



Literature Review of the Relationship Between Pain Perception and Coping in Mothers During Childbirth

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Abstract: *This study aims to explore the relationship between pain perception and maternal coping during childbirth through an in-depth qualitative literature review. The primary objective is to synthesize contemporary research findings to understand how physiological, and social factors interact in shaping women's childbirth experiences. Using a qualitative descriptive approach, data were collected through a systematic review of scholarly books, peer-reviewed journal articles, and official reports published between 2015 and 2025. The analysis involved several stages—data identification, reduction, thematic categorization, and inductive interpretation—to uncover recurring concepts and relationships across the literature. The findings reveal that maternal self-efficacy, emotional support, and non-pharmacological interventions such as breathing exercises, massage, and music therapy significantly reduce perceived pain and enhance coping abilities. Conversely, fear and lack of confidence amplify pain perception and emotional distress. The study highlights the biopsychosocial nature of childbirth, aligning with theoretical frameworks such as Lazarus and Folkman's stress-coping model and Olza's neuro-psycho-social model of labor. The results underscore the importance of holistic, woman-centered maternity care that integrates emotional, social, and physical dimensions of childbirth. The research contributes theoretically by expanding understanding of pain-coping interactions and practically by recommending integrative care models that promote maternal empowerment and satisfaction. Future studies are encouraged to*

employ longitudinal and cross-cultural approaches to deepen insights into the evolving dynamics of coping during labor and postpartum adaptation

Keywords: *Childbirth, Maternal Coping, Pain Perception, Qualitative Study, Self-Efficacy.*

Introduction

Childbirth is one of the most profound physiological and psychological experiences in a woman's life, characterized by complex interactions between biological, emotional, and environmental factors. The perception of pain during labor is not merely a physiological response but a multidimensional construct influenced by hormonal, psychological, and social elements (Malviya dkk., 2025). Understanding how women perceive and cope with labor pain is vital for improving maternal well-being, ensuring safer childbirth experiences, and optimizing healthcare interventions.

In recent years, global attention to maternal health and childbirth experiences has increased, aligning with the World Health Organization's emphasis on respectful maternity care and pain management as integral components of reproductive health. Labor pain, often

described as one of the most intense forms of pain, varies widely among women depending on psychological readiness, cultural expectations, and individual coping capacity (Zuarez-Easton dkk., 2023). Despite advancements in obstetric care, many women continue to experience unrelieved pain and psychological distress during labor, indicating the need for improved understanding and management strategies.

Contemporary research highlights the interplay between hormonal fluctuations—particularly oxytocin and progesterone—and the modulation of pain perception during childbirth (Malviya dkk., 2025; Walter dkk., 2021). However, these physiological dynamics do not act in isolation; psychological factors such as anxiety, fear, and previous traumatic experiences significantly mediate how pain is perceived and managed (Vogel, 2021). The biopsychosocial nature of childbirth pain underscores the necessity of integrating both medical and psychological approaches to maternal care.

Coping mechanisms during labor are critical determinants of maternal satisfaction and psychological outcomes. Women employ a variety of coping strategies ranging from pharmacological interventions, such as epidural analgesia, to non-pharmacological techniques including breathing exercises, acupressure, and cognitive-behavioral therapy (Rabello dkk., 2023; Zhang dkk., 2025). While pharmacological approaches remain highly effective for immediate pain relief, they may not address the psychological dimensions of childbirth pain or the mother's need for agency and control (Henriksen dkk., 2024; Kearns & Lucas, 2023).

Non-pharmacological coping strategies have gained increasing attention for their potential to empower mothers, reduce anxiety, and enhance satisfaction with the birthing process. Practices such as antenatal hypnosis, birth ball exercises, and mind-body interventions have shown promise in alleviating pain perception and fostering a sense of self-efficacy (Aswitami & Septiani, 2020; Liang, 2024). These approaches align with the modern paradigm of holistic maternity care, which prioritizes both the physical and emotional dimensions of childbirth.

