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Evaluating the impact of an EMPOWER-based bereavement support group after perinatal loss: study protocol

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Abstract:

Background: Perinatal loss is associated with a significant psychological impact, increasing the risk of developing mental health disorders. Despite growing recognition of this issue, gaps remain in the availability of structured support responses. There is a need to develop brief and replicable interventions, even in under-resourced settings, that can serve as effective preventive strategies. This study aims to describe the design and structure of a bereavement support group protocol following perinatal loss, implemented in a public hospital in Portugal.
Methods: The protocol consists of a structured intervention based on an adaptation of the EMPOWER-Grief program for perinatal loss in a group format. The study follows a *quasi*-experimental design, including an intervention group and a control group. Self-report instruments are used to monitor depressive, anxiety, trauma-related, and grief symptoms, with longitudinal assessment in both groups. Additionally, is conducted a *focus group*.
Results: This protocol may represent a feasible option for improving the quality of care provided following perinatal loss, even in under-resourced settings, and may also facilitate early identification and prevention of mental health disorders.
Conclusions: Perinatal loss is associated with significant distress and an increased risk of mental health disorders. The EMPOWER-Grief in perinatal loss group intervention constitutes a brief and structured program, adaptable to low-resource settings that can improve the quality of care provided after perinatal loss. The description of this protocol aims to support its implementation and replication, promoting a more integrated approach to perinatal mental health.

Clinical trial number: The project protocol is published on Open Science Framework with the clinical trial number *Yqxg9* (DOI: 10.17605/OSF.IO/YQXG9). Registered on June 2, 2026.

Keywords: Mental Health; Perinatal Death; Bereavement; Perinatal Care

1. BACKGROUND

Perinatal loss, from a clinical perspective, is defined as the loss of a pregnancy at any stage from conception to the death of a newborn within the first month of life (Donegan et al., 2023). It encompasses a range of experiences, including miscarriage, stillbirth, or neonatal death (Donegan et al., 2023; Herbert et al., 2022). Therapeutic termination of pregnancy, particularly following a diagnosis of fetal anomaly, is also recognised within the broader

spectrum of perinatal loss (Herbert et al., 2022). While miscarriage generally refers to pregnancy loss before fetal viability, stillbirth describes fetal death after viability has been reached (Quenby et al., 2021), and neonatal death is defined as the death of a live-born infant within the first 28 days of life (Blencowe et al., 2025).

The loss in the perinatal period is widely recognized as a potentially traumatic experience with significant psychological impact (Cuenca, 2022; Farren et al., 2018; Herbert et al., 2022; Shetty et al., 2025). Prospective cohort studies report clinically significant depressive symptoms in 8% to 20% of women and anxiety in 18% to 32% of women within four to six weeks after early pregnancy loss (Farren et al., 2018). A systematic review of 2025 (Shetty et al., 2025) also states rates of 32.5% of anxiety and 30.1% of depression in women within six weeks following a miscarriage. Stress is also common, affecting approximately one-third (33.6%) of women after miscarriage (Shetty et al., 2025). Also, between 25% and 39% of women reach the threshold for the diagnosis of post-traumatic stress disorder (PTSD) at one month after miscarriage (Farren et al., 2018).
Mental health consequences are seen in both the short and long term. Effects of anxiety and depression can be present for up to three years after stillbirth (Cuenca, 2022). Longitudinal evidence also indicates that 10% of parents follow a chronic grief trajectory, experiencing consistently high levels of grief symptoms during the first year after the loss (Mørk et al., 2023).
The impact may also extend into future postpartum mental health, as women with pregnancy losses prior to their first live births can approximately be 35% more likely to require psychiatric treatment within 6 months of the delivery than women without a history of pregnancy loss (Cuenca, 2022). Beyond psychological distress, literature reports divorce and relationship difficulties after stillbirth (Burden et al., 2016; Cuenca, 2022).

