

Painless Labor in Pakistan: Gaps, Barriers, and Missed Opportunities for Maternal Health

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ABSTRACT

This narrative review examines the “silent suffering” of women in Pakistan who experience unmanaged labour pain despite major advances in obstetric analgesia globally. Drawing on approximately 25 empirical, policy and survey sources, the review synthesises evidence on the availability, distribution and use of painless labour services—including epidural analgesia and nitrous oxide (Entonox)—through the lens of the WHO Health Systems Framework and, where relevant, the “three delays” model. Findings reveal a highly inequitable landscape in which painless labour is concentrated in a few urban tertiary and private facilities, constrained by infrastructural gaps, high out-of-pocket costs, persistent shortages and maldistribution of anaesthesiologists, and underutilisation of midwives. Demand-side barriers include low awareness, widespread misconceptions about risks, and socio-cultural and religious narratives that normalise labour pain and limit women’s autonomy. These structural and cultural constraints collectively undermine Pakistan’s commitments to respectful maternity care and universal health coverage. The review concludes with policy and practice recommendations, including investments in public-sector capacity, integration of labour analgesia into benefit packages, task-shifting selected modalities to midwives, and community engagement to address myths and affirm women’s right to pain relief.



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INTRODUCTION

Childbirth is widely recognized as one of the most intense pain experiences in human life, yet the systematic under-treatment of labor pain remains a neglected dimension of maternal health in many low- and middle-income countries (Lowe, 2002; Jones et al., 2012). Modern obstetric care increasingly frames pain relief during labor not as a luxury, but as an integral component of respectful, woman-centered care that prioritizes dignity, autonomy, and psychological well-being (World Health Organization [WHO], 2018; Bohren et al., 2015). Within this evolving paradigm, access to safe and effective labor analgesia—whether neuraxial techniques such as epidural analgesia or inhalational options such as Entonox—has become a key marker of quality in intrapartum care systems.

A large body of evidence demonstrates that appropriately administered labor analgesia is safe and confers multiple benefits. Epidural analgesia is considered the gold standard for pharmacological pain relief in labor; it substantially reduces pain intensity, is acceptable to most women, and, when correctly managed, does not increase long-term adverse maternal or neonatal outcomes (Anim-Somuah, Smyth, Cyna, & Cuthbert, 2018; Hawkins, 2010). Inhaled

nitrous oxide–oxygen mixtures (Entonox) offer a simpler, midwife-administered option that can be particularly useful in settings with limited anesthetic manpower, providing moderate pain relief with rapid onset and offset (Rosen, 2002; Collins et al., 2012). Beyond purely clinical outcomes, access to pain relief has been linked to higher satisfaction with the birth experience, lower risk of traumatic birth perceptions, and improved early maternal mental health (Field, 2017; Eisenach, Pan, Smiley, Lavand’homme, Landau, & Houle, 2013).

In many high-income countries (HICs), labor analgesia has become normalized within obstetric practice. Epidural uptake rates exceeding 60% of vaginal births in some European and North American settings illustrate how labor pain relief is now embedded in health system norms and women’s expectations of care (Hawkins, 2010; Jones et al., 2012). In stark contrast, large segments of women in low- and middle-income countries (LMICs) still give birth with no access to any form of pharmacological pain relief and often without even basic non-pharmacological comfort measures (Bohren et al., 2015; Mugambe, Nel, & Hiemstra, 2007). This global disparity raises critical questions about equity, rights, and the ethical obligations of health systems toward laboring women.

Pakistan exemplifies this paradox of partial progress and persistent neglect. The country has made gradual gains in maternal health over the past two decades, but the burden of preventable maternal mortality remains substantial. The Pakistan Demographic and Health Survey (PDHS) 2017–18 reports a maternal mortality ratio (MMR) of approximately 186 deaths per 100,000 live births (National Institute of Population Studies [NIPS] & ICF, 2019). WHO's global estimates for the same period place Pakistan's MMR at around 140 per 100,000 live births, still markedly higher than many regional peers and far from the targets implied by the Sustainable Development Goals (WHO, 2019). While facility-based deliveries have increased, gaps in the quality and content of care remain pronounced, particularly in rural and resource-constrained settings (NIPS & ICF, 2019; Agha & Carton, 2011).