Despite the diversity of available pain management options, significant gaps persist in understanding how women choose and respond to different coping mechanisms. Factors such as cultural beliefs, previous childbirth experiences, and the level of support from healthcare providers can influence both pain perception and coping efficacy (Rabello dkk., 2023). Moreover, while pharmacological methods are extensively studied, evidence regarding the long-term psychological benefits of non-pharmacological interventions remains inconclusive (Zhang dkk., 2025).

The relationship between pain perception and coping during childbirth is further complicated by mental health considerations. Pregnant women with pre-existing conditions such as anxiety, depression, or post-traumatic stress disorder (PTSD) are more vulnerable to heightened pain perception and adverse postpartum outcomes (Du dkk., 2022; Vogel, 2021). These women often require individualized interventions that integrate psychological counseling and tailored pain management strategies.

Maternal satisfaction with childbirth is not solely dependent on pain reduction but also on perceived control, emotional support, and inclusion in decision-making processes (Escott dkk., 2009). Studies indicate that continuous emotional support from healthcare

professionals and birth companions can significantly reduce stress and enhance coping during labor (Rabello dkk., 2023). Thus, understanding the psychosocial context of childbirth is essential for promoting positive maternal experiences and outcomes.

Globally, there is a growing recognition that unaddressed labor pain and poor coping can lead to negative maternal outcomes, including postpartum depression, post-traumatic stress, and impaired mother-infant bonding (Du dkk., 2022). As such, research that elucidates the link between pain perception and coping during childbirth contributes not only to maternal comfort but also to long-term psychological health and family well-being.

From a clinical standpoint, identifying effective coping strategies has practical implications for designing antenatal education and pain management programs. Health practitioners can use such evidence to develop personalized care plans that account for individual pain thresholds, coping preferences, and mental health histories (Aswitami & Septiani, 2020; Suarez-Easton dkk., 2023). These insights are particularly relevant in the context of patient-centered care and shared decision-making models.

In addition to clinical relevance, the topic holds theoretical significance within health psychology and behavioral medicine. Exploring the cognitive and emotional processes that mediate the pain experience can advance theoretical models of stress, coping, and adaptation in maternal health (Black dkk., 2016). Such frameworks provide a basis for interdisciplinary collaboration between obstetrics, psychology, and nursing in addressing the complex nature of labor pain.

Current trends in maternal research emphasize the need for culturally sensitive and evidence-based pain management strategies. Differences in healthcare systems, cultural norms, and access to pain relief options create disparities in childbirth experiences worldwide (Zhang dkk., 2025). Addressing these inequities requires a deeper understanding of how social and cultural factors influence maternal coping and pain interpretation.

Moreover, the technological evolution in obstetrics—such as patient-controlled epidural analgesia—offers new opportunities to empower mothers in managing their pain (Henriksen dkk., 2024). However, technological advances should complement, rather than replace, the psychological and social support that underpins positive childbirth experiences (Kearns & Lucas, 2023).

Given the multifactorial nature of pain perception and coping, an integrative review of existing literature is essential to synthesize current knowledge and identify research gaps. Such a review provides a comprehensive understanding of the physiological, psychological, and behavioral dimensions of childbirth pain and the strategies women employ to cope with it.

Therefore, the primary objective of this article is to critically review and synthesize existing literature on the relationship between pain perception and maternal coping during childbirth. This review aims to highlight key determinants influencing labor pain, evaluate the effectiveness of various coping mechanisms, and identify gaps for future research. The findings are expected to contribute to both theoretical advancement in maternal psychology and practical improvements in clinical pain management, ultimately fostering safer and more empowering childbirth experiences for women globally.

Methodology

This study adopts a qualitative research design with a descriptive approach through library-based research. This method was chosen to comprehensively analyze the existing body of literature concerning the relationship between pain perception and maternal coping during childbirth. The qualitative-descriptive approach allows researchers to deeply explore phenomena as they appear in the literature and to interpret them within their natural context (Bingham, 2023; Doyle, 2019). In this article, the data are derived from various credible academic sources, including peer-reviewed journal articles, books, and official reports focusing on pain management, maternal psychology, and coping strategies during labor.