The emotional burden of perinatal loss is frequently exacerbated by its limited social acknowledgement. Many parents report feelings of isolation, describing a lack of societal recognition of their parental identity. Additionally, several parents indicate that grieving the death of a newborn is often perceived as taboo and lacks cultural acceptance (Burden et al., 2016).

The literature also highlights the critical role of information sharing and emotional support from healthcare professionals in facilitating reassurance and coping with complex emotions. The absence of sensitive and knowledgeable healthcare professionals further intensifies negative emotional experiences. Conversely, empathetic health care professionals, with appropriate communication, positively influence grief outcomes (Donegan et al., 2023).

A cross-sectional study conducted in Ontario, Canada, aimed to evaluate families' experiences of care and support following pregnancy and infant loss (Watson et al., 2019). Most participants felt inadequately informed, supported, and cared for by healthcare professionals, and it was emphasized that the actions of healthcare professionals could have a positive and lasting impact on the experience of loss (Watson et al., 2019)

Another study that examined the individual perspectives of women who experienced miscarriage found that one of the main themes identified was the need for acknowledgement of the loss. Women report more positive care experiences when healthcare professionals acknowledge miscarriage as a meaningful event and provide empathetic presence through active listening and emotional validation. Respectful communication is essential, as dismissive language or behaviors that minimize the loss affect women's experiences (Lee et al., 2023).

Despite increasing awareness of the psychological impact of perinatal loss, the absence of a robust support system significantly increases the risk of mental health disorders (Shetty et al., 2025). Thus, the development of specific protocols for this population is particularly relevant as an integral component of efforts to improve the quality of care delivered, as well as to facilitate the early identification and prevention of mental health disorders.

Support provided by other bereaved parents can be highly effective. The most frequently cited benefits include recognizing that participants are not alone in their experience of loss, hearing about the experiences of others, and having opportunities to speak openly about their own loss. The value of sharing personal stories, reducing feelings of isolation, and being able to talk openly about their baby is also emphasized (Watson et al., 2019).

The EMPOWER intervention program (Enhancing and Mobilizing the Potential for Wellness and Emotional Resilience) was designed to respond to the urgent psychological needs of surrogate decision makers in intensive care settings. Does not aim to eliminate distress, but to empower people to tolerate and respond adaptively to challenging emotions and thoughts. By strengthening the sense of self-efficacy, the intervention mitigates the intensity of these reactions (Lichtenthal et al., 2024).

EMPOWER-Grief is a structured, brief cognitive-behavioural and acceptance-based intervention adapted from the original EMPOWER programme. It is specifically designed for individuals experiencing grief following the loss of a significant loved one. The intervention is manualised and time-limited, can be delivered by less experienced professionals, provided they receive appropriate training, and is suitable for use in low-resource or constrained service settings (Coelho et al., 2024).

Considering the profound psychosocial impact of perinatal loss and the severe unmet needs in this area within the public healthcare sector in Portugal, a key question emerges as to how to provide adequate care for this population, even in under-resourced settings. Can EMPOWER-Grief, a structured, brief, scalable, evidence-based solution for bereavement support in under-resourced clinical environments, be adapted for perinatal loss and to a group format, in order to more realistically address this gap in our real-world health care settings.

In this context, we adapted EMPOWER-Grief for perinatal loss to be delivered in a group format and developed a protocol aimed at providing mental health care for this population within the public healthcare system, an intervention that is feasible even in real-world under-resourced settings. The protocol was also designed to raise awareness of perinatal loss as a public health issue characterized by significant unmet needs, while serving as a pilot model to identify women affected by this experience and deliver timely, targeted psychological care.

This study aims to develop and structure a bereavement support group intervention following perinatal loss and to explore its potential impact in a public Portuguese hospital.

