

(Review) Article

## Non-Pharmacological Therapies to Reduce Anxiety Levels of Pregnant Women & Maternity Mothers: A Systematic Literature Review

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**Abstract:** A common mental health problem affecting millions of women all around is anxiety before pregnancy and after delivery. Untreated, it might cause early deliveries, reduced birth weights, bad infant bonding, and children's long-term developmental difficulties. Many mothers choose natural cures than from drugs for safety worries relating to their children. Recent research on non-drug approaches to lessen anxiety in pregnant women and new mothers is examined in this review. Focusing on multiple non-drug treatments, a comprehensive search was conducted in PubMed and Google Scholar. The results indicate that yoga and mindfulness-based stress reduction measures practically reduce anxiety. For treating anxiety, non-drug treatments are safe choices that healthcare professionals should integrate into maternal care. More research is needed for consistent methods and long-term studies to support clinical practices.

**Keywords:** Teenage, Pregnancy, Maternal, Child Health, Reduce Anxiety Levels

### 1. Introduction

Crucial phases with significant physical, psychological, and cognitive changes are pregnancy and the period following delivery [1]. Though these times are usually associated with optimism and excitement, they can also bring greater sensitivity, especially about the mental health of mothers. Globally, the rise of anxiety during pregnancy and after delivery is turning out to be a major problem affecting the health of both mothers and their offspring. Non-drug treatments have lately received increasing attention as efficient and realistic means to deal with anxiety among this population. Particularly their capacity to reduce anxiety in pregnant or postpartum women, this systematic literature review seeks to examine the evidence supporting these treatments [2].

Among the most often seen mental health problems affecting women in the perinatal stage are anxiety disorders. Research reveals that while anxiety following delivery can affect as many as 20% of new moms, between 15% and 25% of expecting mothers exhibit extreme anxiety symptoms. Anxiety during the perinatal period results from a number of causes, including hormone changes, fear about childbirth, concerns about the health of the infant, past traumatic experiences, and socioeconomic or financial demands. The worry experienced during this stage not only lowers mothers' quality of life but also significantly affects fetal development, childbirth experiences, and the health of the infant. Maternal anxiety has been connected to premature births, smaller birth weights, and developmental problems in babies. It might also impede the maternal-child bonding process, so increasing the risk of postpartum

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depression. Therefore, effective public health initiatives depend on quick identification and efficient management of postpartum and pregnant women's anxiety.

Commonly referred to as prenatal or antenatal anxiety, anxiety felt during pregnancy can severely impact the well-being of both the mother and the developing baby. Repeated studies have shown that high levels of anxiety in pregnant women are associated with unfavorable results for their physical and mental health [3]. One major problem is the repercussions for development of the fetus. Elevated anxiety in mothers can cause higher production of stress hormones, especially cortisol, which may cross the placenta and disturb the growth of the fetal brain. Studies have linked prenatal anxiety to risks including early-than-expected births, lower birth weights, and delays in development during childhood and adulthood. Psychologically speaking, mothers who struggle with worry are more vulnerable to postnatal depression, which can impair their capacity to relate with their newborns and to operate [4]. Anxiety can also hinder pain control during labor and decision-making, which may lead to more elective C-sections or other medical operations. For some women, anxiety manifests as a strong dread of childbirth, which could increase their pain perceptions and prolong the course of labor. These factors can cause a challenging birth experience and raise the possibility of trauma or post-traumatic stress disorder connected with childbirth. Furthermore, prenatal anxiety can disturb the mother-infant attachment process that is absolutely necessary for the emotional and cognitive growth of the child. Babies of mothers with high anxiety may exhibit greater agitation, feeding problems, and poor sleep. Long-term research show that children who experienced great maternal anxiety before birth are more likely to exhibit behavioral and emotional problems including anxiety, attention deficit/hyperactivity disorder, and diminished emotional control skills. The results of untreated anxiety during pregnancy highlight the need for early detection and treatment programs. Healthcare professionals should give regular mental health assessments top priority and provide safe, effective treatments to support pregnant women. Dealing with anxiety not only improves the mother's emotional health but also promotes more healthy pregnancy results and better long-term developmental outcomes for the child [5].

Recent research highlight how effectively mindfulness-based techniques help expectant mothers reduce their anxiety. A controlled study from 2022 found that women who participated in an eight-week mindfulness-based stress reduction program showed significant reductions in anxiety levels compared to a control group receiving normal prenatal care. Participants reported improved general well-being, reduced cortisol levels, and better emotional control. These results fit with more general data suggesting that developing acceptance and awareness in the now can ease the psychological strain frequently encountered during pregnancy. Another accepted approach is prenatal yoga, which combines relaxation techniques, breathing exercises, and physical motions [6].

