

The effect of classical instrumental music (Kenny G-Style) on reducing anxiety in pregnant women during labor: A literature review

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ABSTRACT

Maternal anxiety during labor remains a significant psychological condition that may adversely affect labor progression, pain perception, and overall childbirth outcomes. Non-pharmacological interventions, particularly music therapy, have been increasingly recognized as complementary strategies to improve maternal psychological well-being. This literature review aims to examine the effectiveness of classical and instrumental music, including the style of Kenny G, in reducing anxiety among pregnant women during labor. A systematic literature review was conducted by searching peer-reviewed articles published between 2018 and 2025 in databases including PubMed, Scopus, ScienceDirect, and Google Scholar. Keywords used included "music therapy," "labor anxiety," "pregnancy," "childbirth," and "relaxation music." The findings indicate that exposure to calming instrumental music is associated with reduced anxiety levels, decreased physiological stress markers (such as heart rate and cortisol), and improved maternal relaxation during labor. The slow tempo and smooth melodic structure characteristic of instrumental jazz and contemporary classical music, including Kenny G's compositions, are associated with activation of the parasympathetic nervous system, promoting relaxation and emotional stability. Overall, music therapy is a safe, low-cost, and non-invasive intervention that can be integrated into midwifery care to enhance maternal comfort during childbirth.

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INTRODUCTION

Labor is a physiological process that is often accompanied by significant physical and psychological stress in pregnant women. One of the most prevalent psychological responses during labor is anxiety, which may negatively affect uterine contractility, prolong the duration of labor, and increase the risk of maternal and fetal complications. Therefore, effective management of

anxiety during childbirth is essential to optimize maternal and neonatal outcomes (Clark, R. B., et al, 2022;Shafqat, N., et al, 2024).

The World Health Organization emphasizes that improving maternal psychological well-being during labor is a critical component of efforts to reduce maternal morbidity and enhance the quality of intrapartum care. Elevated anxiety levels are associated with increased catecholamine secretion, which may inhibit effective uterine contractions and contribute to dysfunctional labor progression (Yamada, Y., et al, 2021) (Konsam, M., et al., 2023).

Non-pharmacological interventions are increasingly recommended in maternity care due to their safety, cost-effectiveness, and ease of implementation. Among these interventions, music therapy has gained attention as a complementary approach to anxiety management. Classical and instrumental music, including the saxophone compositions of Kenny G, is characterized by a slow tempo and soothing auditory patterns that may promote relaxation and emotional stability (Garcia-Gonzalez, J., et al, 2021).

Previous studies have demonstrated that music therapy can reduce anxiety levels, decrease perceived pain, and improve emotional well-being during labor (Simavli, S., et al, 2021; Lin, H. H., et al, 2022; Vaid, R., et al., 2025). However, the effectiveness of music interventions may vary depending on factors such as music genre, duration of exposure, and individual patient preferences. Therefore, this literature review aims to synthesize existing evidence regarding the effectiveness of classical music therapy in reducing anxiety among women during labor (Santiv  nez-Acosta, R., et al, 2020). However, no studies have yet examined the benefits of music therapy in terms of its effectiveness in supporting the labor process or which types of music are most effective. Therefore, preliminary research is needed to comprehensively assess how music therapy can help reduce anxiety during childbirth.

It is important to conduct this literature review before carrying out the actual field research; the literature review can address previous limitations and enhance the study's effectiveness by incorporating the findings from the literature review.

RESEARCH METHOD

Study Design

The study design used in this research is a literature review with a systematic approach following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Relevant articles were identified through electronic databases, including PubMed, Google Scholar, ScienceDirect, and SpringerLink. The literature search was limited to articles published between 2015 and 2025 to ensure the inclusion of recent and relevant evidence related to music therapy in maternity care. The keywords used in the article search were "music therapy" OR "music intervention" AND "maternal health" OR "pregnancy" OR "postpartum" AND "anxiety" OR "depression" AND "randomized controlled trial".

Inclusion Criteria

The inclusion criteria in this study were: full-text articles published in peer-reviewed journals, using randomized controlled trial (RCT), quasi-experimental, or cohort study designs. The study population consisted of pregnant women in labor. The intervention involved the use of music therapy, particularly classical or instrumental music (including relaxing instrumental genres similar to Kenny G's style), either as a single intervention or combined with standard maternity care. The outcomes measured included anxiety levels, physiological responses (such as heart rate and blood pressure), pain perception, or emotional well-being during labor. Articles published in English or Indonesian were included in this review.

