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THE ROLE OF COMMUNITY NURSES IN THE EARLY DETECTION AND MANAGEMENT OF POSTPARTUM DEPRESSION IN RURAL POPULATIONS: A NARRATIVE REVIEW

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Abstract

Background: Postpartum depression (PPD) is common and treatable, yet most affected women in rural, resource-limited settings are never identified or treated. Community nurses and allied community cadres are often the only health workers in regular contact with rural mothers. To synthesise published evidence on the role of community nurses in the early detection and management of PPD among rural populations, with emphasis on Pakistan and

comparable low- and middle-income settings. **Methods**: Narrative review of systematic reviews, meta-analyses, randomised and non-randomised trials, screening-validation studies and qualitative studies identified through targeted searches of web-indexed biomedical literature up to November 2025. **Results**: Pooled prevalence of PPD was 17.2% worldwide and 27.0% among rural women, rising to 31.3% among rural women in developing countries; pooled postnatal depression in Pakistan was 34.2% at three months. In one Pakistani survey, only 2% of women with high symptom scores had sought mental healthcare. Verbally administered tools (SRQ-20, Urdu PHQ-9, EPDS) can be used by trained non-specialists, although EPDS discrimination varied between settings (AUC 0.62 to 0.95). In a cluster-randomised trial in rural Pakistan, CBT-based care delivered by Lady Health Workers reduced major depression at six months from 53% to 23% (adjusted OR 0.22). Professionally based postpartum home visits reduced the risk of PPD (RR 0.56). Peer-delivered programmes were less consistent: primary outcomes did not differ significantly at six months in the Pakistani trial, although repeated-measures analyses favoured the intervention. Stigma, workload, limited training and weak referral pathways were the main barriers. **Conclusion**: Community nurses are well placed to lead case-finding, brief psychosocial care, family engagement, supervision of community cadres and referral, but nurse-specific trials in rural populations are scarce. Pragmatic trials of nurse-led stepped care are needed.

Keywords: postpartum depression; community health nursing; rural health; early detection; screening; Lady Health Workers; Pakistan

1. Introduction

Postpartum depression (PPD) is a depressive disorder that can begin at any time within the first year after childbirth and may continue for several years [1]. It impairs the mother's functioning and caregiving, and in developing countries the children of mothers with PPD are at greater risk of being underweight [2]. Because PPD is both common and treatable, early detection is a public health priority.

A meta-analysis of 565 studies from 80 countries or regions estimated the global pooled prevalence of PPD at 17.22% (95% CI 16.00–18.51) [1]. Across low- and lower-middle-income countries the weighted mean prevalence of common postnatal mental disorders was 19.8% [3], and in Pakistan pooled estimates of postnatal depression range from 34.2% to 43.1% depending on time since delivery [4]. Rural women appear to carry an additional burden: a systematic review reported a pooled prevalence of 27.0% among rural women, and 31.3% in rural women of developing countries [5], while a later synthesis of 86 studies estimated perinatal depression at 22.1% in rural areas and concluded that rural prevalence exceeds global figures [6].

Rural women face a particular access problem. When one influential Pakistani trial was reported, about 350 psychiatrists and 3,000 psychiatric beds were concentrated in the major cities, and primary care in rural areas was delivered through Basic Health Units staffed by a doctor, a midwife, a vaccinator and 15–20 village-based Lady Health Workers (LHWs); roughly 96,000 LHWs covered more than 80% of the rural population, each responsible for about 100 households [7]. The consequence is a large treatment gap: in a recent Punjab survey, only 2% of women with high postpartum symptom scores had sought mental healthcare [8].

Task-sharing, in which trained non-specialists deliver evidence-based psychosocial care, is the strategy most often proposed for closing this gap. The World Health Organization's Thinking Healthy Programme (THP) was incorporated into the Mental Health Gap Action Programme (mhGAP) on the strength of trial evidence from rural Pakistan [9]. Community nurses, meaning nurses and midwives working in community and primary care, sit between lay community workers, whose training is largely preventive, and the physicians and specialists who are scarce in rural areas. Yet most trials have tested lay workers, peers or LHWs rather than nurses, and no review has consolidated what is known about the specific contribution of community nurses to detecting and managing PPD in rural populations.

This narrative review therefore aims to (i) summarise the burden of PPD in rural populations; (ii) describe the treatment gap and its barriers; (iii) appraise screening tools that community nurses can use; (iv) summarise evidence on management delivered by nurses and allied community cadres; and (v) propose a role framework for community nurses, with implications for practice in Pakistan.

2. Methods

2.1 Design

This is a narrative review. Its purpose is to synthesise and interpret evidence across several kinds of study (prevalence reviews, screening-validation studies, trials and qualitative work) that cannot be pooled statistically. It was not registered, and no new participant data were collected.

2.2 Literature search

Targeted web searches were run in November 2025, returning articles indexed in PubMed and PubMed Central, DOAJ, the Cochrane Library and publisher platforms. Search terms combined “postpartum depression” or “postnatal depression” with “rural”, “community health nurse”, “community health worker”, “Lady Health Worker”, “home visit”, “screening”, “Edinburgh Postnatal Depression Scale”, “Thinking Healthy

Programme" and "Pakistan". Reference lists of key articles were screened for further sources.

2.3 Eligibility

Included were systematic reviews and meta-analyses of PPD prevalence; primary prevalence studies in rural or Pakistani populations; validation or feasibility studies of screening tools used by non-specialist or community health workers; randomised and non-randomised studies of interventions delivered by nurses, LHWs, community health workers or trained peers; and qualitative studies on barriers to help-seeking and care. Sources had to concern women in pregnancy or the first postpartum year and be available in English. Sources that did not address postpartum or perinatal mental health, or that gave no information on community-level detection or delivery, were excluded.