Within this broader landscape of maternal health challenges, labor pain relief has received surprisingly little policy or programmatic attention. Small facility-based surveys and clinician reports from Pakistan suggest that only a minority of tertiary-level institutions offer epidural analgesia as a routine service, and that its use is often limited to urban private or teaching hospitals where anesthesiologists are available (Shaikh & Hatcher, 2005; Minhas et al, 2005). In many public sector facilities, structural constraints—such as the absence of 24/7 anesthesia coverage, lack of space and equipment, and inadequate monitoring capacity—make the provision of epidural or even nitrous oxide analgesia difficult to sustain. Where services exist, they may be offered only on an ad hoc basis, dependent on individual clinicians' interest rather than formal policy or service standards.

At the same time, system-level workforce deficits constitute a major bottleneck. Pakistan faces a well-documented shortage and maldistribution of anesthesiologists, with concentration in urban centers and an undersupply in district-level and peripheral hospitals (Minhas et al, 2005; Barakzai et al., 2010). Midwifery-led models of care, which could potentially expand access to simpler forms of analgesia such as Entonox, remain underdeveloped, and scope-of-practice definitions rarely include structured training in pharmacological pain relief (ten Hoope-Bender et al., 2014). Financing constraints, out-of-pocket payment requirements for epidural services in the private sector, and the lack of reimbursement mechanisms through social protection schemes further limit access for low-income women (Nishtar et al, 2013).

Sociocultural and informational barriers intersect with these structural weaknesses. Studies from Pakistan and neighboring South Asian countries describe low levels of awareness among pregnant women regarding the availability, safety, and indications of labor analgesia (Minhas et al, 2005; Parajuli et al., 2024). Pain in childbirth is often framed as an inevitable or even spiritually valorized experience, and women may internalize the belief that requesting pain relief is a sign of weakness or a threat to fetal well-being. Decision-making around the place and mode of delivery is frequently influenced by husbands and extended family, further constraining women's autonomy in seeking pain relief (Fikree & Pasha, 2004; Agha & Carton, 2011). Although Islamic jurisprudence generally accepts medical interventions to alleviate suffering, including in obstetric contexts, local interpretations and community narratives may not reflect this nuance unless actively engaged by clinicians and religious leaders (Sachedina, 2009).

The cumulative effect of these structural, cultural, and informational barriers is an inequitable pattern in which the

option of painless labor becomes effectively restricted to a small subset of urban, affluent women, while the majority continue to endure unrelieved pain. This inequity is not merely a matter of comfort; it touches on broader questions of justice, gender, and human rights. WHO's framework on quality of care and Respectful Maternity Care explicitly recognizes women's right to pain relief and emotional support during labor as part of dignified, person-centered care (WHO, 2015, 2018). From this perspective, the absence of labor analgesia services in most Pakistani facilities represents a systemic failure to align maternal health practice with global norms of respectful and rights-based care, as well as with the commitments articulated under Sustainable Development Goal (SDG) 3.1 to reduce maternal mortality and ensure universal access to quality obstetric care (United Nations, 2015).

Despite the importance of this issue, the existing literature on labor analgesia in Pakistan is fragmented. Most publications focus on clinical outcomes of epidural analgesia in small cohorts, anesthetic techniques, or patient satisfaction within single tertiary centers (Minhas et al, 2005; Barakzai et al., 2010). Very few studies adopt a health systems perspective that systematically maps how infrastructural deficits, human resource shortages, financing arrangements, socio-cultural attitudes, and regulatory gaps interact to restrict the availability and uptake of painless labor services. Likewise, there is limited synthesis of how Pakistan's situation compares with other LMIC settings, and what feasible policy and practice reforms might bridge the gap between global recommendations and local realities.

This narrative review seeks to address this gap by examining the deficient landscape of painless labor facilities in Pakistan through an integrated health systems lens. Guided primarily by the WHO Health Systems Framework and, where relevant, by the "three delays" model of access to obstetric care, we synthesize published studies, policy documents, and relevant grey literature to identify the key structural, workforce, sociocultural, and policy barriers to labor analgesia provision. We also explore the ethical and human rights implications of failing to provide pain relief in labor and consider the potential role of midwifery-led and anesthesiologist-supported models of care in expanding access. The overarching aim is to inform policymakers, professional bodies, and clinicians about the systemic reforms needed to ensure that effective labor analgesia is not a privilege for a few, but a realistic option for all women getting birth in Pakistan.

METHODS

This review was conducted as a narrative review of the literature. The goal was to synthesize and critically interpret existing evidence on the availability, barriers, and policy context of painless labor services in Pakistan, while situating these findings within broader health-systems and rights-based frameworks.

