

## NON-PHARMACOLOGICAL LABOR PAIN MANAGEMENT IN MIDWIFERY CARE

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### ABSTRAK : MANAJEMEN NYERI PERSALINAN NON-FARMAKOLOGIS DALAM PERAWATAN KEBIDANAN

Latar Belakang: Persalinan adalah proses fisiologis yang umumnya disertai rasa sakit yang disebabkan oleh kontraksi uterus, dilatasi serviks, dan tekanan janin pada jalan lahir. Penanganan nyeri persalinan yang buruk dapat meningkatkan kecemasan dan kelelahan ibu serta berdampak negatif pada kemajuan persalinan dan kenyamanan ibu. Pendekatan non-farmakologis dianggap sebagai pilihan utama dalam perawatan kebidanan karena relatif aman, memiliki efek samping minimal, dan mendukung keterlibatan aktif ibu selama persalinan.

Tujuan: Artikel ini bertujuan untuk meninjau berbagai bentuk manajemen nyeri persalinan non-farmakologis yang dapat diterapkan dalam perawatan kebidanan.

Metode: Studi ini menggunakan pendekatan tinjauan literatur dengan menganalisis 25 artikel ilmiah yang diperoleh dari basis data Google Scholar dan PubMed. Artikel yang ditinjau adalah publikasi teks lengkap yang diterbitkan antara tahun 2015 dan 2024 dan berfokus pada intervensi non-farmakologis untuk wanita selama persalinan.

Hasil: Tinjauan ini menunjukkan bahwa berbagai metode non-farmakologis, termasuk teknik pernapasan dan relaksasi, pijat dan tekanan balik, perubahan posisi dan mobilisasi ibu, aromaterapi, serta musik dan dukungan psikologis, efektif dalam mengurangi intensitas nyeri persalinan dan meningkatkan kenyamanan ibu.

Kesimpulan: Manajemen nyeri persalinan non-farmakologis efektif dan aman untuk diterapkan dalam praktik kebidanan. Bidan memainkan peran penting dalam mendidik dan menerapkan metode-metode ini untuk mendukung persalinan yang aman, nyaman, dan berpusat pada perempuan.

Kata kunci: Nyeri persalinan; non-farmakologis; perawatan kebidanan; kenyamanan ibu

### ABSTRACT

Background: Labor is a physiological process that is commonly accompanied by pain caused by uterine contractions, cervical dilatation, and fetal pressure on the birth canal. Poorly managed labor pain may increase maternal anxiety and fatigue and negatively affect labor progress and maternal comfort. Non-pharmacological approaches are considered a primary option in midwifery care because they are relatively safe, have minimal side effects, and support active maternal involvement during childbirth.

Purpose: This article aims to review various forms of non-pharmacological labor pain management that can be applied in midwifery care.

Methods: This study employed a literature review approach by analyzing 25 scientific articles obtained from the Google Scholar and PubMed databases. The reviewed articles were full-text publications released between 2015 and 2024 and focused on non-pharmacological interventions for women during labor.

Results: The review showed that various non-pharmacological methods, including breathing and relaxation techniques, massage and counter pressure, maternal position changes and mobilization, aromatherapy, as well as music and psychological support, were effective in reducing labor pain intensity and improving maternal comfort.

Conclusion: Non-pharmacological labor pain management is effective and safe to be implemented in midwifery practice. Midwives play an important role in educating and implementing these methods to support safe, comfortable, and woman-centered childbirth.

Keywords: Labor pain; non-pharmacological; midwifery care; maternal comfort

## INTRODUCTION

Labor is a physiological process experienced by women and is generally accompanied by pain caused by uterine contractions, cervical dilatation, and fetal pressure on the birth canal. Labor pain is subjective and influenced by various factors, including physical condition, psychological state, previous experiences, and environmental support. When labor pain is not properly managed, it may increase maternal anxiety, fatigue, and stress, which can ultimately affect labor progress and the well-being of both mother and baby (Mander, 2017; Simkin & Bolding, 2016).