2.4 Data extraction and synthesis

Values (prevalence, confidence intervals, sensitivity, specificity, area under the curve, odds ratios, risk ratios, standardised effects, sample sizes) were extracted exactly as reported by the original authors. Where a value had to be derived, it is marked as such: the proportion of women scoring ⩾13 on the EPDS in Punjab (1,503 of 3,220) and the proportion who sought treatment among women perceiving a need (the complement of the reported 91.23%). No statistical pooling was attempted, no formal risk-of-bias scoring was applied, and evidence is described by study type. Because the evidence on community nurses specifically is limited, evidence from allied community cadres (LHWs, accredited social health activists, trained peers) is presented separately and clearly labelled.

2.5 Figures

All figures were produced in R version 4.3.3 using the ggplot2 package (version 3.4.4), with a colour-blind-safe palette. Every plotted value is taken from the sources listed in the reference list; no values were simulated or estimated.

3. Results

3.1 Evidence base

The review draws on 34 published sources, including systematic reviews and meta-analyses, screening-validation studies, randomised and non-randomised intervention studies, and qualitative or contextual sources on barriers and service gaps.

3.2 Burden of postpartum depression in rural populations

Table 1 lists the 15 prevalence estimates extracted from reviews and primary studies. Pooled estimates ranged from 14.0% to 34.2% (Figure 1). The global pooled prevalence was 14.0% in a meta-analysis of 27 studies [10] and 17.22% in a larger analysis of 565 studies, which also found the highest regional rate in Southern Africa (39.96%) [1].

Estimates for low-resource settings were higher: 19.8% across low- and lower-middle-income countries [3], 22% in India [2] and 22.89% in Ethiopia [11]. During the COVID-19 pandemic the pooled postpartum estimate was 26% [12].

Table 1. Reported prevalence of postpartum depression (PPD) in published reviews and primary studies.

Source	Setting / population	Design	Prevalence, % (95% CI)
Liu et al. 2022 [10]	Global; postpartum	Meta-analysis; 27 studies, 133,313 women	14.0 (12.0–15.0)
Wang et al. 2021 [1]	Global; postpartum	Meta-analysis; 565 studies, 80 countries or regions	17.22 (16.00–18.51)
Fisher et al. 2012 [3]	Low- and lower-middle-income countries; postnatal	Systematic review; 34 postnatal studies; weighted mean	19.8 (19.5–20.0)
Villegas et al. 2011 [5]	Rural women, developed countries	Meta-analysis (17 studies in total)	21.5 (10.9–38.0)
Upadhyay et al. 2017 [2]	India	Meta-analysis; 38 studies, 20,043 women	22 (19–25)
Pan et al. 2024 [6]‡	Rural women, global; perinatal	Meta-analysis; 86 studies	22.1 (19.0–25.3)
Tolossa et al. 2020 [11]	Ethiopia	Meta-analysis; 12 studies	22.89 (17.75–28.03)
Caffieri et al. 2024 [12]	Global, during COVID-19; postpartum	Umbrella review	26 (23–30)
Villegas et al. 2011 [5]	Rural women, all countries	Meta-analysis (17 studies)	27.0 (18.8–37.2)
Villegas et al. 2011 [5]	Rural women, developing countries	Meta-analysis	31.3 (21.3–43.5)

Padhani et al. 2024 [4]	Pakistan; postnatal, 3 months	Meta-analysis; 61 studies (perinatal review)	34.2 (22.7–46.7)
Padhani et al. 2024 [4]	Pakistan; postnatal, 12 months	Meta-analysis	43.1 (24.4–62.9)
Sajjad et al. 2024 [8]	Five cities, Punjab, Pakistan; first 6 months postpartum; EPDS ⩾13	Cross-sectional; 3,220 women screened	46.7† (1,503/3,220)
Nithin et al. 2026 [13]	Urban Bengaluru, India	Cross-sectional; n = 75	69 (not reported)
Nithin et al. 2026 [13]	Rural Bengaluru, India	Cross-sectional; n = 75	76 (not reported)

CI, confidence interval; EPDS, Edinburgh Postnatal Depression Scale. †Derived from the reported counts. ‡Perinatal estimate (pregnancy and first postpartum year); not included in Figure 2. Estimates overlap across reviews and use different instruments, cut-offs and time windows.

In rural women specifically, a systematic review found a pooled prevalence of 27.0% (95% CI 18.8–37.2), with 31.3% in developing and 21.5% in developed countries and significant heterogeneity within each group; comparisons between rural and urban women gave conflicting results, so rural residence has not been shown conclusively to be an independent risk factor [5]. A synthesis of 86 studies estimated perinatal depression at 22.1% (19.0–25.3; I^2 = 99.2%) in rural areas and concluded that prevalence was higher in rural areas than in global data [6].