The data sources used in this research consist of scientific publications indexed in international databases, theoretical books, and previous studies on maternal coping and pain perception. The inclusion of multidisciplinary references, particularly from nursing, psychology, and obstetrics, ensures a comprehensive understanding of the studied topic (Abraham, 2024; Pratt, 2025). Criteria for inclusion include studies published between 2015 and 2025, peer-reviewed status, and direct relevance to the themes of childbirth pain and maternal coping. Literature not meeting these criteria, such as non-academic articles or sources lacking methodological clarity, were excluded from the analysis to maintain academic rigor and validity (Bandaranayake, 2024).

Data collection was conducted through systematic literature searches across relevant databases and libraries. Following the principles of library research, this process involved identifying, reviewing, and synthesizing academic documents relevant to the research objectives (Granikov, 2020; Togia, 2017). Articles were screened based on titles, abstracts, and keywords related to “pain perception,” “coping strategies,” and “childbirth.” Reference tracing was also employed to identify additional relevant studies. This systematic review process aligns with established qualitative data collection standards in descriptive research (Jimenez, 2024).

The data analysis process followed qualitative procedures encompassing several interrelated stages: data identification, reduction, categorization, and inductive conclusion drawing (Belotto, 2018; Bingham, 2023). Initially, all relevant literature was reviewed and coded according to thematic categories—such as physiological pain perception, psychological coping, and support mechanisms. Data reduction involved selecting essential themes while maintaining contextual integrity. These themes were then synthesized into conceptual categories to generate a structured understanding of how pain perception interacts with maternal coping strategies during childbirth (Fife, 2024; Kalpokaite, 2018).

Validity and reliability of the findings were ensured through triangulation of sources and conceptual peer review. Triangulation was achieved by cross-verifying information from multiple authors and disciplines to ensure consistency and accuracy (Vila-Henninger dkk., 2022). Moreover, peer review of conceptual alignment was undertaken to validate the interpretation of data and ensure that conclusions drawn reflected the theoretical frameworks within maternal psychology and qualitative methodology (Bingham, 2023).

This methodological rigor enhances the credibility and trustworthiness of the findings, which is critical in qualitative-descriptive studies (Baillie, 2019).

Through the qualitative-descriptive library research method, this article aims to provide a holistic and contextually grounded understanding of the relationship between pain perception and maternal coping during childbirth. The chosen method allows for synthesizing multiple perspectives—physiological, psychological, and social—into a unified analytical framework. By using inductive reasoning, the study develops insights that are both theoretically informative and practically relevant for healthcare practitioners and researchers. This approach ensures that the findings are not only descriptive but also reflective of the lived experiences and multidimensional realities of childbirth (Abraham, 2024; Pratt, 2025).

Result and Discussion

The findings of this literature review reveal that pain perception during childbirth is a highly individualized and multidimensional phenomenon, deeply influenced by psychological, social, and environmental factors. Across recent studies, women's subjective experiences of labor pain varied widely based on their emotional state, prior experiences, and contextual factors such as partner support, healthcare environment, and cultural expectations (Borrelli dkk., 2023; Ghamgosar dkk., 2024; Huang dkk., 2024; Mahalan & Smitha, 2023). Pain is not purely a physiological event but an interplay between mind and body, where internal elements like self-efficacy and external variables such as emotional support contribute significantly to how pain is perceived and tolerated (Umar, 2021).