According to a 2021 systematic review of several clinical studies, women who performed regular prenatal yoga reported less bodily pain, better sleep quality, and significant reductions in both immediate and ongoing anxiety. According to one review-cited study, those who practiced yoga had reduced heart rates and blood pressure during labor, therefore implying a reduced stress reaction. These cognitive and physical benefits show the promise of prenatal yoga as a safe and simple way to improve maternal mental health [2]. The focused treatment choices for anxiety during pregnancy, cognitive behavioral therapy has also been carefully investigated. A meta-analysis of six controlled trials done in 2023 revealed that CBT, whether delivered face-to-face or remotely, successfully reduced anxiety symptoms in comparison to groups on waiting lists or those getting conventional treatment. The ordered nature of the therapy helped patients to change negative beliefs connected with pregnancy and childbirth, improve their coping mechanisms, and feel more in command. Notably, these studies showed high levels of participant satisfaction and compliance, highlighting the suitability and practicality of CBT for pregnant women [7].

At last, other therapies such music therapy and aromatherapy have demonstrated hopeful but inconsistent results. According to a 2020 clinical experiment looking at lavender essential oil inhalation, pregnant women in labor experienced moderate declines in situational anxiety; nevertheless, the effect on continuous prenatal anxiety was less clear [8]. Similarly, a 2022 study centered on music therapy found improvements in mood and decreased anxiety levels among women who listened to calm music regularly in their third trimester. Even if these treatments offer appealing, non-invasive alternatives, more thorough study is needed to develop standardized procedures and confirm their long-run efficacy [9].

Given the drawbacks of pharmacological treatments, non-drug approaches have become increasingly appreciated as extra or alternative means of treating anxiety in women who are pregnant or have just given birth. Without depending on drugs, these interventions aim to relieve mental strain thereby eliminating the possible risks associated with exposing the unborn child or newborn to medications.

The increasing prevalence of anxiety in pregnancy is becoming a major problem worldwide since it might negatively impact the baby's health as well as that of the mother. Women who are pregnant and suffer from severe anxiety are more likely to have difficulties including low birth weight, premature delivery, and postpartum depression. Therefore, dealing with anxiety during pregnancy is absolutely necessary element of prenatal care. Though medicine is sometimes given for anxiety, it might not always be the ideal option for pregnant women because of probable side effects and consequences for fetal development. As a result, interest in researching substitute, non-drug approaches that are both safe and effective grows.

Approaches free of medicine including mindfulness practices, cognitive-behavioral therapy, yoga, music therapy, and relaxation techniques have shown promise in easing anxiety for expecting moms. Usually safe, these approaches can be customized to meet various situations and surroundings. Still, even with growing evidence of their efficacy, the current studies are frequently chaotic, lack thorough analysis, and exhibit major variances in research methodologies and outcomes [10].

Given this situation, it is imperative for researchers to carefully gather, evaluate, and analyze the existing literature on non-drug treatments so as to have a comprehensive knowledge of their possible benefits. Doing a literature review is a first step toward developing evidence-based standards and improving clinical practice. Therefore, this background highlights the need of systematically assessing non-drug treatments aimed at lowering anxiety in expectant women.

## 2. Method

This study is a Systematic Literature Review (SLR) prepared in accordance with PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analyses) guidelines. The purpose of this review is to identify, evaluate and synthesize available scientific evidence related to the effectiveness of non-pharmacological therapies in reducing anxiety in pregnant women and maternity women.

### 2.1 Inclusion Criteria

- Original research article (quantitative or mixed)
- Study subjects were pregnant women or laboring women
- Using non-pharmacological therapeutic interventions
- Mentioned quantitative anxiety measurement methods
- Peer-reviewed articles published between 2020-2024

### 2.2 Exclusion Criteria

- Studies with animal subjects
- Purely qualitative studies
- Articles in the form of editorials, commentaries, or non-systematic reviews

