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THE EFFECT OF MUSIC THERAPY IN PREGNANCY- A REVIEW ARTICLE

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ABSTRACT
The natural process of pregnancy is characterized by profound changes in both the body and the mind. These alterations may raise the risk of complications like pre-eclampsia by causing pain, discomfort, anxiety, or stress. The idea of *'Supraja Janan*,' which entails getting ready for pregnancy with exercises like *Garbhasanskara*, is emphasized by Ayurveda. Music therapy is a component of *Garbhasanskara*, a method that supports the development of the mother's and the unborn child's minds throughout pregnancy. Around the world, music therapy has emerged as a crucial non-pharmacological strategy for treating pregnant women's emotional and physical difficulties. It promotes brain development and increases the IQ of the fetus. This review article examines the impact of music therapy during pregnancy, analyzing 20 studies. Findings suggest that music therapy effectively reduces anxiety, regulates the endocrine system, and lowers stress hormone levels. It also promotes a positive attitude toward pregnancy, childbirth, and parenting, while addressing emotional and psychological issues.

KEYWORDS: Pregnancy, Physical and Mental Health, Music Therapy.

INTRODUCTION
From conception to labor, the fetus grows and develops inside the womb during pregnancy, which is a physiological and natural process. It is among the most important times in a woman's life. Every expectant mother needs extra attention to ensure a healthy pregnancy and the delivery of a child who is both physically and mentally healthy. Pregnant women undergo certain physical and psychological changes during their pregnancy.[1] Pregnancy issues similar to pre-eclampsia may be linked to the changes that take place during pregnancy, which may result in pain, discomfort, anxiety, or stress. Ayurveda decribes a theory as "*Suprajajanan*."[2] It entails the couple's pregnancy planning preparation. explains prenatal care as well, which may be accomplished via consistent practice. *Garbhasanskara*. In Ayurveda, *Garbhasanskara* is an indian traditional technique. *Garbhasanskara* is a procedure of training the infant as well as mother's mentality during pregnancy.[3] One of the most crucial components of *Garbhasanskara* is music therapy. Pregnant women and Garbha are affected by music in several ways. It lessens the changes that occur during pregnancy, both physically and mentally. It helps fetuses and pregnant women in their social, intellectual, and emotional domains.

AIM: To research how music therapy affects in pregnant mothers.

OBJECTIVE
1. To study the effect of music therapy in pregnant women.
2. To study the effect of music therapy in unborn child.

METHODOLOGY
Data was collected by searching the literature in the form of articles and scientific journals on databases like Google Scholar and PubMed. Keywords used in searching the literature are Pregnancy, Music therapy, *Garbhasanskara*. Total 20 articles were studied.

OBSERVATION
The study emphasizes the benefits of music therapy for pregnant women, highlighting how it can lower stress, anxiety, and depression while enhancing the wellbeing of the mother. Various forms of music, including Indian classical, instrumental, and lullabies, were found to improve emotional regulation, enhance maternal-infant bonding, and aid fetal development by stimulating auditory and cognitive functions. Physiological benefits include lowered blood pressure, increased β-endorphin levels, and reduced cortisol. Specific interventions, like

Mozart's compositions, were linked to improved spatial and cognitive abilities in the fetus. Overall, music therapy demonstrated holistic benefits by supporting physical, emotional, and neurological development for both mother and child.

RESULT

After reviewing these 20 articles on effects of music therapy in pregnancy and, unborn child, data collected is analyzed and presented below in the form of table which gives the summary of the study.

