

Introduction

- Pain catastrophizing involves an amplified negative thought characterized by rumination, magnification, and helplessness.¹
- Unclear which factors and if labor pain contribute to the development of pain catastrophizing.

Objective

- To investigate whether greater labor pain was associated with high pain catastrophizing at 6 to 10 weeks postpartum.
- To evaluate the roles of pre-delivery pain and psychological vulnerabilities in the development of pain catastrophizing.

Methods

- Inclusion criteria: 21–50 years old, nulliparous or multiparous, with a singleton fetus of ≥36 gestational weeks.
- Validated questionnaires on pain and psychological vulnerabilities were administered before delivery. Survey on pain catastrophizing administered at postpartum 6-10 weeks

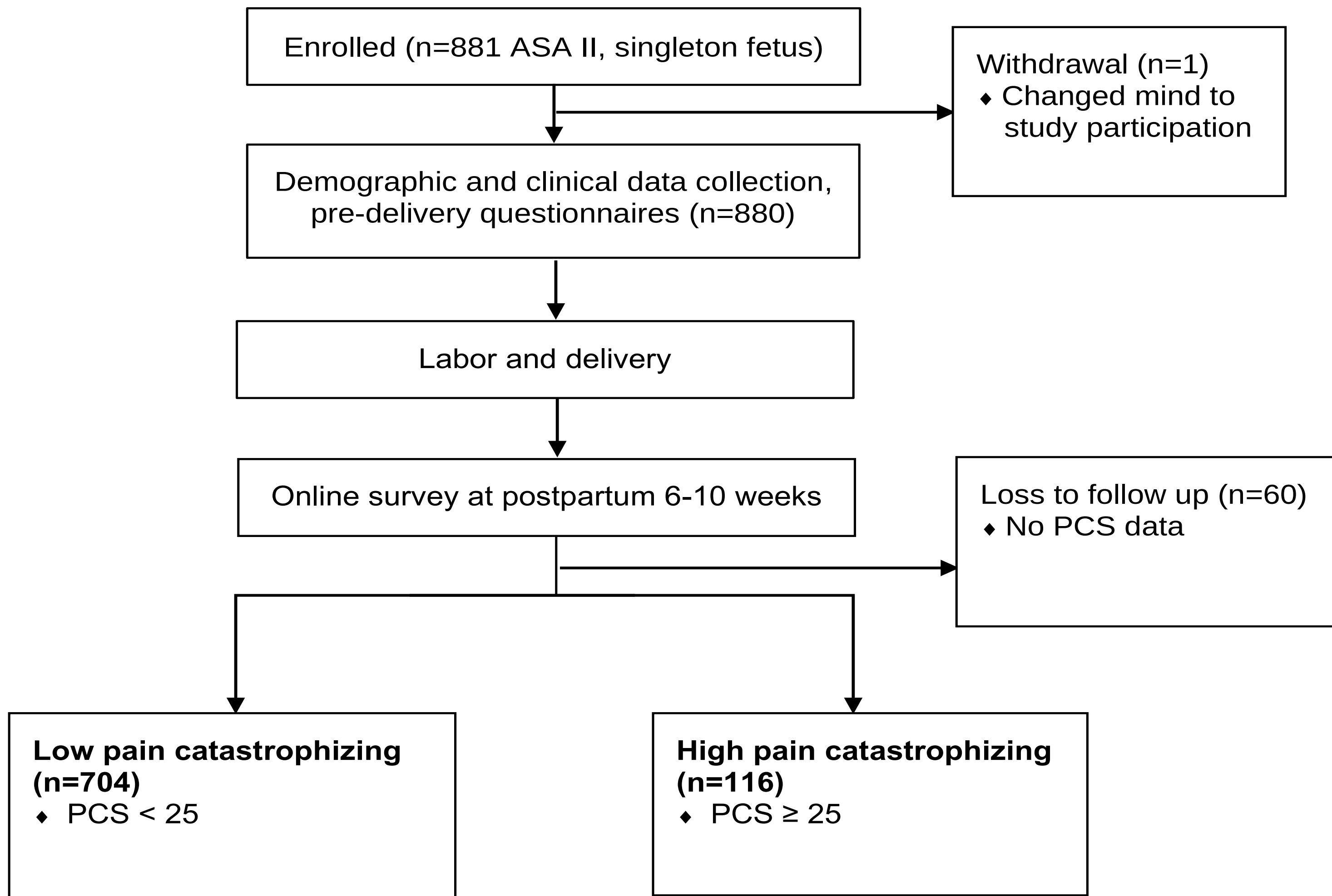


Figure 1 Study Flow Diagram

Results

- Greater enormity of labor pain, choosing non-epidural over epidural, having a family history of other mental disorders, greater pre-delivery pain catastrophizing, greater pre-delivery activity avoidance, greater pre-delivery state anxiety and lower infant weight were associated with postpartum pain catastrophizing.