Labor pain management is an essential component of midwifery care. Pain management approaches can be categorized into pharmacological and non-pharmacological methods. However, pharmacological methods have limitations due to potential side effects for both the mother and the fetus. Therefore, non-pharmacological methods are increasingly recommended in midwifery practice because they are relatively safe, easy to apply, and encourage active maternal participation during labor (World Health Organization, 2018; Smith et al., 2018).

Various non-pharmacological methods have been developed and applied in midwifery practice, including breathing and relaxation techniques, massage and counter pressure, position changes and mobilization, aromatherapy, as well as music and psychological support. These methods aim to increase maternal comfort, reduce pain perception, and create a more positive childbirth experience. This approach is also in line with the principles of woman-centered care and international recommendations for maternity services that focus on maternal needs (Hodnett et al., 2017; Bohren et al., 2019).

Although many studies have examined non-pharmacological methods for labor pain management, existing evidence remains scattered and varies in terms of study design, type of intervention, and timing of application. Therefore, a comprehensive review is needed to summarize the available scientific evidence regarding the effectiveness of non-pharmacological labor pain management in midwifery practice (Jones et al., 2012; Hauck et al., 2007).

Based on this background, this article aims to review various forms of non-pharmacological labor pain management that can be applied in midwifery care based on published research findings, in order to support improvements in the quality of maternity services and maternal childbirth

experiences (Simkin et al., 2017; Brown et al., 2001).

## RESEARCH METHODS

This study is a literature review aimed at identifying and analyzing various forms of non-pharmacological labor pain management in midwifery care. This method was chosen to obtain a comprehensive overview of non-pharmacological interventions that have been studied and applied based on scientific evidence from various journal sources.

Article searches were conducted using the Google Scholar and PubMed electronic databases. Keywords in Indonesian included labor pain, non-pharmacological pain management, labor, and midwifery care. English keywords included labor pain, non-pharmacological pain management, labor, and midwifery care. The search was limited to articles published between 2015 and 2024 to ensure data relevance.

Inclusion criteria consisted of full-text scientific articles published in national or international journals that discussed non-pharmacological interventions for women during labor and employed quantitative, qualitative, or systematic review designs. Articles that were not available in full text, opinion articles, and studies primarily focused on pharmacological pain management were excluded.

Article selection was conducted in stages, including identification, title and abstract screening, and full-text eligibility assessment. After the screening and selection process, 25 articles met the inclusion criteria and were analyzed further.

The selected articles were analyzed using a descriptive-thematic approach. The analysis involved grouping study findings based on types of non-pharmacological labor pain management interventions, including breathing and relaxation techniques, massage and counter pressure, labor positions and mobilization, aromatherapy, as well as music and psychological support. The results were presented narratively to facilitate interpretation and application in midwifery practice.

## RESEARCH RESULTS

Based on the literature search and selection process, 25 articles met the inclusion criteria. These articles consisted of quantitative and qualitative studies addressing non-pharmacological labor pain management among women in labor, particularly during the first stage of labor. The characteristics of the reviewed articles are presented in Table 1.