Sr. No	Title	Author name	Result
1	*Garbhasanskara*: boon for pregnant woman[4]	Dr. Shanti chauhan	1. *Garbhasanskara* is a process of nurturing the fetus and training the mother's and the child's minds during pregnancy. 2. Music acts on Akasha *mahabuta* and *pancha kosha* and purifies it to bring pregnant women's minds joy through music, which in turn influences the body's mind.
2	Effects of music therapy on depression, anxiety, mental illness[5]	Mayank Shah	According to a small number of studies, music therapy can help manage stress, anxiety, depression, and negative thinking while also lowering psychological stress during pregnancy.
3	Music as a complimentary therapy during pregnancy.[6]	Sambul zehra Dinesh Sharma	Use music to help with parturition, anxiety, stress, mood swings, and relaxation and pain management. It can also help with the child's growth and development. Impact of music on fetus observed after 18 weeks of pregnancy because at this age hearing sense developed well. Pop hip hop music increased the heart rate of fetus 5 to 27 BPM it depends on the nature of fetus. 8-to-9-week fetus also realised the rhythm of music. -Mostly fetus shows bicycling movement during therapy, which is very important in helping to turn the baby upside down for a normal delivery. The mother voice & reaction is one of the most important sensual stimuli for the fetus.
4	Impact of music therapy and the influence of indian classical music on the extracellular status of endocrine markers in pregnant women - a review[7]	A. R. Srinivasan Bhuvaneshwari Ramesh	Intense & pleasurable music stimulate brain areas of the mid brain, ventrial Striatum, anterior cingulate cortices, amygdala and autonomous nerous system. Music Showed a marked reduction in both Cortisol levels & disturbed moods. Processing in the neural networks with music quite intriguing & involves a network of subcortical & cortical areas of the brain expanding to cognitive, auditory, emotional & motor. A study based on listening to the ragas, namely *malkauns* & *yaman* through instrumental music (flute) & mothers of premature babies resulted in a significant reduction of stress & overall improvement was observed. Listening to calm, relaxing & Indial classical music with multiple emotional raga or modes produces changes in the body that relieve anxiety, brings about relaxation & sleep in pregnant women.
5.	Music therapy and music selection --- a case study of music intervention during pregnancy[8]	Yifan Zhang	The long-term music intervention helps to relieve the tense and anxiety of pregnant women & avoid the prenatal and postnatal depression, hence have a positive effect on the fetus. The fetus after 16 weeks pregnancy they start to have hearing ability. From this stage starting to carry out fetal music education also can stimulate the fetal hearing organs, and then stimulate brain development. Music coordination has a favorable analgesic effect on pregnant women.it stimulate the central nerve hearing system of pregnant women and increase the concentration of enkephalin, so as to suppress pain. In order to calm their anxious moods in the early stages of pregnancy, pregnant women prefer music with a mellow melody and a steady pace. The growth and development of the fetal motor nerves can be stimulated during the middle and late stages of pregnancy by adding music that has a feeling of rhythm. One of the most well-known pieces of fetal education music in the

			world is Mozart's Sonata for two pianos in D major. The development of the middle-late fetus's cognitive abilities and spatial thinking structure will be supported by a dynamic rhythm and orderly structure. sound pressure of peaceful and gentle music with a frequency between 5 and 1500 Hz.
6	Effectiveness of lavender aromatherapy and classical music therapy in lowering blood pressure in pregnant women with hypertension[9]	Sri Maisi	Music is utilized for relaxation which is gentle, instrumental music, meditative music, and calming and pleasant music. Heard musical Information from the center located on the surface of the brain will be transferred to the emotional center of the limbic system, thus it will lead to tranquility and relaxation. Deep and prolonged breathing, a slowed heartbeat, and lowered blood pressure are all effects of calm on the body's physiology. By reducing the amount of stress, anxiety, and despair that expectant mothers typically suffer, music can help pregnant women's psychological well-being.
7	The effect of music therapy for pregnant women: a literature review[10]	Aisyah Triana Sri Hardjanti	The use of relaxing music and instrumental types, such as guitars, violins, flutes, and piano, for 20–40 minutes over two weeks can help pregnant women relax and reduce anxiety, depression, blood pressure, and psychological stress. This can also improve labor and lower the rate of labor with caesarian surgery. It decreases blood pressure, reduces serum Ang II, reduces unpleasant feelings, and enhances quality.
8	Effectiveness of music therapy on anxiety and β-endorphin levels in primigravida during the third stage of pregnancy[11]	Surya Dayyana	Music therapy is effective in reducing anxiety levels and increasing β-endorphin levels can improve mood.
9	Music interventions to reduce stress and anxiety in pregnancy: a systematic review and meta-analysis[12]	Kyrsten Corbijn van Willenswaard	Reduce stress and anxiety in pregnant women
10	Interventions among pregnant women in the field of music therapy: a systematic review[13]	Bruna Mayumi Omori Shimada	Increase in positive emotions and a decrease in negative emotions. Music stimulates action and emotional expression in and prompts them to control states of physical and psychological homeostasis, having effects on physiology, behavior, cognition, emotions, and social interaction.
11	How music may support perinatal mental health: an overview[14]	Katie Rose M. Sanflippo	Listening the music during pregnancy was reduced symptoms of postnatal depression in the first 3 months post-birth.
12	Perinatal music therapy and antenatal music classes: principles, mechanisms, and benefits[15]	Wolfgang Mastnak	The Mozart effect stimulates creativity and cognitive abilities, sound stimulation improves brain maturation, music improves the intelligence of the fetus, and listening to lullabies while pregnant improves postpartum sleeping patterns.
13	Music during pregnancy[16]	B. Arabin	Sound stimulations recalling intrauterine noise serve as a reinforcer during sucking and can lull the newborn to sleep.
14	Music therapy improves pregnancy-induced hypertension treatment efficacy[17]	Shuli Cao	Music therapy is an effective in the treatment of PIH, as it lowered blood pressure, reduced serum Ang II, alleviated negative emotions, and improved quality of life.
15	Effectiveness of music therapy on anxiety among antenatal mothers with pregnancy-induced hypertension[18]	Dr. Shatrughan Pareek	Anxiety was significantly reduced during the 3-day period after musical intervention also PIH
16	Music therapy and mental health in pregnancy[19]	Roberta Perkovic	In addition to improving hemispheric integration and stimulating the right hemisphere during development, music also boosts memory and fosters the growth of a more comprehensive and imaginative approach to problem-solving.
17	Music as a health resource in	Pui Sze	Music can promote maternal health, infant development, and