Search strategy and data sources

A structured, though non-systematic, search of the literature was conducted between March and May 2023. Peer-reviewed articles, reports, and relevant guidelines published primarily between 2000 and 2023 were identified through electronic databases and key organizational websites. The main databases searched were PubMed and

Google Scholar, complemented by targeted searches of websites from organizations such as the World Health Organization (WHO), United Nations agencies, and Pakistan's Ministry of National Health Services, Regulations and Coordination.

Combinations of Medical Subject Headings (MeSH) terms and free-text keywords were used, including: "labour analgesia" OR "labor analgesia" OR "epidural analgesia" OR "painless labour" OR "nitrous oxide" OR "Entonox" AND "Pakistan" OR "maternal health" OR "obstetric care" OR "low- and middle-income countries". Reference lists of key articles were hand-searched to identify additional relevant sources (snowballing). Where Pakistan-specific data were limited, studies from comparable South Asian or low- and middle-income country (LMIC) settings were included to provide regional context.

Eligibility criteria

Sources were considered eligible for inclusion in this narrative review if they met several criteria. First, in terms of topical focus, they needed to address labor pain management, labor analgesia, obstetric anesthesia, or broader maternal health system factors that directly affect the availability or use of painless labor services. Second, regarding context, studies were included if they focused on Pakistan or on other low- and middle-income country (LMIC) settings where the findings were judged to be contextually relevant to Pakistan. Third, in terms of type of evidence, eligible sources included empirical studies (quantitative, qualitative, or mixed-methods), review articles, national surveys, clinical or professional guidelines, and policy or programmatic reports. Only sources published in English were considered. To capture contemporary health-system realities and policy developments, the timeframe for inclusion was restricted primarily to publications from 2000 to 2023. Opinion pieces without empirical or policy relevance, conference abstracts lacking sufficient methodological detail, and sources focused exclusively on anesthesia techniques without implications for service organization, access, or policy were excluded. In total, approximately 25 key sources were included in the final synthesis, comprising clinical studies, service evaluations, national survey reports (such as the Pakistan Demographic and Health Survey), and relevant WHO and policy documents.

Data extraction and synthesis

Given the narrative nature of this review, no formal data-extraction form or standardized risk-of-bias scoring tool was applied. Instead, all included sources were read in full, and salient information was extracted and summarized in analytic memos. Particular attention was paid to data on the availability and distribution of painless labor services; infrastructure and equipment constraints; human resource capacity, including anesthesiologists and midwives; financial and organizational barriers; socio-cultural and awareness-related factors; and policy and governance arrangements. A thematic narrative synthesis approach was used to analyze the extracted material. Findings were iteratively grouped into higher-order themes that reflected key barriers and health system gaps. These themes were then interpreted through the lens of the WHO Health Systems Framework—covering service delivery, health workforce, medical products and technologies, health financing, leadership and governance, and health information systems—and, where

relevant, informed by the logic of the "three delays" model for access to obstetric care. This approach allowed the review to move beyond a purely descriptive summary toward an integrated analysis of how structural, workforce, socio-cultural, and policy factors interact to shape the deficient landscape of painless labor in Pakistan.

RESULT OF STUDY

ANALYSIS OF BARRIERS TO LABOR ANALGESIA ACCESS

The findings of this narrative review reveal a pattern of profound and multi-layered inequities in access to painless labor services in Pakistan. These barriers operate across three interlinked domains: (1) infrastructure gaps and cost barriers, (2) public awareness and socio-cultural constraints, and (3) human resource limitations in anesthesiology and midwifery. Together, they result in a situation where effective labor analgesia is available primarily to a small subset of urban, better-off women, while the majority continue to endure unrelieved pain during childbirth.

Infrastructure Gaps and Cost Barriers

The availability of painless labor facilities is heavily skewed toward private, tertiary-level hospitals in major metropolitan areas such as Karachi, Lahore, and Islamabad. Facility surveys and service-mapping exercises indicate that routine epidural services are largely confined to these urban centers, with minimal penetration into secondary-level hospitals or rural districts (Kumar et al., 2019; Shaikh & Hatcher, 2005). Figure 2 illustrates this geographical concentration, showing that facilities capable of offering epidural analgesia or similar services are clustered around a few large cities, while vast rural areas—where a substantial proportion of Pakistani women reside and give birth—remain effectively unserved. This distribution mirrors broader patterns of health system inequity in Pakistan, where specialized services and higher-level obstetric care are disproportionately concentrated in urban hubs (Agha & Carton, 2011; Nishtar et al., 2013).