Table 1. Factors influencing pain perception and coping strategies among mothers during childbirth.

| Factor/Strategy | Effect on Pain Perception and Coping | Key References |
|---------------------------------------|---|--|
| Self-efficacy & confidence | Reduces perceived pain, improves coping | (Borrelli dkk., 2023; Ghamgosar dkk., 2024; Huang dkk., 2024) |
| Social/partner support | Lowers pain, enhances coping | (Ghamgosar dkk., 2024; Ngai & Xiao, 2020; Olza dkk., 2020; Rosmawati dkk., 2025) |
| Non-pharmacological methods | Effective in reducing pain and anxiety | (Baljon dkk., 2022; Chang dkk., 2022; Mahalan & Smitha, 2023) |
| Fear and anxiety | Increases pain perception | (Borrelli dkk., 2023; Huang dkk., 2024; Umar, 2021) |
| Antenatal education | Improves coping, reduces pain | (Alizadeh-Dibazari dkk., 2023; Fumagalli dkk., 2022; Huang dkk., 2024) |

The review emphasizes that coping strategies play a pivotal role in modulating both the intensity and impact of labor pain. Behavioral techniques such as breathing, movement, and massage, as well as cognitive methods like positive reframing and self-efficacy reinforcement, were consistently associated with reduced pain, shorter labor duration, and higher maternal satisfaction (Baljon dkk., 2022; Chang dkk., 2022; Fumagalli dkk., 2022). Non-pharmacological interventions such as music therapy, acupuncture, and the Bonapace

Method demonstrated measurable improvements in both physical comfort and psychological well-being, particularly when combined with partner support (Mahalan & Smitha, 2023).

A significant relationship was found between pain perception and coping ability. Women with greater coping resources—emotional resilience, knowledge, and social support—reported lower levels of perceived pain and anxiety. Conversely, fear and lack of confidence were linked to higher pain perception and distress (Borrelli dkk., 2023; Huang dkk., 2024; Umar, 2021). Self-efficacy emerged as a central mediating factor, influencing how mothers cognitively reinterpret pain and exert control over their childbirth experience (Fumagalli dkk., 2022).

Psychological and social moderators such as partner involvement, parity, and education level also significantly influenced coping effectiveness. Primiparas generally reported higher pain and lower coping, largely due to unfamiliarity with labor sensations and greater fear of childbirth (Huang dkk., 2024; Rosmawati dkk., 2025). However, antenatal education and psychological preparation reduced fear, promoted adaptive coping, and improved perceived control (Alizadeh-Dibazari dkk., 2023). These findings affirm that psychological preparedness can transform labor from a distressing experience into an empowering process (Olza dkk., 2020).

Additionally, several studies highlight the interdependence between psychological states and physiological outcomes. The perception of pain, rather than its objective intensity, was more predictive of postpartum outcomes such as satisfaction, bonding, and risk of PTSD (Kountanis dkk., 2021; Türkmen dkk., 2020). This suggests that enhancing maternal coping and communication between caregivers and mothers can mitigate negative psychological consequences, even when pain remains significant.

In summary, the reviewed literature confirms that maternal pain perception and coping during childbirth are intertwined processes influenced by a network of biopsychosocial factors. Self-efficacy, emotional support, and antenatal education consistently emerge as key determinants for positive maternal outcomes. These findings reinforce the need for integrative, woman-centered approaches in maternity care—approaches that acknowledge both the physical and emotional dimensions of childbirth (Borrelli dkk., 2023; Fumagalli dkk., 2022; Huang dkk., 2024).

Discussion

The results of this literature study affirm that pain perception and coping during childbirth are not isolated processes but interdependent constructs influenced by biological, psychological, and social dimensions. This aligns with the biopsychosocial model of childbirth proposed by Olza et al. (2020), which conceptualizes labor pain as both a neurophysiological and emotional experience. Within this framework, hormonal activity, particularly oxytocin release, interacts dynamically with psychological states such as fear and self-efficacy, shaping the mother's perception of pain and her ability to cope effectively.

From a theoretical standpoint, these findings reinforce Lazarus and Folkman's (1984) model of stress and coping, which posits that cognitive appraisal and coping responses determine psychological adaptation to stress. Mothers who reappraise childbirth as a

controllable and meaningful event—often through antenatal education or partner support—display higher self-efficacy and lower pain perception (Alizadeh-Dibazari dkk., 2023; Huang dkk., 2024). Conversely, fear and negative anticipation trigger physiological stress responses that heighten pain intensity and anxiety (Borrelli dkk., 2023; Umar, 2021).