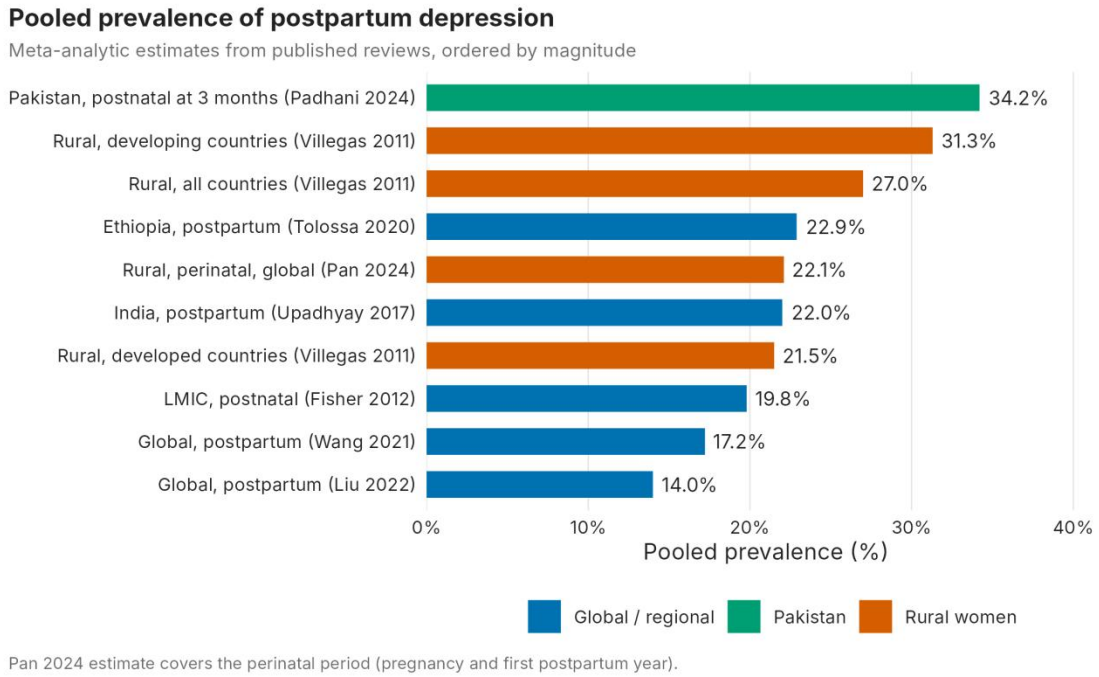


Figure 1. Pooled prevalence of postpartum depression in published meta-analyses, grouped by setting. Data: Table 1.

The distribution of the 14 postpartum estimates in Table 1 is shown in Figure 2. Eight of the 14 lay between 10% and 30%; the right-hand tail is formed by Pakistan-specific and small primary studies. In a small comparative survey in Bengaluru, 76% of rural and 69% of urban women (75 per group) were classed as depressed, with moderate and severe depression more common among rural women [13]; these values are far above pooled estimates and come from a very small sample, so they should be read cautiously.

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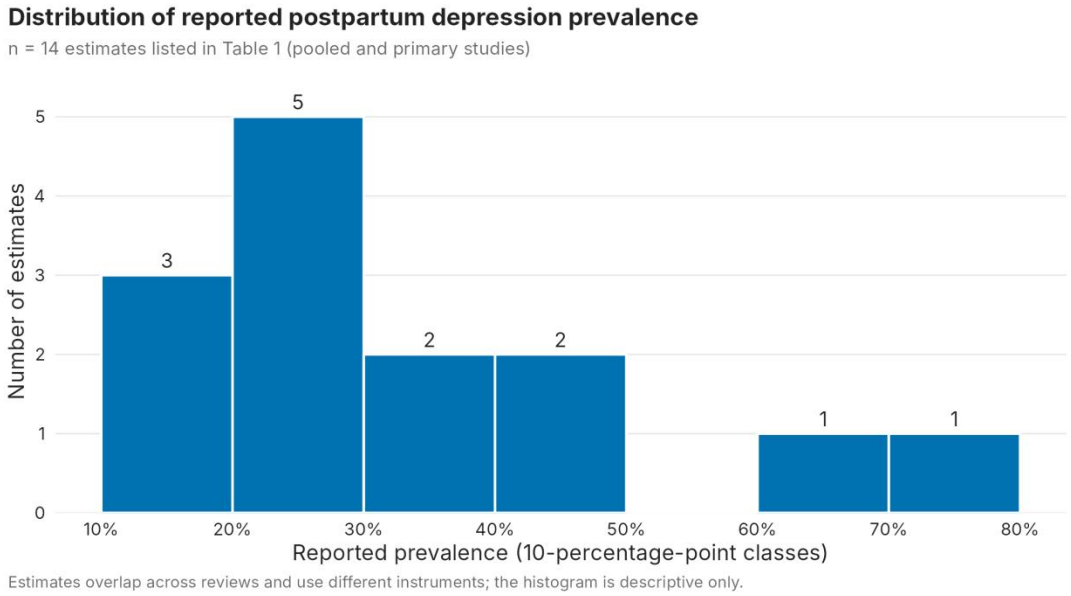


Figure 2. Distribution of reported postpartum depression prevalence estimates (n = 14; estimates in Table 1 except the perinatal estimate of Pan et al.). The histogram is descriptive: estimates overlap and use different instruments.

Pakistan-specific data show a high and persistent burden (Figure 3). A review of 61 studies pooled postnatal depression at 34.2% at three months, 40.9% at six months and 43.1% at twelve months, although the six-month interval (0%–97.4%) is uninformative because few studies contributed [4]. In the rural Rawalpindi sub-district where the Thinking Healthy trials were run, epidemiological studies indicate perinatal depression of 26–33% [9]; an earlier survey of 632 rural women reported ICD-10 depressive disorder in 25% [14]. In five cities of Punjab, 1,503 of 3,220 women (46.7%) screened in the first six months after delivery scored 13 or more on the EPDS [8].

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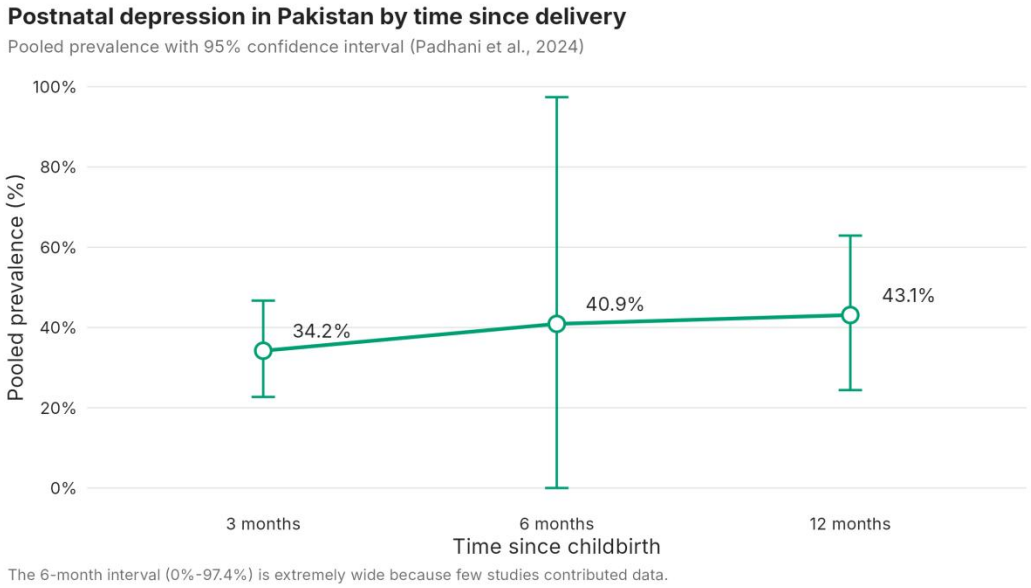