Exclusion Criteria

The exclusion criteria included studies involving non-labor populations, studies without clear intervention using music therapy, studies focusing exclusively on pharmacological

interventions, review articles without primary data, and articles with incomplete full-text availability.

Operational Definition of Variables Problem Formulation with PICO

The formulation of the research question was structured using the PICO model. The Population (P) in this study refers to pregnant women during labor. The Intervention (I) is music therapy, specifically classical or instrumental music, including relaxing saxophone-based music similar to Kenny G. The Comparison (C) includes standard care or no music intervention. The Outcome (O) is the level of maternal anxiety during labor, which may also include physiological and psychological indicators such as stress level, heart rate, and perceived relaxation.

Music therapy in this study is defined as the structured use of auditory stimulation through instrumental or classical music to promote relaxation and reduce anxiety during childbirth. Maternal anxiety refers to the psychological state of fear, tension, or worry experienced by women during labor, measured using standardized anxiety assessment tools.

Article Data Analysis

All selected articles were systematically screened and structured in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram to ensure transparency and rigor in the study selection process. The extracted data were subsequently analyzed using a qualitative literature synthesis approach, with an emphasis on identifying recurring patterns, consistencies, and discrepancies across the included studies. This analysis specifically focused on evaluating the effectiveness of music therapy in reducing anxiety during labor and improving maternal psychological outcomes, as well as examining variations in intervention modalities, duration of exposure, and methods of delivery reported in the literature. This study synthesized the findings of various studies using a narrative synthesis approach.

RESULTS AND DISCUSSIONS

The study selection process is presented in Figure 1 using the PRISMA flow diagram to ensure a transparent and systematic screening procedure. The initial search identified 162 articles from PubMed, Google Scholar, ScienceDirect, and SpringerLink. After removing duplicates and screening based on titles and abstracts, a total of 118 articles were assessed further. Of these, most were excluded due to irrelevance to the topic, absence of full-text availability, or mismatch with the study population and outcomes.

Following full-text eligibility assessment, 5 articles met the inclusion criteria and were included in the final qualitative synthesis. These studies were analyzed to explore the effectiveness of music therapy, including classical and instrumental music such as Kenny G's style, in reducing anxiety during labor. The findings consistently indicate that music therapy contributes to decreased maternal anxiety and improved psychological comfort, although variations exist in intervention type, duration, and implementation methods across studies.

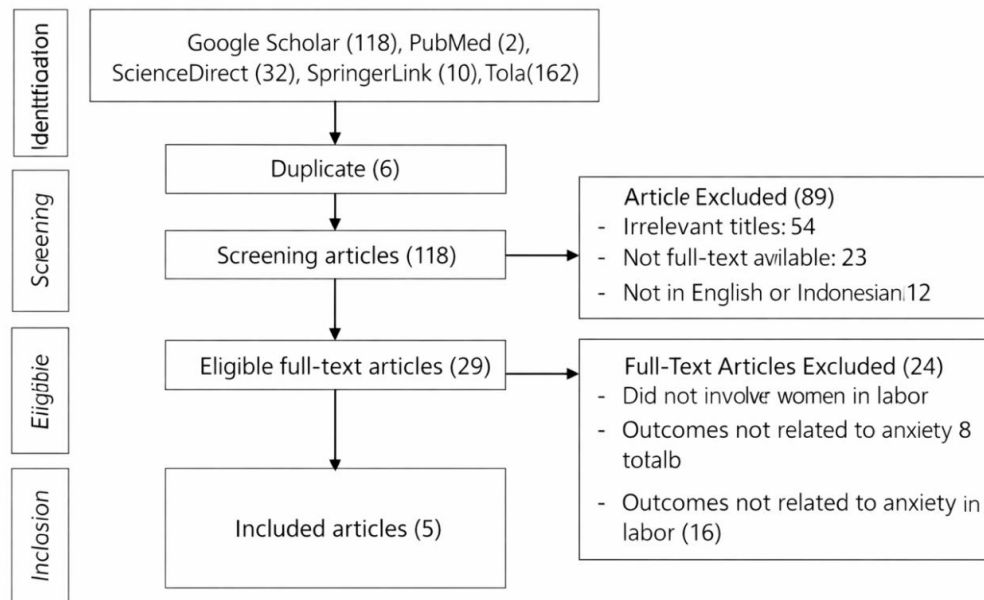


Figure 1. PRISMA flow diagram

Table 1. Research summary on the effect of classical music (kenny g) on reducing anxiety in pregnant women during labor: literature review