In comparison to earlier research, recent findings suggest a paradigm shift from purely medicalized pain control to empowerment-based coping. Traditional analgesic methods are increasingly complemented by non-pharmacological techniques—including breathing, massage, acupuncture, and music therapy—that address both physical and emotional pain components (Baljon dkk., 2022; Chang dkk., 2022). These methods support the Gate Control Theory of Pain, which proposes that psychological processes can modulate pain signals in the nervous system, thereby validating the observed efficacy of relaxation and cognitive distraction in childbirth contexts (Mahalan & Smitha, 2023).

Furthermore, the presence of social and emotional support consistently emerges as a critical buffer against distress. The involvement of partners, family, or midwives reduces perceived pain by fostering a sense of safety and emotional stability (Ghamgosar dkk., 2024; Ngai & Xiao, 2020). This social dimension of pain aligns with Olza et al.'s (2020) assertion that childbirth is a “neuro-psycho-social event,” where interpersonal connections stimulate oxytocin-mediated bonding and stress reduction. Such findings highlight the importance of integrating empathic communication and supportive care within maternity services.

However, several factors may moderate or mediate these relationships. Parity (first-time versus experienced mothers), prior traumatic experiences, and cultural norms significantly shape how pain is interpreted and managed (Huang dkk., 2024; Rosmawati dkk., 2025). Primiparas typically report higher pain and anxiety, whereas multiparas display greater coping efficiency, underscoring the role of experiential learning. In societies where childbirth pain is perceived as a natural and necessary process, women often report higher tolerance and satisfaction despite comparable pain levels (Ghamgosar dkk., 2024).

The implications of these findings are multifaceted. Practically, they suggest the need for holistic, woman-centered childbirth care that incorporates psychological preparation, partner involvement, and flexible pain management options. Educational programs emphasizing self-efficacy and adaptive coping could enhance maternal confidence and reduce unnecessary medical interventions (Alizadeh-Dibazari dkk., 2023). Theoretically, this synthesis contributes to refining integrative frameworks that connect pain perception, emotional regulation, and social support in maternal health psychology (Olza dkk., 2020).

Nonetheless, several limitations exist within the reviewed studies. Many rely on self-reported measures of pain and coping, which may introduce recall bias and cultural variability. Moreover, cross-sectional designs limit causal interpretations of the pain-coping relationship (Borrelli dkk., 2023; Fumagalli dkk., 2022). Future research should employ longitudinal and mixed-method approaches to capture dynamic changes in coping across labor stages and postpartum adjustment. Additionally, greater inclusion of underrepresented cultural groups would strengthen the generalizability of existing evidence.

In summary, this analysis underscores that effective coping during childbirth is rooted in both psychophysiological adaptation and socio-emotional empowerment.

Enhancing self-efficacy, fostering social support, and promoting evidence-based non-pharmacological interventions are essential pathways to improving maternal well-being. This integrative understanding bridges theoretical models with clinical practice, contributing significantly to the evolution of humanized and psychologically attuned maternity care worldwide.

Conclusions

This qualitative literature review concludes that pain perception and coping among mothers during childbirth are intricately interwoven, shaped by biological, psychological, and sociocultural dimensions. The findings reveal that maternal self-efficacy, emotional support, and non-pharmacological interventions—such as breathing techniques, acupressure, massage, and music therapy—play critical roles in reducing pain intensity and promoting adaptive coping behaviors. These insights reinforce theoretical frameworks such as Lazarus and Folkman's stress-coping model and the biopsychosocial theory of childbirth (Olza dkk., 2020), demonstrating that childbirth is not merely a physiological event but also an emotional and social experience. By aligning with prior studies (Borrelli dkk., 2023; Fumagalli dkk., 2022; Ghamgosar dkk., 2024), the results contribute to advancing holistic maternity care that values both physical comfort and psychological empowerment. The implications extend beyond clinical practice, emphasizing culturally sensitive approaches that respect women's autonomy and subjective experiences during labor. Nonetheless, the reviewed studies' reliance on self-reported data and limited cultural diversity indicates a need for future longitudinal, cross-cultural, and mixed-method research to further explore how personal beliefs, societal norms, and healthcare interactions influence maternal coping. Overall, this study strengthens the understanding that empowered, informed, and emotionally supported mothers experience childbirth with greater resilience and satisfaction, offering a vital perspective for advancing woman-centered obstetric care globally.