Figure 3. Pooled prevalence of postnatal depression in Pakistan by time since childbirth, with 95% confidence intervals. Source: Padhani et al. (2024).

Risk factors that community nurses can recognise at antenatal and postnatal contacts are consistent across settings. In low- and lower-middle-income countries these include socioeconomic disadvantage (odds ratio range 2.1–13.2), unintended pregnancy (1.6–8.8), intimate partner violence (2.11–6.75), insufficient emotional and practical support (2.8–6.1), hostile in-laws (2.1–4.4) and a history of mental health problems (5.1–5.6) [3]. In Pakistan, multiparity, inadequate antenatal care, previous psychiatric illness, low socioeconomic status, marital problems, food insecurity and the husband's unemployment were associated with perinatal depression [4]. In India, financial difficulties, domestic violence, marital conflict, lack of the husband's support and the birth of a female baby were reported [2]. Among rural women in developing countries, having two or more young children was an additional risk factor [5]. In rural Rawalpindi, higher symptom scores and poverty during pregnancy predicted persistent depression [14].

3.3 The treatment gap and barriers to care

Detection and treatment lag far behind need. Among 3,220 women screened with the EPDS in the first six months postpartum, 1,503 scored ⩾13; of these, 1,215 (81%) perceived a need for mental health treatment, yet 91.23% of those women did not seek it (Figure 4). Overall, only 2% (n = 33) of women with high symptom scores had sought mental healthcare, 5% (n = 75) had had any contact with a health service since symptom

onset, and 92.8% had sought no medical attention [8]. Instrumental barriers were the strongest predictor of symptom severity in the decision-tree model of that study [8].

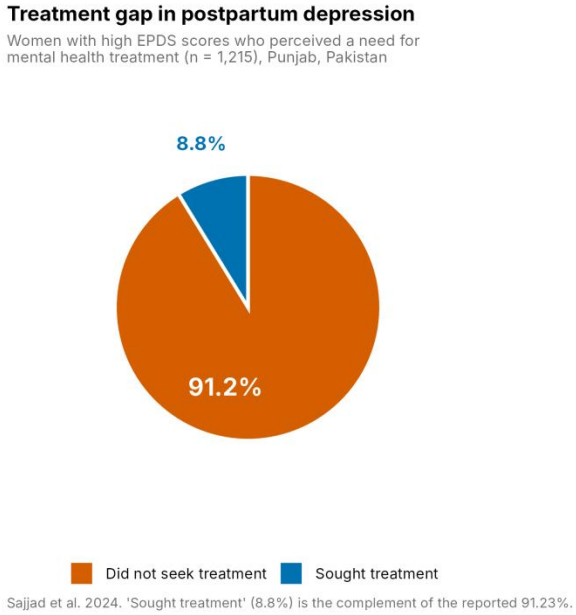


Figure 4. Treatment gap among women with high postpartum depressive symptom scores who perceived a need for mental health treatment (n = 1,215), Punjab, Pakistan. Source: Sajjad et al. (2024); the "sought treatment" share is the complement of the reported figure.

Qualitative work in Karachi identified stigma, discouragement from others to seek care, and religious interpretations of depression that lead many women to faith healers; at health-service level it identified gaps in medical education, general practitioners' case overload, gender bias, poor resource allocation and the lack of referral systems. Facilitators included awareness, concern for children, symptom severity, family support, receiving a referral, affordability and organisational support, and the author proposed delivering mental health services through community-based Lady Health Workers [15]. PPD has been described as a neglected issue in Pakistan [16], and a recent editorial argues that mandatory mental health screening is essential for early identification [17]. Family context matters beyond Pakistan: in a randomised trial of community health worker home visits for pregnant women in rural China, the programme did not improve mental health overall but did reduce depression and stress scores when the husband accompanied antenatal care [18].

3.4 Early detection: screening tools usable by community nurses

Table 2 and Figure 5 summarise instruments evaluated in low-resource and rural settings. Three points stand out. First, the EPDS, the most widely used instrument, discriminates well in some rural settings (AUC 0.84 against a psychiatric interview in rural Pakistan [19]; AUC 0.95 for antenatal screening in rural South India with a cut-off of 13 [20]) but poorly in others (AUC 0.62 in rural Ethiopia, where the authors judged its clinical utility limited [21]). Reviews of EPDS validation studies show wide ranges of sensitivity and specificity and lower positive predictive value in general populations than in validation samples [22]. Second, the 20-item Self-Reporting Questionnaire (SRQ-20) performed as well as the EPDS in rural Pakistan (AUC 0.82 versus 0.84) when administered by trained health workers, who preferred it for non-literate women because of its simpler format [19]. Third, the Urdu PHQ-9 at a cut-off of ⩾10 had sensitivity 94.7% and specificity 88.9% against a structured clinical interview among community-based pregnant women in rural Pakistan [23].

Table 2. Screening and case-finding approaches evaluated in rural or low-resource settings.

