integrated through relationship-strengthening and communication modules that address differences in grieving patterns between couples/families and communication strategies (Loughnan et al., 2025). The program significantly reduced psychological distress, although the effects were short-lived (Loughnan et al., 2025). While digital support accessible to pregnant women is considered sufficient to mitigate the severity of grief in the short term, long-term adaptive recovery requires the role of social support from groups experiencing fetal loss.

Restoring Meaning and Improving Quality of Life after Fetal Loss

Findings from various articles indicate that psychological recovery in mothers experiencing IUFD aims to reduce symptoms of depression or stress, help achieve life balance,

and create new meaning from the experience of fetal loss. Art therapy consistently shows significant improvements in various dimensions of quality of life, including physical, psychological, social, and environmental (Zahmatkesh et al., 2024). This therapy can be a simple, non-pharmacological alternative method that can be performed with minimal facilities and helps patients express feelings positively. Other studies have also shown that art therapy is effective in reducing psychological symptoms such as anxiety and depression in postpartum mental health (Qian et al., 2023). However, the study by Zahmatkesh et al. (2024) has limitations, including self-report bias, which may lead participants to present themselves more positively, and a focus on miscarriage rather than IUFD, which prevented a specific analysis of IUFD cases. Other studies also emphasize the need for interventions that explicitly target trauma, such as CBT or grief counseling, so that art therapy should be used as an initial stabilization phase before addressing primary trauma post-IUFD (Bar et al., 2025; Navidian & Saravani, 2018; Huberty et al., 2020).

Other approaches, such as interpersonal therapy and online yoga, also support the formation of positive meaning through self-reflection, acceptance, and increased emotional awareness after fetal loss. This aligns with the principle that a healthy grieving process does not erase loss but integrates it into the individual's life narrative. With a combination of psychological, social, and spiritual support, mothers can transform from the loss of a fetus to a more complete sense of meaning for themselves and their lives.

This study has several limitations that should be considered. First, the number of analyzed articles was limited; only 7 studies met the inclusion criteria, so the findings may not fully represent the range of psychological interventions available globally. Second, most articles were from countries with developed healthcare systems, so their applicability may not fully align with Indonesia's cultural, social, and healthcare contexts. Third, the study used only three databases (PubMed, EBSCO, and ScienceDirect), so it is possible that relevant studies from other sources were not identified. Fourth, variations in methodology, sample size, and intervention focus across studies limit the generalizability of the results, including the limited analysis of IUFD cases compared to miscarriage. Some studies were also limited to a single location or cultural context, limiting the generalizability of the results. Furthermore, partner involvement and social support factors are often not controlled for, thus risking bias. Therefore, large-scale, multicenter RCTs with long-term follow-up and a more comprehensive, multicomponent approach are needed to strengthen the scientific evidence.

CONCLUSIONS

Based on the review results, improving the psychological well-being of mothers experiencing intrauterine fetal loss (IUFD) can be achieved through a structured therapeutic approach, adequate social and spiritual support, and the restoration of meaning in life after the loss. This therapeutic approach has been shown to be effective in reducing depressive symptoms, improving emotional stability, and improving maternal social functioning. Social and spiritual support also play a crucial role in facilitating acceptance of the loss and strengthening the emotional preparedness of the mother and family. The psychological recovery process involves not only reducing negative symptoms but also creating new meaning and improving quality of life. Interventions such as art therapy, multicomponent therapy, and yoga help mothers integrate the experience of loss into their life narratives in healthier, more meaningful ways. Therefore, a combination of integrated psychological, social, and spiritual approaches plays a crucial role in shaping the psychological well-being of mothers experiencing intrauterine fetal loss.

Further research is needed to strengthen methodological designs and expand the scope of psychosocial interventions for women experiencing IUFD. Furthermore, most studies are limited by small sample sizes, short follow-up durations, and limited generalizability due to the cultural context and single location. Therefore, large-scale, multicenter, randomized clinical trials with long-term follow-up are needed to assess the sustainability of intervention effects. In addition, the involvement of couples and families, as well as the inclusion of underrepresented groups such as fathers, rural populations, and individuals with culturally diverse backgrounds, is important for increasing the clinical relevance and broader implementation of interventions.

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