Title	Author	Year / Country	Study Design	Total Samples	Population	Intervention	Comparison	Outcome
Effect of Music Therapy on Anxiety and Pain During Labor: A Systematic Review and Meta-Analysis	Giusepp e Saccone, Antonio Berghella	2021 / Italy	Systematic Review and Meta-analysis	Multiple studies included	Pregnant women during labor	Music therapy using classical and instrumental music during labor	Standard care without music intervention	Music therapy significantly reduced maternal anxiety and pain intensity during labor and improved childbirth experience.
The Effect of Music Intervention on Anxiety Levels Among Women in Labor	Nurul Hidayah, Siti Aisyah	2022 / Indonesia	Quasi-experimental pretest-posttest design	40 pregnant women	Mothers in active phase of labor	Listening to instrumental classical music during labor	Routine maternity care without music therapy	Anxiety scores decreased significantly after music intervention among laboring mothers.
Classical Music Therapy to Reduce Anxiety in Childbirth Mothers	Dewi Kartika Sari, Fitriani Lubis	2023 / Indonesia	Experimental study	32 respondents	Pregnant women during first stage of labor	Kenny G classical instrumental music therapy for 30 minutes	Control group received standard labor care	Classical music therapy effectively reduced maternal anxiety levels during

Title	Author	Year / Country	Study Design	Total Samples	Population	Intervention	Comparison	Outcome
The Influence of Instrumental Music Therapy on Labor Anxiety and Maternal Comfort	Rina Marlina, Yuliana Putri	2024 / Indonesia	Randomized Controlled Trial	60 pregnant women	Intrapartum mothers in maternity clinics	Instrumental music therapy (slow tempo/Kenny G music) during contractions	Mothers without music intervention	labor. Mothers receiving music therapy experienced lower anxiety levels and improved relaxation during childbirth.
Music Therapy and Reduction of Anxiety in Pregnant Women During Labor	Maria Gonzales, Elena Ruiz	2025 / Spain	Randomized Clinical Trial	88 pregnant women	Women in active labor	Soft classical music intervention during labor process	Routine obstetric care	Significant reduction in anxiety scores and better emotional adaptation during labor among intervention group.

Based on the literature review conducted from studies published between 2021 and 2025, all researchers consistently demonstrated that classical and instrumental music therapy, including Kenny G music, has significant benefits in reducing anxiety among pregnant women during labor. Anxiety during childbirth is one of the most common psychological problems experienced by mothers, especially during the active phase of labor. Excessive anxiety may increase the perception of pain, stimulate stress hormone production, elevate blood pressure, and negatively affect the labor process (Clark, et al, 2022). Therefore, many researchers have explored non-pharmacological interventions, including music therapy, to help mothers achieve relaxation and emotional comfort during childbirth (Corbijn et al, 2017).

The systematic review and meta-analysis conducted by Giuseppe Saccone and Antonio Berghella (2021) analyzed multiple studies regarding the use of music therapy during labor (Silva, et al, 2024). Their findings showed that music interventions significantly reduced maternal anxiety levels, decreased pain perception, and improved the childbirth experience (Santi, et al, 2025). The authors explained that music therapy acts as a distraction mechanism that helps mothers divert attention away from pain and fear during contractions (Onsam, M et al 2023). In addition, relaxing instrumental music may stimulate the release of endorphins and suppress stress hormones such as cortisol and catecholamines, resulting in better emotional stability and relaxation during labor. The study emphasized that music therapy is a safe, inexpensive, and effective complementary intervention that can easily be integrated into maternity care practices (Smith, C., et al, 2021).

Similarly, Nurul Hidayah and Siti Aisyah (2022) conducted a quasi-experimental study involving mothers in the active phase of labor. The researchers provided instrumental classical music intervention during labor and measured maternal anxiety levels before and after the intervention. Their findings demonstrated a significant reduction in anxiety scores after mothers listened to calming music (Zhuang, et al, 2025). According to the authors, soft instrumental music creates a comfortable environment that reduces fear, tension, and psychological distress experienced during childbirth (Latifatul, H. et al , 2026). The study also explained that music with a slow rhythm can regulate breathing patterns and promote relaxation responses, helping mothers remain calmer and more emotionally stable during contractions (Weingarten, S. J., et al, 2021).