Instrument and setting	Sample and reference standard	Key finding
SRQ-20 and EPDS; rural Kahuta, Pakistan; administered by trained health workers [19]	541 postnatal women; WHO SCAN interview	AUC 0.82 (95% CI 0.78–0.86) for SRQ-20 and 0.84 (0.81–0.88) for EPDS; health workers preferred SRQ-20 for non-literate women
Urdu PHQ-9, cut-off ⩾10; rural Pakistan [23]	Community-based pregnant women; SCID	Sensitivity 94.7%, specificity 88.9%; 33% met the PHQ-9 cut-off and 26% were SCID-positive
EPDS, cut-off 8; British Pakistani women [24]	714 women in the third trimester; SCAN	Sensitivity 89.6%, specificity 54.7%, AUC 0.72 (0.66–0.78); EPDS should be used as a screen, not for diagnosis

EPDS (cut-off 13) and K10 (cut-off 6); rural South India [20]	194 pregnant women; structured diagnostic interview	EPDS sensitivity 100%, specificity 84.9%, AUC 0.95; K10 sensitivity 100%, specificity 81.3%, AUC 0.95
EPDS and SRQ-20; rural Ethiopia [21]	Perinatal women in community settings; psychiatric assessment	EPDS AUC 0.62 (0.49–0.76); SRQ-20 AUC 0.82 (0.68–0.96) and 0.70 (0.57–0.83) in two studies; EPDS of limited utility
Prenatal EPDS-10 (cut-off 13) administered by community health workers; Khayelitsha, South Africa [25]	249 women assessed in pregnancy and at 12 weeks postpartum	31.7% had probable PPD at 12 weeks; sensitivity 0.67 and specificity 0.67; screening was feasible, but prenatal screening failed to predict postpartum depression accurately
Community Informant Detection Tool for Maternal Depression (CIDT-MD); rural Rawalpindi [26]	Five-step cultural adaptation with mothers, mothers-in-law, providers and 28 LHWs and peers in focus groups	Culturally acceptable, easy-to-use tool; LHWs and lay peers were the most appropriate informants
EPDS administered by trained accredited social health activists (ASHAs); rural Karnataka, India [27]	Mothers 6–12 weeks postpartum attending immunisation clinics; 17 ASHAs after a 2-day training	Screening feasible within routine immunisation contacts; all 26 mothers who screened positive agreed to enrol in a home-based intervention

AUC, area under the receiver operating characteristic curve; CI, confidence interval; EPDS, Edinburgh Postnatal Depression Scale; K10, Kessler 10; PHQ-9, Patient Health Questionnaire-9; SCAN, Schedules for Clinical Assessment in Neuropsychiatry; SCID, Structured Clinical Interview for DSM; SRQ-20, Self-Reporting Questionnaire.

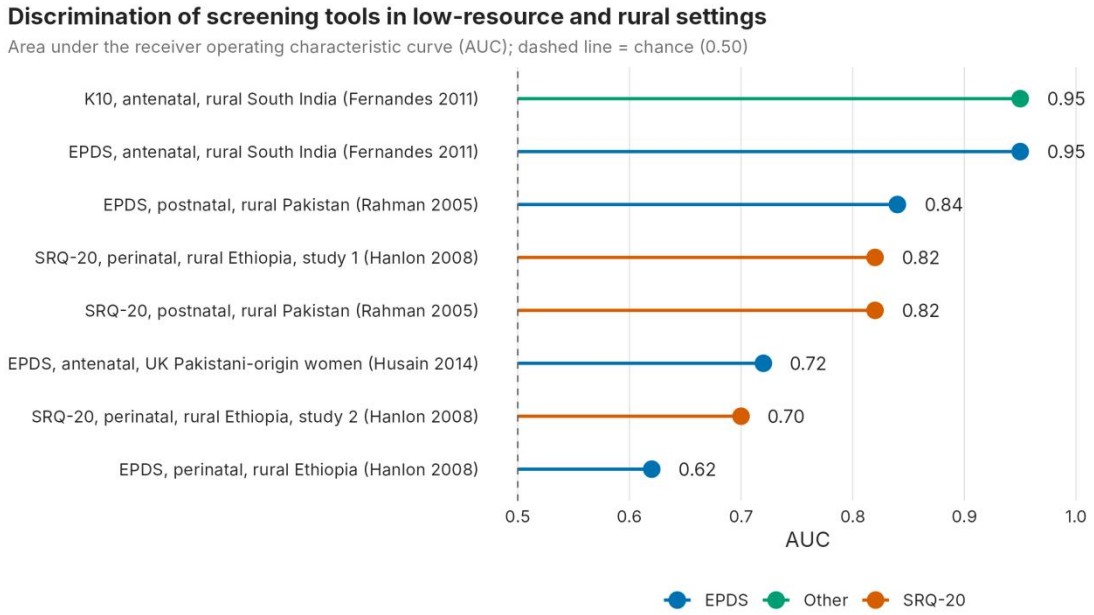


Figure 5. Area under the ROC curve (AUC) of screening tools evaluated in rural and low-resource settings, ordered by AUC. Sources: Rahman et al. 2005; Hanlon et al. 2008; Husain et al. 2014; Fernandes et al. 2011.

Screening that relies on the community also has a place. In rural Rawalpindi, an adapted community-informant tool using illustrated vignettes allowed LHWs and lay peers to flag probable cases of maternal depression [26]. In India, a two-day training was enough for ASHAs to conduct EPDS screening at immunisation clinics, although their routine training had contained only minimal content on PPD [27]. The South African study cautions that antenatal screening alone does not reliably predict postpartum depression, so screening must be repeated after delivery [25].