The public sector, which is the main provider of care for low-income and rural populations, lags considerably behind the private sector in providing painless labor. A study from Sindh province reported that fewer than 15% of public teaching hospitals had the necessary infrastructure and trained personnel to offer epidural analgesia on a consistent basis (Shaikh & Hatcher, 2005). Many district and taluka hospitals lack dedicated labor suites with appropriate monitoring capabilities, infusion pumps, and anesthesia workstations, making it difficult to deliver neuraxial techniques safely and reliably. These infrastructural deficits interact with chronic shortages of supplies and maintenance problems—such as malfunctioning equipment or lack of sterile consumables—further undermining service readiness (World Health Organization [WHO], 2003; Kumar et al., 2019).

Cost constitutes a second critical barrier. In the private sector, charges for epidural analgesia frequently range between PKR 25,000 and PKR 90,000, often billed as an add-on to standard delivery costs. Figure 1 depicts this wide cost range, underscoring how even a single epidural procedure can represent a large share of a household's monthly income. For families living near or below the national poverty line, these costs are prohibitive (World Bank, 2023).

Given that Pakistan's health system remains dominated by out-of-pocket expenditure with limited financial protection mechanisms, the effective "price tag" of painless labor places it far beyond the reach of most women (Nishtar et al., 2013). In this context, labor analgesia becomes not merely a clinical option, but a marker of socioeconomic privilege, accessible mainly to those who can pay for private obstetric care in large cities.

Taken together, the geographical maldistribution and high user fees reflect systemic weaknesses across several building blocks of the WHO Health Systems Framework—service delivery, medical products and technologies, and health financing—and create a structural environment where equitable access to painless labor is virtually impossible for the majority of women.

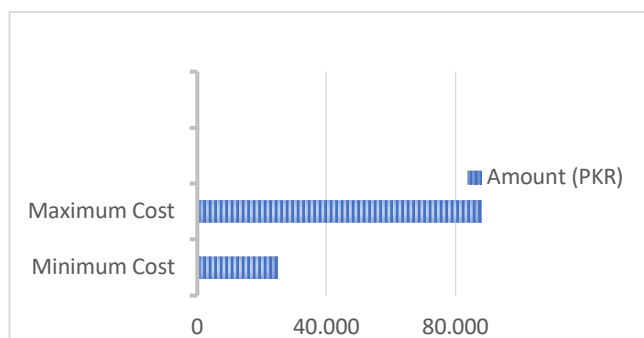


Figure 1: Cost range of epidural analgesia. Source: World Bank (2023).

Public Awareness and Socio-Cultural Barriers

Beyond infrastructure and cost, lack of awareness and entrenched socio-cultural norms significantly constrain the demand for painless labor services. Multiple studies from Pakistan and neighboring South Asian countries indicate that knowledge of epidural analgesia among pregnant women is low, often below 30% (Salama et al., 2023; Barakzai et al., 2010; Parajuli et al., 2024). In some Pakistani tertiary care settings, only around a quarter of women have heard of epidural analgesia prior to delivery, and even fewer can correctly describe its purpose, benefits, and risks (Minhas et al., 2005; Salama et al., 2023). This low baseline awareness is compounded by limited antenatal counseling on pain relief options, as obstetric consultations frequently prioritize biomedical risk factors over experiential aspects of childbirth.

Misconceptions and fears about epidural analgesia and other forms of pharmacological pain relief are widespread. Women commonly report anxiety about long-term back pain, paralysis, or harm to the baby as potential side effects of epidural procedures—concerns that are often based on anecdote rather than evidence (Minhas et al., 2005; Parajuli et al., 2024). In contexts where trust in the health system is fragile and previous experiences of poor-quality care are common, such fears can strongly influence decision-making (Fikree & Pasha, 2004).

Socio-cultural expectations around motherhood further shape attitudes towards labor pain. Qualitative research from Pakistan has highlighted how childbirth is frequently framed as a test of endurance and sacrifice, in which "bearing the pain" is linked to ideals of maternal strength, piety, and familial duty (Mumtaz & Salway, 2007). In this framing,

seeking pain relief may be interpreted as weakness or as an unnecessary interference in a natural process. These norms are reinforced by family members—particularly husbands and mothers-in-law—who often play a decisive role in choosing the place of delivery and the type of care sought (Agha & Carton, 2011; Fikree & Pasha, 2004).