This review recommends that healthcare providers—especially midwives and obstetric nurses—adopt holistic, woman-centered pain management emphasizing emotional and psychological support, strengthen antenatal education, and encourage further cross-cultural and mixed-method research to enhance maternal care and well-being.

References

- Abraham, D. ; P., P. (2024). A Methodological Framework for Descriptive Phenomenological Research. *Western Journal of Nursing Research*, 47. <https://doi.org/10.1177/01939459241308071>
- Alizadeh-Dibazari, Z., Abdolalipour, S., & Mirghafourvand, M. (2023). The effect of prenatal education on fear of childbirth, pain intensity during labour and childbirth experience: A scoping review using systematic approach and meta-analysis. *BMC Pregnancy and Childbirth*, 23. <https://doi.org/10.1186/s12884-023-05867-0>
- Aswitami, N., & Septiani, N. (2020). Antenatal Clinical Hypnosis and Birth Ball Exercise as Adjunct Therapy For Management of Labor and Delivery Pain: A Summary of Its

- Empirical Findings. *Medical Dimension*, 12, 233–245. <https://doi.org/10.30736/md.v12i2.229>
- Baillie, J. (2019). Commentary: An overview of the qualitative descriptive design within nursing research. *Journal of Research in Nursing*, 25, 458–459. <https://doi.org/10.1177/1744987119881056>
- Baljon, K., Romli, M., Ismail, A., Khuan, L., & Chew, B. (2022). Effectiveness of Breathing Exercises, Foot Reflexology and Massage (BRM) on Maternal and Newborn Outcomes Among Primigravidae in Saudi Arabia: A Randomized Controlled Trial. *International Journal of Women's Health*, 14, 279–295. <https://doi.org/10.2147/ijwh.s347971>
- Bandaranayake, P. (2024). Application of grounded theory methodology in library and information science research: An overview. *Sri Lanka Library Review*. <https://doi.org/10.4038/sllr.v38i2.70>
- Belotto, M. (2018). Data Analysis Methods for Qualitative Research: Managing the Challenges of Coding, Interrater Reliability, and Thematic Analysis. *The Qualitative Report*. <https://doi.org/10.46743/2160-3715/2018.3492>
- Bingham, A. (2023). From Data Management to Actionable Findings: A Five-Phase Process of Qualitative Data Analysis. *International Journal of Qualitative Methods*, 22. <https://doi.org/10.1177/16094069231183620>
- Black, R. E., Laxminarayan, R., Temmerman, M., & Walker, N. (2016). *Reproductive, maternal, newborn, and child health*. <https://doi.org/10.1596/978-1-4648-0348-2>
- Borrelli, S., Lecis, A., Antolini, L., Miglietta, M., Zanini, A., Nespoli, A., & Fumagalli, S. (2023). Pain Intensity, coping and maternal satisfaction in Low-Risk labouring Women: A prospective descriptive correlational study. *Sexual & Reproductive Healthcare*, 36, 100848. <https://doi.org/10.1016/j.srhc.2023.100848>
- Chang, C., Gau, M., Huang, C., & Cheng, H. (2022). Effects of non-pharmacological coping strategies for reducing labor pain: A systematic review and network meta-analysis. *PLoS ONE*, 17. <https://doi.org/10.1371/journal.pone.0261493>
- Doyle, L. ; M., C. ;. Keogh, B. ;. Brady, A. ;. McCann, M. (2019). An overview of the qualitative descriptive design within nursing research. *Journal of Research in Nursing*, 25. <https://doi.org/10.1177/1744987119880234>
- Du, W., Bo, L., Xu, Z., & Liu, Z. (2022). Childbirth Pain, Labor Epidural Analgesia, and Postpartum Depression: Recent Evidence and Future Directions. *Journal of Pain Research*, 15, 3007–3015. <https://doi.org/10.2147/jpr.s379580>
- Escott, D., Slade, P., & Spiby, H. (2009). Preparation for pain management during childbirth: The psychological aspects of coping strategy development in antenatal education. *Clinical Psychology Review*, 29(7), 617–622. <https://doi.org/10.1016/j.cpr.2009.07.002>
- Fife, S. ; G., J. (2024). Deductive Qualitative Analysis: Evaluating, Expanding, and Refining Theory. *International Journal of Qualitative Methods*, 23. <https://doi.org/10.1177/16094069241244856>
- Fumagalli, S., Borrelli, S., Bulgarelli, M., Zanoni, A., Serafini, M., Colciago, E., & Nespoli, A. (2022). Coping strategies for labor pain, related outcomes and influencing factors: A systematic review. *European Journal of Midwifery*. <https://doi.org/10.18332/ejm/156440>