3.5 Management delivered by nurses and community cadres

Table 3 summarises intervention evidence. The strongest evidence from rural Pakistan is a cluster-randomised trial in 40 Union Councils (463 mothers in the intervention and 440 in the control group) in which LHWs, trained to deliver a CBT-based intervention within their routine work, saw married women with perinatal depression from the third trimester onwards. At six months, 97 of 418 mothers (23%) in the intervention group and 211 of 400 (53%) in the control group met criteria for major depression (adjusted OR 0.22; 95% CI 0.14–0.36); at twelve months the figures were 111 of 412 (27%) and 226 of 386 (59%) (OR 0.23; 0.15–0.36) (Figure 6). Differences in infant weight-for-age and height-for-age z-scores were not significant at six or twelve months [7]. The trial authors

noted that LHWs rarely deliver structured, monitored care, so the control group received better-than-routine support [7].

Table 3. Selected evidence on management of postpartum depression by nurses and allied community cadres.

Study and setting	Delivery agent and intervention	Key findings
Rahman et al. 2008; rural Rawalpindi, Pakistan; cluster RCT, 40 Union Councils, 903 mothers [7]	Lady Health Workers; CBT-based intervention (Thinking Healthy) from the third trimester	Major depression at 6 months 23% vs 53% (adjusted OR 0.22, 0.14–0.36); at 12 months 27% vs 59% (OR 0.23, 0.15–0.36); infant growth z-scores not significantly different
Sikander et al. 2019; rural Rawalpindi, Pakistan; cluster RCT, 40 villages [28]	Volunteer peers working with LHWs; peer-delivered Thinking Healthy Programme (10 individual and 4 group sessions from the third trimester to 6 months postnatal)	No significant effect on symptom severity or remission at 6 months (primary outcomes); beneficial on some other measures; repeated-measures PHQ-9 SMD −0.22 (−0.35 to −0.09), remission prevalence ratio 1.15; cost-effective
Vanobberghen et al. 2020; India and Pakistan; pooled analysis of two RCTs [29]	Trained peers; peer-delivered Thinking Healthy Programme	850 women (280 India, 570 Pakistan); 704 (83%) followed up at 6 months; 35% higher odds of remission than enhanced usual care; greater effect in primiparous women and in those with shorter chronicity
Atif et al. 2019; rural Rawalpindi; 5-year programme report [9]	Peer volunteers working alongside LHWs	About 70% of peers inducted 5 years earlier were still active and competent with token incentives; challenges: uncertainty about programme future, demands for higher incentives, group logistics, family resistance

Szajna et al. 2024; rural Belagavi, India; single-arm pilot [27]	17 ASHAs after 2-day training; 5-week home-based behavioural activation	All 26 mothers who screened positive enrolled; significant reduction in EPDS scores ($p < 0.001$); feasible and acceptable (no control group)
Dennis and Dowswell 2013; Cochrane review of 28 trials, about 17,000 women [30]	Professional (nurse- or midwife-delivered) and lay interventions to prevent PPD	Professionally based postpartum home visits RR 0.56 (0.43–0.73; 2 trials, n = 1,262); lay telephone peer support RR 0.54 (1 trial, n = 612); lay home visits, classes and early follow-up showed no significant effect
Horowitz et al. 2013; United States; RCT [31]	Nurse-led home visits from 6 weeks to 9 months postpartum (behavioural coaching)	Positive effect on outcomes for all participants, with improved maternal–infant interaction and lower PPD severity
McCabe et al. 2021; meta-analysis of 4 studies, 651 participants [32]	Nurses and other non-mental-health professionals; Listening Visits (non-directive counselling)	Effect size 0.43 (0.24–0.62); supports first-line use in stepped care for mild to moderately severe symptoms
Hernanda et al. 2023; meta-analysis [33]	Home visits by community health cadres	SMD −0.27 (−0.52 to −0.03; $p = 0.030$) in depression scores versus no visits
Wang et al. 2025; rural western China; RCT, 592 pregnant women [18]	Community health worker home visits (prenatal)	No overall improvement in maternal mental health; benefit when the husband accompanied antenatal care

CI, confidence interval; OR, odds ratio; RR, risk ratio; SMD, standardised mean difference; RCT, randomised controlled trial; LHW, Lady Health Worker; ASHA, accredited social health activist; CBT, cognitive behavioural therapy.

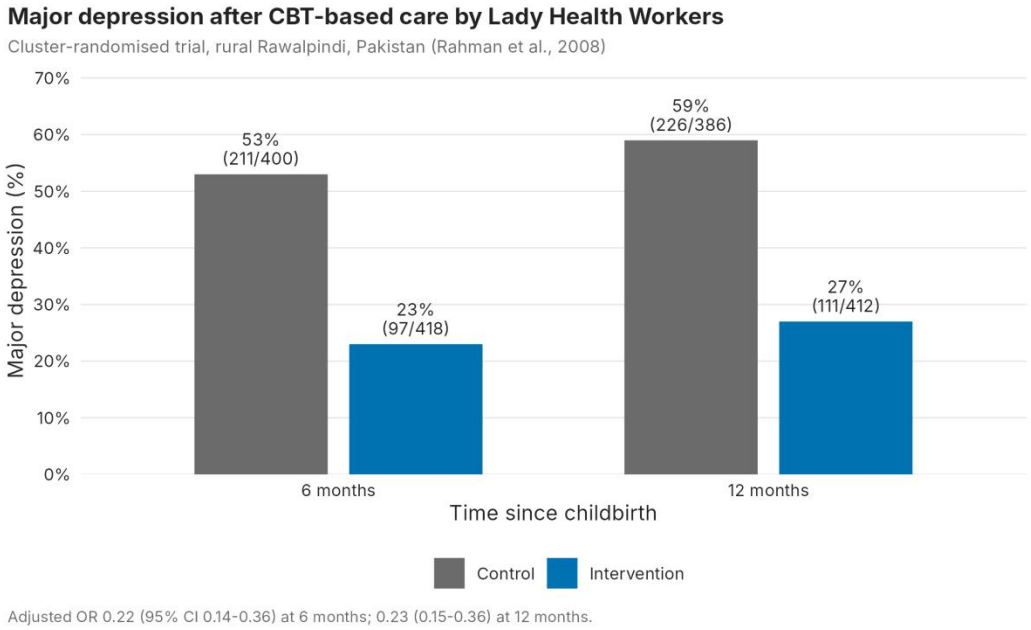


Figure 6. Proportion of mothers meeting criteria for major depression at 6 and 12 months in the intervention and control groups of the LHW-delivered CBT-based trial in rural Rawalpindi, Pakistan. Source: Rahman et al. (2008).