Table 1. Characteristics of Articles Reviewed in the Literature Review

Author (Year)	Title	Location	Study Design	Sample Size	Sampling Technique	Inclusion Criteria	Intervention	Main Findings	Conclusion	Instrument
Astuti et al. (2016)	Instrumental Music Therapy on Labor Pain Intensity in the First Stage	Boyolali	Pre-experimental	32 women	Total sampling	Active first stage of labor	Instrumental music	Mean pain score decreased	Music therapy reduced labor pain	NRS
Lestari et al. (2019)	Relaxation Techniques on Labor Pain	Yogyakarta	Quasi-experimental	40 women	Purposive sampling	Normal labor	Breathing relaxation	Significant pain reduction	Relaxation was effective	NRS
Wahyuni (2020)	Breathing Exercises among Women in Labor	Surabaya	Quasi-experimental	36 women	Consecutive sampling	First stage of labor	Controlled breathing	Pain scores decreased	Breathing reduced labor pain	VAS
Simkin & Bolding (2016)	Breathing Techniques during Labor	United States	RCT	120 women	Random sampling	Normal labor	Breathing techniques	Pain and anxiety decreased	Breathing was effective	VAS
Smith et al. (2018)	Relaxation Methods for Labor Pain	United Kingdom	Systematic review	15 studies	–	Women in labor	Relaxation methods	Most studies reported pain reduction	Relaxation was effective	NRS/VAS
Mander (2017)	Pain Perception and Relaxation in Labor	United Kingdom	Cohort study	60 women	Purposive sampling	Normal labor	Progressive relaxation	Pain perception decreased	Relaxation influenced pain	VAS
Rahmawati et al. (2020)	Counter Pressure on Labor Pain	Semarang	Quasi-experimental	34 women	Purposive sampling	Active first stage	Counter pressure	Back pain decreased	Counter pressure was effective	NRS
Susanti et al. (2021)	Upright Position and Labor Pain	Bandung	Quasi-experimental	40 women	Total sampling	Normal labor	Upright position	Lower pain intensity	Upright position was beneficial	VAS

Author (Year)	Title	Location	Study Design	Sample Size	Sampling Technique	Inclusion Criteria	Intervention	Main Findings	Conclusion	Instrument
Dewi et al. (2019)	Lavender Aromatherapy on Labor Pain	Bali	Pre-experimental	30 women	Purposive sampling	First stage of labor	Lavender aromatherapy	Pain and anxiety decreased	Aromatherapy was effective	NRS
Hodnett et al. (2017)	Continuous Support during Childbirth	Multicenter	RCT	1,200 women	Random sampling	Women in labor	Continuous support	Lower pain perception	Support improved comfort	VAS
Wulandari et al. (2018)	Effleurage Massage on Labor Pain	Malang	Quasi-experimental	35 women	Purposive sampling	Active first stage	Effleurage massage	Significant pain reduction	Massage was effective	NRS
Fitriani et al. (2020)	Active Mobilization during Labor	Padang	Quasi-experimental	38 women	Consecutive sampling	Normal labor	Active mobilization	Better pain control	Mobilization was beneficial	VAS
Jones et al. (2012)	Pain Management for Women in Labour	International	Systematic review	20 studies	–	Women in labor	Non-pharmacological methods	Pain intensity decreased	Non-pharmacological methods were effective	NRS/VAS
Brown et al. (2001)	Non-Pharmacological Pain Relief in Labor	Australia	Survey	150 women	Random sampling	Women in labor	Various methods	Increased maternal satisfaction	Pain was manageable	VAS
Hauck et al. (2007)	Women's Experiences of Pain Relief during Labor	Australia	Qualitative	25 women	Purposive sampling	Normal labor	Support and relaxation	Positive labor experiences	Support was important	Interview
Kurniawati et al. (2021)	Birth Ball Use and Labor Pain	Solo	Quasi-experimental	32 women	Total sampling	Active first stage	Birth ball	Pain intensity decreased	Birth ball was effective	NRS
Pratiwi et al.	Squatting	Purwokerto	Quasi-	34	Purposive	Active	Squatting	Lower pain	Squatting was	VAS