2. METHODS

a. Context of the Intervention

This protocol was developed for implementation in a hospital unit and forms part of a quality improvement strategy focused on enhancing the delivery of care after perinatal loss.
The setting was a hospital unit located in a rural region of Portugal, covering a territory of 7393 km^2 and serving a population of 152 444 inhabitants (INE, 2021).
The study was conducted at the Department of Psychiatry and Mental Health of the hospital unit, integrated within the Perinatal Mental Health Program of the Department, and involved

the collaboration of the Department of Gynecology/Obstetrics in identifying and recruiting participants.

b. Target Population

Inclusion criteria

Portuguese speaking women, aged 18 years or older, who had experienced perinatal loss and were assisted at the hospital's Gynecology/Obstetrics Department.

Exclusion criteria

Any woman with severe psychiatric conditions, active suicidal ideation or self-harm, substance misuse, or who declined to give consent to participate in the support group after the intervention had been explained.

c. Specific Methodology

The protocol consists of a manualized intervention adapted from EMPOWER-Grief and includes scheduled periodic clinical assessments. Assessments are conducted over a 5-months period. We follow a *quasi*-experimental study design with an intervention group and a control group. We also conduct a *focus group* with participants, employing a *focus group* interview guide to explore participants' experiences and to surface limitations, barriers, and areas for improvement of our design proposal.

Periodic Clinical Assessments

Assessments are conducted at five time points:

- Recruitment: sociodemographic data and obstetric history were collected.
- Baseline (prior to the first session of the intervention): measurement of mental health symptoms using validated instruments.
- Intervention period: six weekly in-person sessions.
- Post-intervention (approximately a week after the end of the intervention): measurement of mental health symptoms using validated instruments.
- Follow-up (three months after the post-intervention assessment): measurement of mental health symptoms using validated instruments.

Intervention EMPOWER-Grief in Perinatal Loss

EMPOWER-Grief is a cognitive-behavioural and acceptance-based intervention divided into six 50-minute individual sessions, each one with specific goals, and two final boosting sessions.

EMPOWER-Grief in Perinatal Loss was adapted from EMPOWER-Grief to a group format and to perinatal loss. The core structure of the original program was preserved. It consists of six in-presence or online sessions with the same specific goals: session 1) welcome, initial assessment of most significant struggles experienced by women, psychoeducation on grief and adherence to the intervention; session 2) psychoeducation and transmission of resources for addressing the physiological stress response; session 3) psychoeducation on trauma, grief and cognitive-behavioral model; session 4) promoting experiential acceptance; psychoeducation on the paradoxical effects of avoidance and the role of emotions; session 5) imagined dialogue between the part that wanted to try to conceive again and the part that is afraid to try to conceive again; session 6) coping training for anticipated stressors; overview of key ideas; closing and acknowledgments. In every session, the impact of the previous session and evolution is evaluated.

Addressing adaptations made to the original program, sessions duration was extended to 90 minutes due to the group format and the two final booster sessions were not included due to resource constraints. Due to its group-based format, overly detailed exploration was limited to facilitate effective time management, while promoting equanimity and validation of participants' experiences. In session 5, the original EMPOWER-Grief explores aspects of the relationship with the lost loved one that may generate distress, in EMPOWER-Grief in Perinatal

Loss, given the relevance of the meaning of motherhood, its loss, and this possibility in the future, the decision was made to explore aspects related to the loss of this identity.
The minimum number of participants is 2, and the maximum is 8.
Sessions are led by at least one perinatal mental health professional, while other facilitators attending the sessions provide additional contributions during the session considered appropriate. Session debriefings with facilitators after each meeting are conducted to review tasks, content, format and facilitators' behaviour, promoting consistent and high-quality delivery across the team. All facilitators received prior training by a specialist experienced in implementing the EMPOWER-Grief.
EMPOWER-Grief in Perinatal Loss is intended to be a standardized, manualized intervention. This ensures consistent delivery of the treatment across sessions and facilitators.
There is also a safety protocol to monitor for severe symptoms throughout the intervention. The presence of active suicidal ideation, self-harm behaviours, illicit substance use or severe psychopathology significantly impairing functioning trigger referral to specialized care, in accordance with institutional guidelines.