- Ghamgosar, F., Sadra, M., Yari, H., & Honarbakhsh, M. (2024). Iranian mothers' perceptions of contextual factors helping them manage pain in labor. *BMC Pregnancy and Childbirth*, 24. <https://doi.org/10.1186/s12884-024-07012-x>
- Granikov, V. ; H., Q. ;. Crist, E. ;. Pluye, P. (2020). Mixed methods research in library and information science: A methodological review. *Library & Information Science Research*, 42(2). <https://doi.org/10.1016/j.lisr.2020.101003>
- Henriksen, M., Svensson, N., & Møller, A. (2024). Patient controlled epidural analgesia during labor: Protocol for a scoping review. *Acta Anaesthesiologica Scandinavica*, 69. <https://doi.org/10.1111/aas.14548>
- Huang, Y., Zhong, Y., Chen, Q., Zhou, J., Fu, B., Deng, Y., Tu, X., & Wu, Y. (2024). A comparison of childbirth self-efficacy, fear of childbirth, and labor pain intensity between primiparas and multiparas during the latent phase of labor: A cross-sectional study. *BMC Pregnancy and Childbirth*, 24. <https://doi.org/10.1186/s12884-024-06571-3>
- Jimenez, S. ; B., J. ;. De La Torre, R. (2024). How do university libraries contribute to the research process? *The Journal of Academic Librarianship*. <https://doi.org/10.1016/j.acalib.2024.102930>
- Kalpokaite, N. ; R., I. (2018). Demystifying Qualitative Data Analysis for Novice Qualitative Researchers. *The Qualitative Report*. <https://doi.org/10.46743/2160-3715/2019.4120>
- Kearns, R., & Lucas, D. (2023). Neuraxial analgesia in labour and the foetus. *Best Practice & Research Clinical Anaesthesiology*, 37(1), 73–86. <https://doi.org/10.1016/j.bpa.2023.02.005>
- Kountanis, J., Kirk, R., Handelzalts, J., Jester, J., & Muzik, M. (2021). The associations of subjective appraisal of birth pain and provider-patient communication with postpartum-onset PTSD. *Archives of Women's Mental Health*, 25, 171–180. <https://doi.org/10.1007/s00737-021-01154-z>
- Liang, I. (2024). The wonders of mind-body practices during pregnancy: A topical review. *Taiwanese Journal of Obstetrics & Gynecology*, 63(4), 486–491. <https://doi.org/10.1016/j.tjog.2024.04.007>
- Mahalan, N., & Smitha, M. (2023). Effect of audio-visual therapy on pain and anxiety in labor: A randomized controlled trial. *European Journal of Obstetrics & Gynecology and Reproductive Biology: X*, 20. <https://doi.org/10.1016/j.eurox.2023.100240>
- Malviya, A., Gupta, A., Kumar, V., Gupta, J., & Khanna, P. (2025). Effect of pregnancy hormones on pain perception in the peripartum period: A narrative review. *Journal of Anaesthesiology Clinical Pharmacology*, 41, 396–403. https://doi.org/10.4103/joacp.joacp_174_24
- Ngai, F., & Xiao, X. (2020). Perceptions of paternal involvement and labour pain management in Chinese couples during childbirth: A qualitative study. *Women and Birth: Journal of the Australian College of Midwives*. <https://doi.org/10.1016/j.wombi.2020.03.003>
- Olza, I., Uvnás-Moberg, K., Ekström-Bergström, A., Leahy-Warren, P., Karlsdóttir, S., Nieuwenhuijze, M., Villarmeá, S., Hadjigeorgiou, E., Kázmierczak, M., Spyridou, A., & Buckley, S. (2020). Birth as a neuro-psycho-social event: An integrative model of