Peer-delivered versions of the programme, designed to relieve overstretched LHWs, produced more mixed results. In the Pakistani trial of volunteer peers (10 individual and 4 group sessions from the third trimester to six months postpartum), there was no effect on symptom severity or remission at six months, but repeated-measures analyses favoured the intervention (standardised mean difference −0.22; 95% CI −0.35 to −0.09) and the programme was cost-effective [28]. A pooled analysis of the Indian and Pakistani trials (850 women; 83% followed up) found 35% higher odds of remission at six months [29]. Five years on, about 70% of peers remained active with only token incentives [9], and a technology-assisted peer-delivered version has since been evaluated economically as a way to scale the approach [34].

Evidence for nurse-delivered care comes mostly from higher-resource settings but is relevant to rural nursing practice. In the Cochrane review, intensive professionally based postpartum home visits reduced the risk of PPD by 44% (RR 0.56) [30], a nurse-led home-visiting trial improved maternal–infant interaction and reduced PPD severity [31], and Listening Visits delivered by nurses had a moderate pooled effect (0.43) across four studies [32]. Home visits by community health cadres produced a smaller pooled benefit (SMD −0.27) [33], while a rural Chinese trial found no overall effect unless the

family was involved [18]. Figure 7 places these estimates side by side; the metrics differ between panels, so effect sizes should not be compared across them.

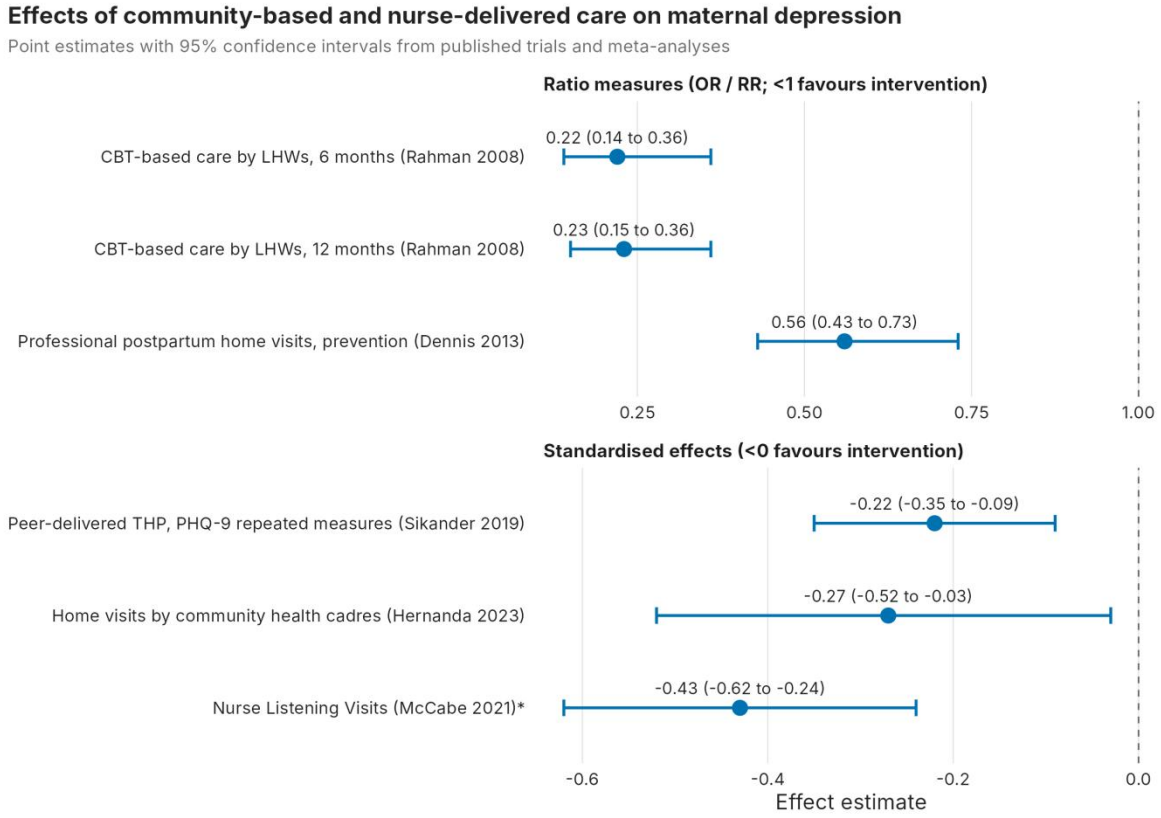


Figure 7. Effects of community-based and nurse-delivered interventions on maternal depression: ratio measures (top) and standardised effects (bottom), with 95% confidence intervals. *Listening Visits effect (0.43; 95% CI 0.24–0.62) was reported as a positive benefit; the sign is reversed here for alignment. Sources: Rahman 2008; Dennis and Dowswell 2013; Sikander 2019; Hernanda 2023; McCabe 2021.

3.6 Synthesis: a role framework for community nurses

Combining the evidence above, Table 4 proposes how community nurses can contribute at each stage of the care pathway. The framework is an interpretation by the reviewers: individual elements are supported by the cited studies, but the package as a whole has not been tested as a nurse-led model in rural Pakistan.