Importantly, these cultural narratives co-exist with religious discourses. While Islamic jurisprudence generally permits medical interventions to alleviate suffering, including during childbirth, this permissive stance does not always translate into community-level acceptance of labor analgesia (Sachedina, 2009). In the absence of active engagement by clinicians and religious leaders to clarify these issues, myths and stigma around pain relief can persist. The net effect is a powerful demand-side barrier: even where epidural or Entonox services are nominally available, underutilization remains common because women either do not know about them, or feel ambivalent or fearful about using them (Barakzai et al., 2010; Salama et al., 2023).

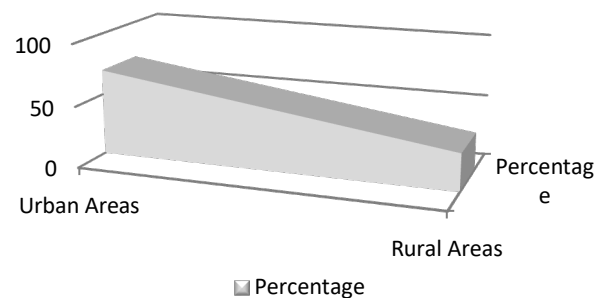


Figure 2: Estimated distribution of painless labor facilities (Geographical). Source: Adapted from Kumar et al., 2019.

Human Resource Constraints: Anesthesiology and Midwifery

From an anesthesiologist's perspective, workforce shortages and maldistribution constitute a third major barrier to scaling up painless labor services. Pakistan faces a longstanding deficit of trained anesthesiologists, with specialists disproportionately concentrated in tertiary hospitals and private urban facilities (Hodges et al., 2007; Shahbaz et al., 2021). Many district and rural hospitals have either no anesthesiologist at all or rely on a single practitioner who must cover operating theatres, emergency surgeries, and obstetric services simultaneously. In such settings, continuous labor epidural services are difficult to sustain, as anesthesiologists are understandably prioritized for life-saving surgical cases rather than for labor analgesia, which is often perceived as "elective" or secondary (Shahbaz et al., 2021).

In contrast, high-income countries have increasingly leveraged midwifery expertise to broaden access to labor analgesia, particularly for modalities such as inhaled nitrous oxide (Entonox), which can be administered safely by trained midwives under protocol (Jones et al., 2012; Collins, Starr, Bishop, & Baysinger, 2012). In Pakistan, however, the potential of midwives remains largely untapped in this domain. Existing midwifery training programs and regulatory frameworks seldom include comprehensive instruction in pharmacological pain relief, and the National

Midwifery Policy has yet to fully define and support a broader scope of practice for midwives in this area (Ministry of National Health Services Regulations & Coordination, 2019; ten Hoope-Bender et al., 2014).

The absence of a fully developed midwifery cadre capable of providing basic analgesia perpetuates over-reliance on anesthesiologists for all forms of pain relief, including those that could be safely task-shifted. Entonox, for example, is widely used in other settings as a low-complexity, low-cost option that can be delivered by midwives, yet it remains unavailable or inconsistently available in most Pakistani labor wards (Rosen, 2002; WHO, 2018). Where it is mentioned in clinical narratives, its use often depends on individual champions rather than institutional policy, and reliable national data on its availability are lacking.

Overall, human resource constraints simultaneously affect the health workforce block of the WHO Health Systems Framework and intersect with issues of governance and policy. Without explicit policy support for midwifery-led analgesia and targeted investments in anesthesiology training and deployment, the system will continue to lack the personnel required to deliver painless labor at scale.

DISCUSSION

This narrative review highlights a deeply inequitable and structurally constrained landscape for painless labor services in Pakistan. Despite global recognition that effective labor analgesia is a core component of respectful, woman-centred care (World Health Organization [WHO], 2015, 2018; Bohren et al., 2015), access in Pakistan remains largely confined to urban tertiary and private facilities, with most women giving birth without any pharmacological pain relief.