Author (Year)	Title	Location	Study Design	Sample Size	Sampling Technique	Inclusion Criteria	Intervention	Main Findings	Conclusion	Instrument
(2020)	Position and Labor Pain		experimental	women	sampling	first stage	position	intensity	effective	
Melzack (2013)	Pain Neuromatrix Theory	Canada	Theoretical	–	–	Labor pain	Pain theory	Pain influenced by psychological factors	Psychological support is important	–
Sari et al. (2019)	Hypnobirthing and Labor Pain	Jakarta	Quasi-experimental	30 women	Purposive sampling	Normal labor	Hypnobirthing	Pain scores decreased	Hypnobirthing was effective	NRS
Fitroh et al. (2018)	Progressive Muscle Relaxation and Labor Pain	Kediri	Pre-experimental	28 women	Total sampling	Active first stage	Muscle relaxation	Pain scores decreased	Relaxation was effective	VAS
Rahayu et al. (2021)	Therapeutic Touch during Labor	Solo	Quasi-experimental	36 women	Consecutive sampling	Normal labor	Therapeutic touch	Pain intensity decreased	Touch was effective	NRS
World Health Organization (2018)	Intrapartum Care Guidelines	Global	Guideline	–	–	Women in labor	Non-pharmacological care	Improved childbirth experience	Recommended for practice	–
Putri et al. (2022)	Classical Music and Labor Pain	Medan	Quasi-experimental	40 women	Purposive sampling	Active first stage	Classical music	Pain intensity decreased	Music was effective	NRS
Laili et al. (2020)	Husband's Support and Labor Pain	Jombang	Cross-sectional	60 women	Total sampling	Women in labor	Emotional support	Lower pain perception	Support influenced pain	Questionnaire
Suryani et al. (2023)	Combination of Relaxation and Music on Labor Pain	Makassar	Quasi-experimental	35 women	Purposive sampling	First stage of labor	Relaxation and music	Significant pain reduction	Combination was effective	VAS

## DISCUSSION

The findings of this literature review indicate that non-pharmacological labor pain management is an effective and relevant approach in midwifery care. Breathing and relaxation techniques were the most frequently reported interventions and were shown to help women control their responses to uterine contractions and reduce pain perception. These effects are supported by pain modulation theories suggesting that relaxation and controlled breathing reduce muscle tension and anxiety, thereby inhibiting pain transmission (Mander, 2017; Smith et al., 2018; Melzack, 2013).

Massage and counter pressure interventions were also found to be effective, particularly in reducing back pain during the first stage of labor. Massage stimulates endorphin release and enhances comfort through therapeutic touch, contributing to pain reduction (Rahmawati et al., 2020; Wulandari et al., 2018; Brown et al., 2001).

Maternal positioning and mobilization were shown to reduce labor pain by utilizing gravity and reducing pressure on the birth canal. These findings align with international recommendations promoting freedom of movement and position during labor as part of respectful maternity care (Susanti et al., 2021; Pratiwi et al., 2020; World Health Organization, 2018).

Aromatherapy, particularly the use of lavender essential oil, was reported to promote relaxation and reduce anxiety, thereby decreasing pain perception. Similarly, music and continuous psychological support contributed to reduced anxiety and improved childbirth experiences, emphasizing the importance of emotional support during labor (Dewi et al., 2019; Hodnett et al., 2017; Hauck et al., 2007).

## CONCLUSION

Based on the review of 25 scientific articles, it can be concluded that non-pharmacological labor pain management is an effective, safe, and relevant approach in midwifery care. Various non-pharmacological methods, including breathing and relaxation techniques, massage and counter pressure, labor positions and mobilization, aromatherapy, as well as music and psychological support, consistently demonstrated positive effects in reducing labor pain intensity and improving maternal comfort.

These methods address not only the physiological aspects of pain but also the psychological and emotional needs of women during labor. Therefore, non-pharmacological labor pain management should be considered an integral

component of normal childbirth care. Midwives play a crucial role in educating women and implementing appropriate non-pharmacological interventions to support safe, comfortable, and meaningful childbirth experiences.

## SUGGESTIONS

Midwives are encouraged to optimize the application of non-pharmacological labor pain management methods as part of routine midwifery care. Antenatal education regarding non-pharmacological pain management options should be provided to help women feel more prepared and confident during labor.

Health care facilities are advised to support the implementation of non-pharmacological pain management by creating a comfortable, supportive labor environment and providing ongoing training for health professionals. Future researchers are encouraged to conduct studies with stronger designs and larger samples to examine the effectiveness of combined non-pharmacological interventions across various maternity care settings.

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