Control group
The control group consists of participants who are not part of the bereavement support group but agree to complete all study assessments. Participants in the control group receive treatment as usual during the evaluation period and are offered access to the intervention at a later stage, at which point they are included in the intervention group.

d. Evaluation Instruments
Validated self-report instruments are used to assess depressive, anxiety, trauma-related and grief symptoms throughout the study period (Table 1).
Sociodemographic data and obstetric history are collected at the recruitment period, a brief questionnaire was developed to collect information. Variables included were age, nationality, time since the loss, gestational age at the time of loss, pregnancy intention (desired and planned), number of previous pregnancies, number of children, history of prior gestational loss and its frequency, marital status, household composition, educational level, occupation and current employment status, as well as personal history of mental health conditions.

Table 1. Self-report instruments used to assess depressive, anxiety, trauma-related and grief symptoms.

Measure	Time-point	Description
Edinburgh Postnatal Depression Scale, EPDS (Cox et al., 1987)	Baseline, Post-intervention, Follow-up	10-item instrument measuring perinatal depressive symptomatology, with items scaled on a 0–3 Likert scale, assessing how women have felt over the past 7 days. Total scores range from 0 to 30, with higher scores indicating greater severity of depressive symptoms. A cutoff score of ≥12 is commonly used to indicate possible depressive pathology requiring further assessment.
Generalized Anxiety Disorder-7, GAD-7 (Spitzer et al., 2006)	Baseline, Post-intervention, Follow-up	7-item instrument measuring symptoms of generalized anxiety disorder, with items scaled on a 0–3 Likert scale. Total scores range from 0 to 21, with higher scores indicating greater anxiety symptom severity. Cutoff scores of 5, 10, and 15

		are commonly used to indicate mild, moderate, and severe anxiety, respectively, with a score of 10 or higher representing an appropriate threshold for identifying probable cases of generalized anxiety disorder.
Impact of Event Scale-6, IES-6 (Thoresen et al., 2010)	Baseline, Post-intervention, Follow-up	6-item instrument assessing subjective distress associated with traumatic events, with responses rated on a 0–4 Likert scale. Total scores range from 0 to 24. The scale is used as a brief screening tool for identifying probable PTSD.
Prolonged Grief Scale-Revised, PG13-R (Prigerson et al., 2021)	Baseline, Post-intervention, Follow-up	The scale includes 10 symptom items rated on a five-point Likert scale, yielding a summed symptom score ranging from 10 to 50, with higher scores indicating greater levels of grief-related symptomatology. A symptom score of ≥30, together with the temporal (≥12 months post-loss) and functional impairment criteria, is used to identify prolonged grief disorder.

At post-intervention, all participants are invited to take part in a *focus group* with the aim of collecting qualitative data regarding participants' experiences and perspectives on the intervention, including overall experience, perceived impact, usefulness and applicability of intervention components, facilitators and barriers to engagement, session structure and accessibility, challenges encountered, adequacy of topics, and unmet needs. The sessions are led and analysed by facilitators. The data is recorded and some notes are taken in real time.

e. Clinical Team

The protocol is implemented by a multidisciplinary team consisting of a psychiatry consultant, a psychiatry resident and a mental health specialized nurse. Gynecology and obstetrics residents and attending physicians also contribute to the protocol, particularly in identifying and recruiting participants.

f. Ethical Considerations

The protocol was approved by the Unidade Local de Saúde do Alentejo Central with the process number 101/25. The project protocol is published on Open Science Framework with the clinical trial number *Yqxg9* (DOI: 10.17605/OSF.IO/YQXG9). The protocol includes the obtaining of written informed consent from all participants. This includes a detailed explanation of the study's purpose and procedures, as well as information that participants' data is anonymized and securely stored, and that participation is voluntary and may be discontinued at any time without consequence. Written informed consent is obtained from all participants prior to any data collection.

3. RESULTS

The implementation of a bereavement support group protocol after perinatal loss aims to improve the quality of care delivered, to facilitate the early identification and prevention of the development of mental illness.