From a health-systems perspective, the findings show that barriers are not limited to individual knowledge or clinician attitudes but span multiple WHO Health Systems Framework “building blocks”. Service delivery is undermined by the concentration of facilities capable of providing epidural or Entonox analgesia in a few metropolitan centres, leaving large rural regions effectively unserved (Kumar et al., 2019; Shaikh & Hatcher, 2005). As illustrated in Figure 2, the geographical distribution of painless labor facilities mirrors broader patterns of urban bias in access to higher-level obstetric and surgical care (Agha & Carton, 2011; Nishtar et al., 2013). This spatial maldistribution is particularly troubling in a context where maternal mortality remains high and rural women already face compounded barriers related to distance, transport, and facility quality (National Institute of Population Studies [NIPS] & ICF, 2019; WHO, 2019).

Health financing emerges as a second critical domain. The wide cost range depicted in Figure 1—epidural charges between approximately PKR 25,000 and 90,000—places painless labor well beyond the reach of low-income families in a system dominated by out-of-pocket payment (Nishtar et al., 2013; World Bank, 2023). In practical terms, an epidural can consume a large share of monthly household income, effectively transforming labor analgesia into a marker of class privilege. This is inconsistent with universal health coverage principles and with SDG 3.1 commitments to ensure equitable access to quality maternal care (United Nations, 2015). Unless labor analgesia is progressively integrated into publicly funded benefit packages or social protection schemes, financial barriers will continue to drive

inequities regardless of any technical improvements in service capacity.

The review also underscores profound demand-side constraints. Studies from Pakistan and neighbouring LMICs consistently show low levels of awareness and considerable misconceptions about epidural and other forms of labor analgesia, with only a minority of women having accurate information about their options (Minhas et al., 2005; Salama et al., 2023; Barakzai et al., 2010; Parajuli et al., 2024). Fear of paralysis, chronic back pain, or harm to the baby often dominates women’s perceptions, reflecting a mixture of anecdotal narratives and weak antenatal counselling (Minhas et al., 2005; Parajuli et al., 2024). These concerns are amplified in settings where trust in the health system is already fragile and where previous experiences of disrespectful or low-quality care are common (Fikree & Pasha, 2004; Bohren et al., 2015).

Socio-cultural norms further shape how women interpret pain and their entitlement to relief. Qualitative work in Pakistan suggests that labor pain is often framed as a test of endurance linked to ideals of “good motherhood”, religious devotion, and marital duty (Mumtaz & Salway, 2007). In such contexts, requesting pain relief can be perceived as weakness or moral failure. Decision-making is rarely individual; husbands and senior family members frequently exert strong influence over where birth occurs and what care is sought (Fikree & Pasha, 2004; Agha & Carton, 2011). Although Islamic jurisprudence allows medical interventions to alleviate suffering, including in childbirth, this permissive position is not systematically communicated by health providers or religious leaders (Sachedina, 2009). Without intentional engagement with communities and faith-based actors, religious arguments in favour of pain relief remain underutilized as a resource for social change.

Workforce and governance issues interact with these barriers. Pakistan’s shortage and maldistribution of anesthesiologists are well documented (Hodges et al., 2007; Shahbaz et al., 2021). In many district hospitals, one anesthesiologist must cover all surgical and obstetric activities, making it unrealistic to provide continuous labor epidural services when emergency surgeries are prioritised. In contrast, high-income settings have leveraged midwives to safely administer inhaled nitrous oxide and to support shared decision-making around pain relief (Jones et al., 2012; Collins et al., 2012). The underutilization of midwives in Pakistan—despite the existence of a National Midwifery Policy—represents a missed opportunity for task-shifting simpler analgesia modalities such as Entonox, which could be integrated into midwife-led intrapartum care with appropriate protocols and supervision (Ministry of National Health Services Regulations & Coordination, 2019; ten Hoope-Bender et al., 2014).

Theoretically, the findings align with both the WHO Health Systems Framework and the “three delays” model of access to maternity care. Structural constraints on painless labor contribute primarily to the second delay (reaching an appropriate facility) and third delay (receiving adequate care once at the facility), as women may avoid institutional delivery because they anticipate unmanaged pain, or arrive at facilities where analgesia is simply not offered (Thaddeus & Maine, 1994; Agha & Carton, 2011). They also intersect with the emergent literature on respectful maternity care, which positions pain relief as an essential dimension of dignity, autonomy, and freedom from suffering (Bohren et al., 2015; WHO, 2015). In this sense, the “silent suffering” described in this review is not only a clinical gap but also a rights-based concern: when unrelieved labor pain is

normalized, the health system fails to uphold women's right to the highest attainable standard of physical and mental health.