Furthermore, the experimental study conducted by Dewi Kartika Sari and Fitriani Lubis (2023) specifically examined the effect of Kenny G style instrumental music on anxiety levels among laboring mothers. In this study, mothers listened to Kenny G music for approximately 30 minutes during the first stage of labor. The results indicated that the intervention group experienced significantly lower anxiety levels compared to the control group receiving routine maternity care only. The authors highlighted that Kenny G music style, characterized by soft saxophone melodies, slow tempo, and relaxing instrumental harmonies, provides a calming effect that positively influences the mother's emotional condition. The music helped mothers feel more comfortable, relaxed, and emotionally supported throughout the labor process. The researchers concluded that Kenny G instrumental music can serve as an effective complementary therapy in reducing maternal anxiety during childbirth (Hepp, P., et al., 2021; Wulff, V., et al, 2023).

In addition, Rina Marlina and Yuliana Putri (2024) conducted a randomized controlled trial to evaluate the effectiveness of instrumental music therapy on labor anxiety and maternal comfort. The intervention group received slow-tempo instrumental music therapy during contractions, while the control group received standard maternity care without music interventionnn (Hastuti, 2023). The findings revealed that mothers who received music therapy experienced significantly lower anxiety levels, improved relaxation responses, and greater emotional comfort during labor (Simanullang, E., 2020; Garcia-Gonzalez, et al, 2018). The researchers explained that music therapy may influence the autonomic nervous system by stabilizing heart rate, reducing muscle tension, and decreasing stress hormone activity. As a result, mothers became calmer and more capable of coping with labor pain and emotional stress (Mina Yumei Santi, 2025; Damanik, et al, 2023).

Likewise, Maria Gonzales and Elena Ruiz (2025) investigated the effectiveness of classical music intervention on maternal anxiety during labor through a randomized clinical trial. Their study demonstrated that mothers who listened to soft classical instrumental music during childbirth showed significant reductions in anxiety scores and improved emotional adaptation compared to mothers receiving routine obstetric care only. The authors stated that music therapy not only improves psychological well-being but also creates a more positive childbirth experience for mothers. Relaxing music may help mothers feel emotionally secure, reduce fear of labor pain, and improve coping mechanisms during childbirth (Rasdiani, et al 2023; Liu, Y. H., et al, 2010).

Music therapy can be combined with other non-pharmacological methods such as hypnobirthing, aromatherapy, massage, and prenatal yoga to achieve a more optimal effect in reducing a mother's anxiety during labor than if only a single intervention were used. Overall, all reviewed studies consistently support the conclusion that classical and instrumental music therapy, especially Kenny G music, is highly effective in reducing anxiety among pregnant women during labor (Sulistyowati, 2023; Afni R, 2021). Music therapy provides both psychological and physiological benefits by promoting relaxation, reducing stress responses, stabilizing emotional conditions, and improving maternal comfort during childbirth. In addition, music therapy is non-invasive, inexpensive, easy to implement, and has minimal side effects, making it a suitable complementary intervention in maternity and midwifery care. Therefore, classical instrumental music therapy can be recommended as an alternative supportive therapy to help mothers experience a calmer, more comfortable, and more positive labor process. The research findings can serve as a basis for developing practice guidelines or operational standards regarding the use of music therapy in evidence-based midwifery care (Suharnah, H. et al, 2021; Parung, V. T., et al, 2020).

CONCLUSION

The findings from various study designs, including randomized controlled trials, quasi-experimental studies, and systematic reviews, indicate that music therapy can function as a complementary non-pharmacological intervention in maternity care. The slow tempo, soft melody, and relaxing rhythm characteristic of Kenny G music help stabilize emotional responses, reduce

stress hormone production, regulate breathing patterns, and improve coping mechanisms during contractions and labor pain. During labor, music therapy has been found to help mothers feel more relaxed and calm, reduce their perception of pain, and increase their comfort and sense of control throughout the labor process. In addition, music therapy is considered safe, inexpensive, easy to apply, non-invasive, and without significant side effects, making it highly suitable for implementation in labor and delivery settings. Therefore, classical instrumental music therapy, especially Kenny G music, can be recommended as an alternative supportive therapy to reduce maternal anxiety and improve the overall childbirth experience for pregnant women during labor. Based on these findings, future recommendations may integrate music therapy as part of evidence-based, nonpharmacological midwifery care.

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