Accordingly, we hypothesize that this protocol may represent a feasible option for providing adequate care following perinatal loss, even in under-resourced settings and possibly contributing to the reduction of psychological symptoms and improving adaptation to loss. These outcomes will be monitored through periodic replication of different bereavement support groups.

4. DISCUSSION

Experiences of perinatal loss substantially increase vulnerability to complicated grief, trauma-related, depression, and anxiety symptoms. Timely and appropriate intervention enables a reduction in psychological morbidity, enhances the likelihood of full recovery, and decreases additional healthcare costs by mitigating the early negative and self-perpetuating impact of mental health disorders on family systems. Within this framework, it is essential to develop, implement, and assess the feasibility of targeted programs that provide adequate care.
The present research focuses on the design and implementation of a structured bereavement support group protocol for grief following perinatal loss. This intervention aims to offer consistent clinical support, promote emotional validation, and facilitate adaptive grief processing. By strengthening psychological well-being and supporting the integration of the loss experience, the intervention tends to prevent future mental health difficulties.

Several limitations of this program should be acknowledged.
First, not all women experiencing perinatal loss are followed within the public hospital setting, and some eligible women may choose not to participate in the intervention, thereby limiting their access to the support group. One potential strategy to address this limitation is to extend systematic mental health screening and referral pathways to primary health care services.
Second, the program exclusively targets women. Although psychiatric symptoms may also affect fathers following perinatal loss and clinical intervention could be beneficial for this population, resource constraints at the time of program development precluded their inclusion.
Third, the protocol adopted a *quasi*-experimental design with a non-equivalent control group. Given that the control group comprised participants who were not part of the bereavement support group but agreed to complete all study assessments, the possibility of self-selection bias cannot be dismissed. Nevertheless, this design reflects real-world conditions, while ethical standards were maintained by offering control participants access to the intervention at a later stage. Another limitation relates to potential group heterogeneity during the intervention related to the timing of perinatal loss. To further acknowledge this issue, we did a *focus group*.

Despite these limitations, an important strength of the program lies in its strong potential for implementation, even in under-resourced clinical environments. The intervention was designed using a straightforward, structured, and standardized methodology, requiring minimal material and human resources. Its manualized format enables consistent delivery and facilitates scalability, and its group format also makes the intervention more scalable and feasible, particularly in low-resource and real-world clinical settings. The acquisition of necessary materials and the allocation of appropriately trained professionals should not represent a significant barrier to implementation in other healthcare centers.

5. CONCLUSIONS

In conclusion, the detailed description of this protocol aims to support the integration of bereavement care in perinatal settings. Despite foreseeable challenges, such integration is

expected to be well accepted by patients and healthcare providers alike. Achievement of the proposed objectives may demonstrate that a structured program, even when developed with limited resources, can serve as a feasible and replicable model adaptable to diverse healthcare contexts.

LIST OF ABBREVIATIONS

PTSD: Post-Traumatic Stress Disorder
EMPOWER: Enhancing and Mobilizing the Potential for Wellness and Emotional Resilience
EPDS: Edinburgh Postnatal Depression Scale
GAD-7: Generalized Anxiety Disorder-7
IES-6: Impact of Event Scale-6
PG13-R: Prolonged Grief Scale-Revised

DECLARATIONS

Ethics approval and consent to participate: The protocol was approved by the Ethics Committee of the Unidade Local de Saúde do Alentejo Central, Portugal, with the process number 101/25. Written informed consent was obtained from all participants prior to any data collection.
Clinical trial number: The project protocol is published on Open Science Framework with the clinical trial number *Yqxg9* (DOI: 10.17605/OSF.IO/YQXG9). Registered on June 2, 2026.
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Authors' contributions: JS conducted literature review and manuscript writing. VS, ANS, DDN and TR contributed to supervision, writing, and manuscript review. All authors approved the final version to be published.
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