- Articles not available in full-text version

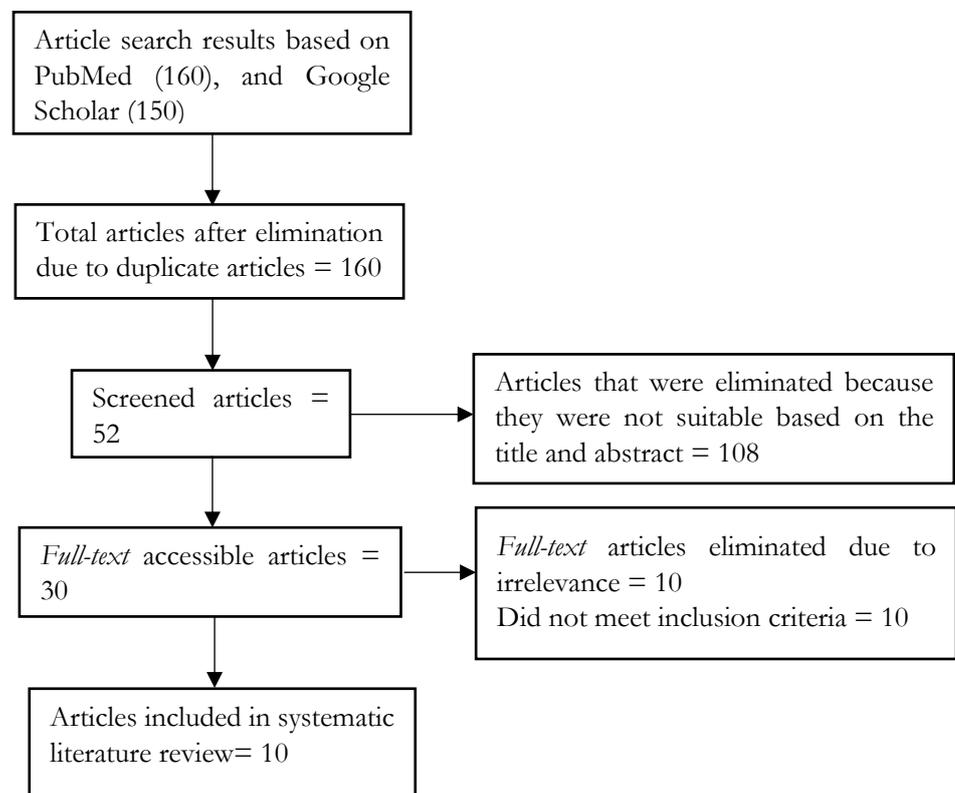
### 2.3 The reference search was conducted using the PICO approach, which is detailed as follows

**Table 1.** reference search was conducted using the PICO approach

(Patient, Population, Problem)	Pregnant and laboring mothers who experience anxiety
(Intervention)	Non-pharmacological therapy (e.g. relaxation, aromatherapy, yoga, hypnobirthing, therapeutic music, etc.)
(Comparison)	No therapy or conventional therapy
(Outcome)	Reduction in psychometrically measured anxiety levels e.g. HARS, STAI, DSS-21, etc.

Article searches were conducted in two databases namely: PubMed, Google Scholar. The keywords used in the search were organized using Boolean operators (AND, OR) and matched with Medical Subject Headings (MeSH) for PubMed. Example search strategy: (“pregnancy” OR “pregnant women” OR “labor” OR “childbirth”) AND (“non-pharmacological therapy” OR “relaxation therapy” OR “music therapy” OR “aromatherapy” OR “hypnobirthing” OR “yoga”) AND (“anxiety” OR “maternal anxiety” OR “pregnancy anxiety” OR “labor anxiety”). The search was conducted for publications within the last 5 years (2020-2024), using English and Indonesia languages.

### 2.4 Below is overview of article selection using the PRISMA flowchart:



**Figure 1.** PRISMA flowchart

### 3. Result and Discussion

From the results of the search of 310 articles in the literature review, there were 10 scientific articles that met the inclusion criteria and were analyzed further. All of these articles discussed the application of non-pharmacological interventions in efforts to reduce anxiety levels in pregnant women and women in labor. The most commonly used therapies in these articles include: mindfulness-based stress reduction (MBSR), prenatal yoga, music therapy, aromatherapy, breathing relaxation, and cognitive behavioral therapy (CBT). From all the articles analyzed, it was found that:

- Mindfulness and prenatal yoga showed a significant decrease in anxiety scores based on HARS and STAI scale measurements. These interventions were generally carried out regularly for 6-8 weeks and had a positive impact on emotional regulation, sleep quality, and psychological well-being in mothers [11].
- CBT, whether conducted in personal or online, has been shown to help pregnant women manage negative thoughts and develop more adaptive coping mechanisms. A reduction in anxiety was evident in the intervention group compared to the control group in almost all studies [12].
- Music therapy using instrumental or classical music regularly during the final trimester of pregnancy can improve mood and reduce emotional stress. However, the long-term effects have not been consistent across all studies [13].
- Aromatherapy, particularly using lavender and citrus, has shown varying effects. Some studies have noted a reduction in situational anxiety, especially when facing childbirth, although the results for chronic anxiety during pregnancy are still limited [14].
- Several studies have also shown that relaxation exercises and deep breathing techniques consistently reduce mild to moderate anxiety and increase feelings of calmness in respondents [15].

