

# How music listening can support perinatal maternal well-being

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## Introduction

The transition period to motherhood for first-time mothers can be characterized by psychological distress, negatively impacting maternal-infant bonding, familial relationships, infant development, and mothers' functional ability and well-being (e.g., Giallo et al., 2014; Khalifeh et al., 2015; Wulff et al., 2021). Inadequate support during the perinatal period increases the risk of psychological distress, as a result of limited support from health services, financial barriers to paid services, and limited accessibility in rural and remote areas (e.g., Barton et al., 2021). Recent research suggests, then, that it is important to provide accessible, online resources (Mahony et al., 2022).

Given the increasing evidence that music can support well-being (Sanfilippo et al., 2021; Wulff et al., 2021), what type of music listening activities support maternal well-being in the perinatal period?

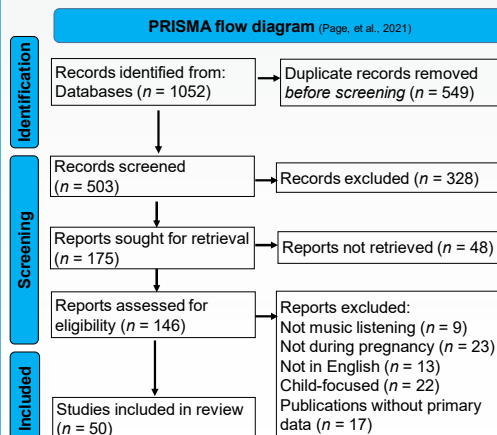
**RQ1:** What does the published research indicate about the influence of music listening on mothers' well-being during the perinatal period?

**RQ2:** What music resources (and administrative procedures) have been used?

## Method

The PRISMA (ScR) protocol was used (Tricco, et al., 2018). The database search, conducted in March 2023, used three, pre-determined keywords (music AND listen\* AND (perinatal OR prenatal antepartum OR intrapartum OR pregnan\* OR labour OR birth OR primigravida OR \*parous).

Eligibility criteria included: peer-reviewed, English publications 2000-2022, reporting on primary data collection about music listening with pregnant participants.



## Results

From 1052 identified records, 138 articles were subjected to full-text review, and 50 articles were included in the final review. Randomised Controlled Trials were the most common study design ( $n = 36$ ), followed by quasi-experiments and qualitative studies. The studies were conducted in 21 countries, with the majority conducted in Turkey ( $n = 15$ ), followed by Taiwan, Iran, Germany, and Thailand.

### The outcomes of music listening

Via thematic analysis (Braun & Clarke, 2021), studies were categorized as pertaining to the outcomes of music listening during pregnancy or during labour.

During pregnancy ( $n = 28$ )		
Anxiety and Stress	20	Effective for reducing anxiety during a NonStress Test; Significantly reduces maternal stress (e.g., cortisol)
Attachment	6	Lullabies improve mother-foetus dyad attachment; Listening increases bonding (e.g., oxytocin levels)
Physical functioning	8	Improves quality of sleep; Alleviates physiological effects of hospital admission for women with high-risk pregnancies and pre-hypertension (e.g., BP, heart rate, contractions)
During labour (including caesareans; $n = 22$ )		
Pain management	15	Reducing pain during early labour stages; shortening the active phase of labour; reducing distress; can provide a distraction and help with preparations; allows partners to be involved in care
Psychological well-being	11	Reduces anxiety prior to elective caesarean; assists with relaxation and distraction during caesarean; effective coping strategy in early labour phase; reduces fears related to childbirth; reduces and assists with managing stress during childbirth
Labour progression	4	Increases number of/timing of contractions to progress labour; improves likelihood of first-time mothers having a vaginal delivery over caesarean regardless of stress level

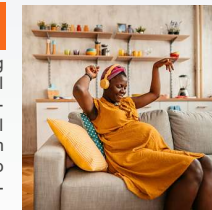
### Examining the music listening resources

Two themes were identified concerning the music resources involved: how the music was administered (6 sub-themes: setting, who selected the music, duration, frequency, listening device, and volume) and musical features (3 sub-themes: genre, tempo, and the presence of lyrics).

Administration of music		Musical features
Setting	During pregnancy: hospital ( $n = 17$ ) vs. home ( $n = 9$ ) During labour: hospital ( $n = 20$ ) vs. home ( $n = 1$ )	The majority of studies did not provide clear details regarding these themes.
Selection	Typically, experimenter-chosen ( $n = 25$ ); When participant-chosen, either from a limited list ( $n = 13$ ) or unlimited list ( $n = 4$ )	Genre •Experimenter-selected music was predominantly classical; •Many of the included music styles related to the study country (e.g., Sufi and Turkish ney, Taiwanese, Iranian, Gamelan) •Music used was sometimes described in terms of genre, sometimes in terms of adjectives (e.g., "light", "soft", "soothing")
Duration	Majority of listening involved a single session, lasting 15-30min	Tempo When identified, BPM = 58-80; sometimes to mimic heart rate
Frequency		Lyrics (When reported) lullabies and light vocal music aimed at promoting relaxation; vocals included in guided imagery efforts
Device	(When reported) Mostly using headphones and	
Volume	volume was usually at listener discretion	

## Discussion

The majority of the studies reported statistically significant results indicating that music listening can support mothers' well-being during the perinatal period. Given music listening offers an effective, low-cost, non-pharmacological tool to support well-being, there are many clinical implications. Moreover, the resources identified as well as those developed in line with these findings will contribute to the establishment of the Bamboo web app, a widely accessible, cost-effective, and evidence-based peer-support program to bolster self-efficacy and maternal well-being. In the app, there will be a resource centre with music, meditations, and a podcast series.



## References

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References for articles included in the review available upon request.

Image: <https://media.istockphoto.com/id/1411617027/photo/pregnant-woman-listening-to-music-at-home.jpg>