Table 4. Proposed roles of community nurses across the care pathway for postpartum depression, with supporting evidence.

Stage	Proposed role of the community nurse	Supporting evidence
1. Case-finding	Screen at routine antenatal, postnatal and immunisation contacts with a verbally administered, locally validated tool; train and supervise LHWs and peers as community informants	Verbal tools usable by health workers [19,23]; community-informant tool [26]; ASHA screening at immunisation clinics [27]
2. Risk assessment	Record antenatal depression, poverty, food insecurity, intimate partner violence, unplanned pregnancy, lack of family support and past psychiatric history, and repeat screening after delivery	[3,4,14,25]
3. Brief psychosocial care	Deliver or supervise structured low-intensity care (CBT-based Thinking Healthy sessions, behavioural activation, Listening Visits) with home visits	[7,27,30–32]
4. Referral and follow-up	Refer severe, persistent or high-risk cases to medical or psychiatric services; track attendance and outcomes; link with obstetric care	Large treatment gap and weak referral pathways [8,15]

5. Family engagement and stigma reduction	Involve husbands and in-laws in sessions; provide health education to families and communities	Husband's presence modified benefit [18]; stigma and faith-healer pathways [15]
6. Training, supervision and sustainability	Train peers and LHWs, supervise quality and support motivation	Peer retention and challenges [9]; LHW training and scale-up [7,28]

4. Discussion

4.1 Principal findings

Three conclusions emerge. First, the burden is high and probably higher in rural populations: pooled global prevalence is about 17%, rural estimates are around 22–31%, and Pakistani estimates are higher still. Second, the gap between need and care is wide; in Punjab, fewer than one in ten women who perceived a need for treatment sought it. Third, trained non-specialists can both detect and treat PPD: SRQ-20, PHQ-9 and EPDS have been administered by health workers, and CBT-based care delivered by LHWs cut the proportion of mothers with major depression by more than half at six months in rural Pakistan.

At the same time, the evidence is not uniformly positive. The peer-delivered trial did not meet its primary six-month outcomes, the rural Chinese home-visiting trial had no overall effect, EPDS discrimination ranged from 0.62 to 0.95 depending on setting, and antenatal screening failed to predict postpartum depression well. These findings argue for locally validated tools, repeated screening, and intervention programmes that include family members and adequate supervision, rather than a single, standardised approach.

4.2 Why community nurses

LHWs complete secondary school and are trained mainly for preventive maternal and child health care [7]; in India, ASHAs' routine training contains minimal content on PPD [27]. Peer programmes depend on sustained motivation, and their organisers reported demotivation when the programme's future was uncertain, growing demands for incentives, logistic problems and resistance from some families [9]. Community nurses can fill gaps that these cadres cannot: they can use validated screening and risk-assessment tools, deliver structured brief interventions, recognise severe illness, refer, and supervise LHWs and peers. The nurse-specific evidence (professionally based home visits, nurse-led home visiting, Listening Visits) shows consistent benefit [30–32],

although it comes largely from high-income settings and has not been tested in rural South Asia.

4.3 Implications for nursing practice and policy

The following implications are drawn by the reviewers from the evidence above and should be treated as recommendations for implementation research rather than as proven standards:

- **Embed screening in routine contacts.** Antenatal, postnatal and immunisation visits are natural opportunities; a verbally administered tool (SRQ-20 or Urdu PHQ-9) suits low-literacy populations [19,23], and local validation should precede adoption of any cut-off [21,22].
- **Screen more than once.** Antenatal screening alone does not reliably identify postpartum depression [25], and Pakistani prevalence remains high through the first year [4].
- **Use stepped care.** Low-intensity structured care (Thinking Healthy, behavioural activation, Listening Visits) for mild to moderate symptoms, with referral for severe or high-risk cases [7,32].
- **Work with the existing community workforce.** Nurses can supervise LHWs and peers, using the national LHW network that covers most rural households [7], and training for screening and brief intervention can be short [27].
- **Involve families.** Husband and in-law involvement changed intervention benefit in rural China and is built into the Thinking Healthy model [9,18].
- **Build the referral pathway first.** Screening without accessible treatment widens frustration and does not close the treatment gap [8,15].

4.4 Strengths and limitations

The review brings together prevalence, screening, treatment and barrier evidence relevant to rural nursing practice and presents extracted values transparently, including derived values. Its limitations are those of narrative synthesis. The search was targeted rather than exhaustive and was not preregistered; no formal risk-of-bias appraisal was applied; and the prevalence estimates in Table 1 overlap, use different instruments, thresholds and time windows, and are therefore not independent, so the histogram and bar chart are descriptive. Several Pakistani sources pre-date recent service changes, the rural definition varies across studies, and most intervention trials tested LHWs or peers rather than nurses. Some figures, such as the Bengaluru estimates, come from very small samples. Nurse-specific trials in rural populations are lacking, so the role framework in Table 4 is inferential.

4.5 Research priorities

Priority questions include: pragmatic cluster-randomised trials of nurse-led stepped care in rural Pakistan, with LHWs and peers as co-deliverers; local-language validation of screening tools with defined cut-offs; implementation outcomes such as screening coverage, referral completion and retention of providers; cost-effectiveness comparisons across delivery agents; and the role of fathers and extended families in prevention and treatment.

5. Conclusion

Postpartum depression is frequent in rural populations, and most affected women are neither identified nor treated. Evidence from Pakistan, India and other low- and middle-income settings shows that trained non-specialists can screen for and treat PPD, and nurse-delivered home-based care has reduced PPD in other contexts. Community nurses are therefore well placed to lead case-finding, brief psychosocial care, family engagement, supervision of community workers and referral. Realising this potential requires locally validated tools, repeated screening, strong referral pathways and trials that test nurse-led models directly in rural settings.

Data availability: All plotted values are reported in the cited publications and listed in Tables 1–4; the R script used to generate the figures is available from the authors on request.

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