- maternal experiences and their relation to neurohormonal events during childbirth. *PLoS ONE*, 15. <https://doi.org/10.1371/journal.pone.0230992>
- Pratt, M. (2025). On the Evolution of Qualitative Methods in Organizational Research. *Annual Review of Organizational Psychology and Organizational Behavior*. <https://doi.org/10.1146/annurev-orgpsych-111722-032953>
- Rabello, D., Umarani, J., & Agarwal, A. (2023). Effectiveness of Labor Supportive Measures on Selected Maternal Physiological Parameters, Labour Pain and Maternal Satisfaction: A Review. *Journal of Population Therapeutics and Clinical Pharmacology*, 30(15). <https://doi.org/10.47750/jptcp.2023.30.15.028>
- Rosmawati, R., Sulaeman, S., & Rahmawati, R. (2025). Factors Associated with the Intensity of Labour Pain during the First Stage in UPTD Puskesmas Malaka Soppeng District. *Jurnal Midwifery*, 7(1). <https://doi.org/10.24252/jmw.v7i1.55372>
- Togia, A. ; M., A. (2017). *Research Methods in Library and Information Science*. IntechOpen. <https://doi.org/10.5772/intechopen.68749>
- Türkmen, H., Dilcen, H., & Özçoban, F. (2020). Traumatic childbirth perception during pregnancy and the postpartum period and its postnatal mental health outcomes: A prospective longitudinal study. *Journal of Reproductive and Infant Psychology*, 39, 422–434. <https://doi.org/10.1080/02646838.2020.1792429>
- Umar, E. (2021). Factors that Contributed the Management of Stage 1 Labor Pain Maternity Mothers the Delivery Room Dr. Derajat Prawiranegara Hospital Serang in 2019. *KnE Life Sciences*, 475–489. <https://doi.org/10.18502/cls.v6i1.8638>
- Vila-Henninger, L., Dupuy, C., Van Ingelgom, V., Caprioli, M., Teuber, F., Pennetreau, D., Bussi, M., & Gall, C. (2022). Abductive coding: Theory building and qualitative (re)analysis. *Sociological Methods & Research*, 53, 968–1001. <https://doi.org/10.1177/004912412111067508>
- Vogel, T. (2021). Unique Pain Management Needs for Pregnant Women with Pre-existing PTSD and Other Mental Health Disorders. *Current Anesthesiology Reports*, 1–11. <https://doi.org/10.1007/s40140-020-00430-5>
- Walter, M., Abele, H., & Plappert, C. (2021). The role of oxytocin and the effect of stress during childbirth: Neurobiological basics and implications for mother and child. *Frontiers in Endocrinology*, 12. <https://doi.org/10.3389/fendo.2021.742236>
- Zhang, M., Wang, Y., Zhou, H., Song, S., & Mu, J. (2025). The role of acupuncture in labor pain management: A comprehensive analysis of efficacy and maternal outcomes. *Clinical and Experimental Obstetrics & Gynecology*, 33, 517. <https://doi.org/10.31083/ceog33517>
- Zuarez-Easton, S., Erez, O., Zafran, N., Carmeli, J., Garmi, G., & Salim, R. (2023). Pharmacological and non-pharmacological options for pain relief during labor: An expert review. *American Journal of Obstetrics and Gynecology*. <https://doi.org/10.1016/j.ajog.2023.03.003>