Table 1 Univariate analysis of factors associated with high pain catastrophizing (p < 0.05)

Variable	PCS < 25 N = 704	PCS ≥ 25 N = 116	Unadjusted odds ratio (95% CI)	p-value
Age at first menstrual period (years), mean (SD)	12.8 (2.4)	13.4 (3.3)	1.08 (1.01 to 1.15)	0.02
Cycles, n (%)				
Regular	544 (81.6)	79 (72.5)	Reference	-
Irregular	123 (18.4)	30 (27.5)	1.68 (1.06 to 2.67)	0.03
Mood changes during menstrual period, n (%)				
Rarely/Never	199 (29.9)	18 (16.2)	Reference	-
Always/Sometimes	466 (70.1)	93 (83.8)	2.21 (1.30 to 3.75)	0.01
Previous History of Postnatal depression, n (%)				
No	511 (73.5)	59 (50.9)	Reference	-
Yes	184 (26.5)	57 (49.1)	2.68 (1.80 to 4.01)	<0.001
Postnatal depression at follow up, n (%)				
No	470 (66.9)	48 (41.7)	Reference	-
Yes	233 (33.1)	67 (58.3)	2.82 (1.88 to 4.21)	<0.001
Family history of mental disorders, n (%)				
Others	2 (0.3)	6 (5.2)	12.75 (3.14 to 51.7)	<0.001
EPDS (0 to 30)	7.2 (4.1)	9.8 (5.1)	1.14 (1.09 to 1.19)	<0.001
PCS Total score (0 to 52)	17.3 (10.9)	27.9 (10.2)	1.09 (1.07 to 1.11)	<0.001
CSI (0 to 100)	52.2 (11.9)	60.1 (13.8)	1.05 (1.03 to 1.07)	<0.001
FACS Total score (0 to 100)	35.8 (17.5)	50.7 (17.1)	1.05 (1.04 to 1.06)	<0.001
STAI Total score (40 to 160)	76 (18.2)	89.9 (19.8)	1.04 (1.03 to 1.05)	<0.001
PSS Total Score (0 to 40)	15.6 (5.9)	19.3 (5.8)	1.11 (1.08 to 1.15)	<0.001
A-LPQ Total Score (0 to 220)	124.1 (49.4)	154.9 (38.0)	1.02 (1.01 to 1.02)	<0.001
EQ-5D-3L VAS (0 to 100)	75.3 (15.6)	67.8 (19.7)	0.98 (0.97 to 0.99)	<0.001
Analgesia Option				
Epidural	365 (51.8)	46 (39.7)	Reference	-
Non-Epidural	339 (48.2)	70 (60.3)	1.64 (1.10 to 2.45)	0.02
Number of pain relief requests, mean (SD)	1.7 (0.9)	1.9 (1.0)	1.25 (1.01 to 1.54)	0.04
Number of pain relief administered, mean (SD)	1.7 (0.9)	1.9 (1.0)	1.23 (1.00 to 1.53)	0.05
Blood loss during delivery (ml), mean (SD)	282.7 (156.2)	251.5 (98.7)	1.00 (0.99 to 1.00)	0.04
Infant weight (kg), mean (SD)	3.2 (0.4)	3.1 (0.4)	0.46 (0.27 to 0.79)	0.01

Table 2 Multivariable logistic regression model for high pain catastrophizing

Variables	Adjusted odds ratio (95% CI)	p-value
Having non-epidural analgesia	1.84 (1.17 to 2.91)	0.009
Family history of other mental disorders	31.33 (5.65 to 173.7)	< 0.001
Infant weight	0.43 (0.23 to 0.78)	< 0.001
PCS total score	2.70 (1.68 to 4.36)	< 0.001
FACS Activity avoidance	1.06 (1.04 to 1.09)	< 0.001
A-LPQ The enormity of the pain	1.04 (1.02 to 1.06)	0.006
STAI State anxiety	1.03 (1.01 to 1.05)	0.008
Area under receiver operating characteristic curve	0.82 (0.78 – 0.86)	

Discussion

Pain Vulnerabilities

- “Enormity of labor pain” highlights overwhelming pain, loss of focus, and inability to maintain self-control.
- Pain catastrophizing- a cognitive tendency to exaggerate pain-related distress.

Psychological Vulnerabilities

- A family history of mental disorders (possibly due to genetics, learned behavior, or family stress).
- Based on the fear avoidance model of pain, state anxiety can amplify pain, reinforcing negative thoughts and tension.²

Lower infant weight

- Infants' weight as validation of their nurturing abilities.

Conclusion

- This evidence can be used to optimise pre-labor counselling and improve postpartum support.

References

1. Sullivan MJL, Bishop SR, Pivik J. The Pain Catastrophizing Scale: Development and validation. Psychological Assessment 1995; 7:524–32.
2. Vlaeyen JWS, Linton SJ. Fear-avoidance and its consequences in chronic musculoskeletal pain: a state of the art. Pain 2000; 85:317–32.