There are, however, potential levers for change. Task-shifting and team-based care, targeted investments in infrastructure and anaesthesia training, and integration of labor analgesia into essential maternal health packages are all supported by global evidence and could be adapted to Pakistan's context (Anim-Somuah et al., 2018; ten Hoop-Bender et al., 2014; WHO, 2018). Community-based social and behaviour change communication can address myths and increase demand, especially if co-developed with women, midwives, and religious leaders (Yusriani et al., 2022). Importantly, reforms should be sequenced and evaluated: expanding access to basic midwife-administered options such as Entonox and non-pharmacological methods may be a realistic short- to medium-term strategy, while simultaneously strengthening anesthesiology capacity in referral facilities for epidural services.

This review also has limitations. As a narrative review, it does not claim comprehensive coverage of all available literature, and formal quality appraisal of included studies was not conducted. Evidence on the availability and use of Entonox in Pakistan remains particularly sparse, and some inferences about health-system mechanisms are made indirectly from broader maternal health data rather than from analgesia-specific studies (NIPS & ICF, 2019; Nishtar et al., 2013). Nonetheless, by integrating clinical, health-systems, and socio-cultural perspectives, the review offers a coherent synthesis of how multiple layers of constraint converge to restrict women's access to painless labor.

CONCLUSIONS

The "silent suffering" of women experiencing unmanaged labor pain in Pakistan represents a substantial, yet largely unacknowledged, gap in maternal health. While modern obstetrics has demonstrated that safe, effective labor analgesia is feasible and compatible with favourable maternal and neonatal outcomes (Hawkins, 2010; Anim-Somuah et al., 2018; Rosen, 2002), the benefits of these advances have not been equitably realised. Instead, access to painless labor is constrained by skewed infrastructure, high out-of-pocket costs, chronic workforce shortages, weak midwifery integration, low awareness, and powerful socio-cultural norms that naturalise women's pain. Together, these factors confine the option of painless labor to a small minority of urban, economically advantaged women, while the majority continue to give birth without meaningful choice or relief.

Closing this gap is both a technical and an ethical imperative. Technically, integrating labor analgesia into Pakistan's maternal health strategy could help reduce unnecessary caesarean sections driven by fear of labour pain, improve women's childbirth experiences, and mitigate downstream mental health consequences such as postpartum depression and post-traumatic stress symptoms (Eisenach et al., 2013; Field, 2017; Muhandule et al., 2024). Ethically, ensuring access to pain relief aligns with WHO standards on quality and respectful maternity care and with Pakistan's commitments under SDG 3.1 and broader human rights frameworks (WHO, 2015, 2018; United Nations, 2015).

Policy and practice reforms should therefore treat painless labor not as an optional add-on, but as a core element of quality intrapartum care. Priorities include: (1)

targeted investment to upgrade public sector labor wards with the infrastructure needed for basic analgesia; (2) expansion of anesthesia training and incentives to promote more equitable deployment; (3) revision of midwifery curricula and scope of practice to include provision of selected analgesia modalities, particularly Entonox, under clear protocols; (4) incorporation of labor analgesia into national guidelines, benefit packages, and monitoring frameworks; and (5) sustained community engagement to address misconceptions and affirm women's right to pain relief.

Future research should focus on robust service-mapping and facility-readiness assessments to quantify the current coverage of painless labor services across provinces; operational research on context-appropriate task-shifting models, including midwife-led analgesia; and mixed-methods studies examining how expanded access to pain relief influences mode of delivery, maternal mental health, and perceptions of respectful care. Such evidence will be essential to guide phased implementation and to ensure that interventions are both effective and responsive to women's preferences.

Ultimately, the transformation of Pakistan's maternal health system will be incomplete if it ignores the experiential dimension of childbirth. Recognising, measuring, and responding to labour pain as a legitimate health concern is a necessary step toward a more just, compassionate, and rights-based model of care. Ensuring that every woman, regardless of geography or income, can access safe and acceptable options for pain relief in labour is not a luxury—it is a fundamental expression of respectful maternity care and a benchmark of a health system that truly serves women.

DECLARATION

Ethics approval and consent to participate

Not applicable.

Consent for publication

Awaiting further instruction.

Availability of data and materials

Data are available upon request.

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The authors have no conflicts of interest to declare.

Statement on the Use of Artificial Intelligence (AI)

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Sana Abbas: Conceptualization, Data Collection, Writing – Original Draft.

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