

SUPPLEMENTARY MATERIAL

A systematic review of challenges, impacts and burdens of cesarean section on the mental health and well-being of pregnant mothers, and family in Nigeria

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Key words: cesarean section, CS, mental health, wellbeing, maternal well-being, Nigeria.

Supplementary Table 1. Risk of bias/quality assessment.

Authors (year)	Quality rating	Risk of bias	Percentage score (%)
Adewuyi <i>et al.</i> (2024) ⁸	High	Low	85
Anih <i>et al.</i> (2023) ⁹	Low	High	40
Michael and Michael (2025) ¹¹	High	Low	75
Michael <i>et al.</i> (2024) ¹²	High	Low	80
Adeyemo <i>et al.</i> (2020) ¹⁵	High	Low	85
Sotonye <i>et al.</i> (2024) ²³	High	Low	70
Ikeako <i>et al.</i> (2018) ²⁴	Moderate	Moderate	65
Adewuya <i>et al.</i> (2006) ²⁵	Moderate	Moderate	65
Odufuwa <i>et al.</i> (2022) ²⁶	Moderate	Moderate	65
Chinawa <i>et al.</i> (2016) ²⁷	Low	High	40

Supplementary Table 2. Summary of the included studies.

Authors (year)	Objectives	Study design	Setting and sample size	Key findings	Conclusion
Adewuyi <i>et al.</i> (2024) ⁸	To assess inequalities in CS between rural/urban areas in Nigeria using NDHS 2018 data	Cross-sectional (secondary analysis of DHS)	Nationwide; n=41,821 women of reproductive age (15-49 years)	National CS prevalence rate=2.7%; 5.2% in urban areas ; 1.2% in rural areas Predictors: location, age, wealth index, birth order/size, ANC contacts, spouse education, internet use, unplanned pregnancy, healthcare facility, religion, multiple births	Low overall CS rate masks profound inequality; most rural women who need CS cannot access it, potentially increasing psychological burden. Equitable access and quality improvement required
Anih <i>et al.</i> (2023) ⁹	To assess decisional conflict in women undergoing elective CS in Ibadan	Cross-sectional	Secondary and tertiary health facilities in Ibadan; n=407 booked women for elective CS	21.1% experienced significant decisional conflict (mean DCS score 41.1±14.6). 58.7% husband was sole decision-makers for their participants. Predictors: recruitment site, educational level, family fecundity. One in five women experience significant decisional conflict.	Incorporation of DCS into counselling and promotion of shared decision-making recommended
Michael and Michael (2025) ¹¹	To examine lived experiences, support systems, and emotional well-being of postpartum women who delivered by CS in Ibadan, Nigeria	Qualitative (phenomenology)	Four LGAs in Ibadan, Oyo State; n=24 women aged 22–49 who had CS within 5 years	Five themes: (1) pathways to CS (medical necessity, joint spousal decisions); (2) emotional responses (fear, anxiety, calm acceptance influenced by communication and faith); (3) sociocultural stigma (CS = weakness, spiritual failure); (4) support systems (spousal, family, respectful healthcare key to recovery); (5) future preferences (many willing to undergo CS again, prioritizing maternal/child safety)	Healthcare communication, family involvement, counselling, and cultural re-education essential to improve psychosocial outcomes
Michael <i>et al.</i> (2024) ¹²	To explore perceptions and experiences of postpartum women who underwent CS in Ibadan, Nigeria	Qualitative	Health facilities in urban and rural Ibadan, Oyo State; n=24 postpartum women	Diverse emotional responses from relief and gratitude to disappointment and loss for not experiencing vaginal birth. Societal pressures and cultural expectations strongly influenced perceptions. Healthcare provider-patient relationships and community support crucial for recovery	Culturally sensitive care, clear communication, and robust support systems enhance birthing experience. Findings underscore importance of local context in understanding women's CS perceptions
Adeyemo <i>et al.</i> (2020) ¹⁵	To determine prevalence and predictors of PPD among postnatal women in Lagos, Nigeria	Cross-sectional	Eti-Osa LGA, Lagos; n=250 postnatal women at 6 weeks post-delivery attending 6 PHC centers for immunization	PPD prevalence=35.6%. CS was significantly associated with PPD. Multiparity, CS, maternal illness post-delivery, non-exclusive breastfeeding linked to PPD. Predictors: postpartum blues, not getting help with caring for baby, intimate partner violence, unsupportive partner.	High PPD prevalence; CS identified as a risk factor. Routine postnatal mental health screening and social support recommended.
Sotonye <i>et al.</i>	To evaluate	Cross-sectional	University of Port	54.9% of husbands had psychological distress.	Maladaptive coping (substance use,

(2024) ²³	psychological distress among spouses of women undergoing anaesthesia for CS and to identify the coping strategies used by the participants		Harcourt Teaching Hospital, Rivers State; n=91 husbands of women undergoing anesthesia for CS	Distress significantly higher among younger age (20–39 years), unemployed men, and those without previous birth experience. Predictors: unemployment, and lack of birth experience.	positive reframing, self-blame) were higher among those with psychological distress. Family-centered pre-operative counselling and husband support interventions are recommended.
Ikeako <i>et al.</i> (2018) ²⁴	To determine the prevalence and correlates of PND among postnatal attendees in a tertiary institution in South-East Nigeria	Cross-sectional	COOUTH, South-East, Nigeria; n=132 mothers.	PND prevalence: 33.3% Predictors: maternal age, low socioeconomic status, parity, mode of delivery, type of delivery, lack of emotional support	Routine screening and integration of mental health into postnatal services are recommended
Adewuya <i>et al.</i> (2006) ²⁵	To estimate PTSD prevalence after childbirth and examine associated factors in Ilesha Township, Nigeria	Cross-sectional	5 health centers, Ilesha, Osun State; n=876 women at 6 weeks postpartum	PTSD prevalence=5.9%. Factors independently associated: hospital admission due to pregnancy complications, instrumental delivery, emergency CS, manual placenta removal, poor maternal control during labor.	Emergency CS independently predicts PTSD. Improved obstetric care, pain management, and psychological support needed
Odufuwa <i>et al.</i> (2022) ²⁶	To examined the determinants of mental healthcare-seeking behaviour among postpartum women in Ibadan, Nigeria	Mixed-methods	7 healthcare facilities (public and private), Ibadan, Oyo State; n=390 postpartum mothers	Depression prevalence=20.8%. Among depressed women, only 39.5% sought mental healthcare. Barriers: low perceived need, belief symptoms would resolve spontaneously, fear of being stigmatized as "weak mother." Determinants: age, family history of PPD, desired gender of child, CS.	Low mental health-seeking behavior despite high depression prevalence. Mental health sensitization integrated into maternal care at all levels are recommended.
Chinawa <i>et al.</i> (2016) ²⁷	To examine the postpartum depression among mothers as seen in hospitals in Enugu, South-East, Nigeria	Cross sectional	Two teaching hospitals, and three private hospitals in Enugu; 214 mothers attending postpartum clinics.	PPD prevalence: 22.9%. Predictors: age, educational level, occupation, parity, mode of delivery	Scaling and integration of PPD care into routine care is recommended.

COOUTH, Chukwuemeka Odumegwu Ojukwu University Teaching Hospital; PND, Postnatal Depression; NDHS, National Demographic Health Survey; CS, Caesarean Section; DHS, Demographic Health Survey; ANC, Antenatal Care; DCS: Decisional Conflict Scale; LGAs, Local Government Areas; PPD, Postpartum Depression; PHC, Primary Health Care; PTSD, Post-Traumatic Stress Disorder; PND, Postnatal Depression.