

Background and Hypothesis

Chronic pain after cesarean delivery affects 17% of patients

- Postpartum pain is a key aspect of recovery and is associated with postpartum depression, a leading cause of US maternal mortality
- Interventions to prevent the acute to chronic pain transition in this population are limited.
- The primary aim of this study was to assess feasibility of Empowered Relief in the outpatient setting

 Empowered Relief®	Validated in non-OB pain populations
Single 120-minute virtual pain relief skills class	↓ Pain interference and catastrophizing
Taught by a health professional	Opioid duration after breast surgery (~1 week shorter)
Incorporates pain education, mindfulness principles, and self-regulatory skills (cognitive reframing, self-soothing)	↑ Sustained benefit at 6 months (chronic back pain)
Provides ongoing support through an app and daily text messages	Equivalent to 16 hrs of Cognitive Behavioral Therapy



A Single-Center Feasibility Study of a Single Pain Skills Session (Empowered Relief®) for Postpartum Pain at 6 Weeks after Cesarean Delivery

Aleesha Jethwa MBBS BMedSci MEd, Nina Yen Nhi Nguyen BS, Guillermina Michel BS, Jennifer Rabbitts MD, Danielle M Panelli MD MS, Beth D Darnall PhD, Pervez Sultan, MBBCh MD(Res) FRCA

Study Design and Methods

Primary outcome: feasibility of intervention (engagement and satisfaction)

Secondary outcomes: changes in pain interference, severity, and catastrophizing at 12 weeks postpartum

Patients were screened and approached at the 6-week postpartum clinic visit for pain severity and interference using qualitative questions and 0–10 numeric rating scale (NRS).

Those with moderate to severe pain (NRS $\geq 4/10$) were consented and randomized to either the intervention (Empowered Relief) or standard follow up care.

Inclusion Criteria

- Age ≥ 18 years
- Postpartum women (single or multiple gestation) who underwent cesarean delivery at Stanford Healthcare
- Has a viable birth
- Presenting at the postpartum clinic
- Moderate to severe pain intensity (≥ 4 on 10-point numerical rating scale)
- Able to speak, read, and write English
- Ability to adhere to study protocols
- Access to smart device for zoom / video meeting

Exclusion Criteria

- Cognitive or psychological factors preventing comprehension or full participation
- Refusal or inability to provide informed consent
- Non-English speaking or hearing impaired
- Age < 18 years
- Chronic pain prior to pregnancy



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Results

- 48 patients assessed for pain severity from July to November 2025: 44 (92%) were ineligible
- 4 (8%) had $\geq 4/10$ pain and were eligible
 - three declined participation due to time commitment
 - one consented however did not attend the intervention session.
- The trial was terminated due to low eligibility rate and inability to conduct the intervention (Empowered Relief).
- Median pain severity 0 [0,3], Pain interference 1 [0,1.25]

8% of patients (4/48) had $\geq 4/10$ pain severity

Pain interference was reported by 59% of patients (24/41) with pain interference $>0/10$

In 88% of cases, reported pain scores to the research team were higher than those reported to the clinical team.

Table 1: Matrix of pain intensity and pain interference

		Pain Intensity				Total
		None (0)	Mild (1 – 3)	Moderate (4 – 6)	Severe (7 – 10)	
Pain Interference	None (0)	16 (39.0%)	1 (2.4%)	0 (0.0%)	0 (0.0%)	17 (41.5%)
	Mild (1 – 3)	4 (9.8%)	10 (24.4%)	0 (0.0%)	0 (0.0%)	14 (34.1%)
	Moderate (4 – 6)	4 (9.8%)	3 (7.3%)	2 (4.9%)	1 (2.4%)	10 (24.4%)
	Severe (7 – 10)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Total		24 (58.5%)	14 (34.1%)	2 (4.9%)	1 (2.4%)	41 (100.0%)

Table includes patients that have both pain interference and pain intensity (n=41) recorded at the same time by research team



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Conclusion and Discussion

- Using pain severity with a threshold of NRS $\geq 4/10$) in the 6-week postpartum follow-up clinic setting resulted in **insufficient sample of eligible patients** to evaluate the Empowered Relief intervention
- There is a **discrepancy** between NRS pain severity scores documented within the EHR during the clinical visit and scores reported to the research team
- Trial methodology for future studies should consider **independent pain assessment by research staff**
- Postpartum women with a pain score $< 4/10$ linked pain to **physical limitations and sensory changes**
- **Pain severity may not be a sensitive marker for pain experiences** in this population
- **Pain interference over a week may be a more clinically relevant** indicator of pain as it also takes into account the specific functional limitations of pain
- Future studies should consider inclusion criteria based on **any** pain interference or severity

References