Overall, all non-pharmacological approaches analyzed have great potential as safe and effective interventions for reducing anxiety during pregnancy and childbirth. However, most studies still have limitations in terms of sample size, duration of intervention, and diversity of anxiety measurement methods used. Therefore, further research with stronger designs and standardized methods is needed to ensure that the results can be widely applied in clinical practice.

Supporting maternal mental well-being and guaranteeing good outcomes during pregnancy depends on the significant contribution of healthcare professionals in reducing anxiety in expectant women. Frequently acting as the first contacts for expectant mothers, healthcare providers like midwives, obstetricians, nurses, and mental health experts are essential early detection, assessment, and management of anxiety symptoms. Healthcare professionals can spot anxiety signs that would otherwise go unnoticed by means of consistent screenings and empathy in their encounters. They can provide anxiety education, validate women's experiences, and recommend evidence-based non-medication treatments or refer them to appropriate programs like counseling or mindfulness practices.

Moreover, healthcare providers encourage the inclusion of mental health treatments in regular prenatal and postpartum care, therefore promoting thorough plans combining emotional health with physical well-being. Still, there are several challenges. Insufficient resources and training for healthcare professionals to confidently address mental health problems throughout pregnancy presents a major obstacle. Many practitioners believe they are not ready to provide mental health support, therefore missed diagnoses and insufficient anxiety therapy may arise from this. Further aggravating successful support are restrictions on

time during routine consultations and limited accessibility of specialized mental health services, especially in under-resourced areas.

Furthermore preventing women from exposing their anxiety symptoms, the stigma connected with mental health problems makes it more difficult for healthcare professionals to offer prompt treatment. Families should also be involved in helping to reduce mother's anxiety. Emotional support, encouragement, and actual assistance from family members can help to lessen the effects of worry. Encouragement from loving spouses, parents, and family members helps the mother's sense of self-confidence and security to be improved. Participating families in therapeutic sessions or educational projects can help to clarify anxiety and promote group coping mechanisms. Families might also require advice, though, on how best to support expectant women, especially when cultural or generational disparities define their perspective on mental health. Only when such all-encompassing approaches are used may anxiety in expectant mothers be successfully treated, therefore enhancing results for both moms and their newborns. Combating stigma, involving families as active players in maternal healthcare, and coordinating efforts that empower healthcare professionals will help to address these problems.

#### 4. Conclusion

Non-drug therapies are absolutely vital in assisting expecting mothers in controlling anxiety; they offer safe, effective, and easily accessible alternatives to medication during a very important period in a woman's life. Pregnancy causes major changes physically, hormonally, and emotionally. While these changes are usually expected and natural, they can also cause greater anxiety, especially for first-time parents or those without enough social support. Experiencing anxiety during pregnancy can be upsetting for the mother and has been linked with a number of negative consequences for both maternal and fetal well-being. High levels of anxiety increase the likelihood of preterm birth, low birth weight, disturbed sleep, and problems during delivery. It could also cause postpartum depression and obstruct the first bonding experience between mother and child. Although drugs like anti-anxiety medicines and antidepressants can help to control anxiety, using them during pregnancy has several risks.

Many expectant mothers obviously over the potential effects of medications on their developing baby, including the risk of congenital disabilities, withdrawal symptoms in newborns, and long-term developmental difficulties. Many times, these concerns drive women to abstain from or stop their medicine use even if their anxiety is severe. Non-drug treatments offer here a useful substitute that tackles mental health problems without endangering the baby's exposure to possibly drug-related damage. Techniques like mindfulness, prenatal yoga, cognitive-behavioral therapy, and relaxation exercises have proven very effective in reducing anxiety symptoms among pregnant women. Generally inexpensive, non-invasive, and well-accepted, these techniques can be adapted to meet unique tastes and cultural backgrounds. Apart from reducing anxiety, they frequently result in better physical health, better sleep patterns, greater self-confidence, and improved emotional strength of which are essential for a healthy pregnancy and delivery. These treatments empower women by providing them with tools for independently controlling their mental health, therefore fostering greater control and confidence.

Moreover, the integration of non-drug approaches matches a whole approach to prenatal care that gives physical, emotional, and psychological health top priority. By including these techniques in regular maternal healthcare, not only are mother better off but also their children develop healthily. Enhanced access to and knowledge of non-drug substitutes becomes crucial as awareness of maternal mental health grows as part of full prenatal care.

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