	pregnancy: a cross-sectional survey study of women and partners in ireland[20]	Cheung	parent-infant bonding.
18	Music therapy, garbh and healthy neurological development[21]	Dr. Durgesh Kumar Upadhyay	In therapeutic relationships, music is utilized to address cognitive, emotional, and physical issues. Sound pitches are used in Tridosha to improve health.
19	The effects of a music and singing intervention during pregnancy on maternal well-being and mother–infant bonding: a randomised, controlled study.[22]	Verena Wulff	It showed positive effects on the emotional state, stress (cortisol) and bonding (oxytocin).
20	Maternal singing of lullabies during pregnancy and after birth: effects on mother–infant bonding and on newborns' behaviour. Concurrent cohort study[23]	Giuseppina Persico	Lullaby singing by mothers may strengthen the bond between them and their children. Additionally, it might improve mother stress and newborn behavior.

DISCUSSION

Non-pharmacological therapies, including complementary approaches like music therapy, are gaining popularity as safe and cost-effective alternatives with minimal side effects. Music therapy encompasses various forms, such as classical music, folk music, symphonies, lullabies, and even personalized soft songs preferred by the patient. Regular listening or singing of music during pregnancy yields numerous benefits for the mother, fetus, and maternal-infant bonding.

Music therapy effectively reduces anxiety by promoting relaxation, which stimulates the release of β-endorphins, hormones associated with enhanced mood and happiness. This also reduces cortisol levels and increases oxytocin, leading to improved sleep quality, reduced stress, and prevention of pregnancy-induced hypertension (PIH). Musical stimulation activates the brain's limbic system, influencing nerve function and hormonal activity. It also suppresses the production of catecholamines (stress hormones) by modulating anterior pituitary function, further alleviating stress and pain.

For the fetus, music therapy aids brain maturation, enhances auditory and cognitive development, and improves spatial learning and memory postnatally. The "Mozart effect" is particularly noted for fostering creativity and cognitive skills. Exposure to soothing sounds, including lullabies, strengthens postnatal attachment and reduces neonatal issues like crying episodes, infantile colic, and sleep disturbances.

All things considered, music therapy is a useful instrument for preventative and health promotion. It promotes individual and societal well-being, regulates maternal blood pressure and fetal heart rate, and strengthens the relationship between the mother and fetus. In addition to creating a more tranquil prenatal environment, singing lullabies during pregnancy helps the unborn child's neurological and emotional development.

CONCLUSION

The findings of this study demonstrate that music therapy during the prenatal period offers significant benefits for both the pregnant woman and the fetus. As a safe, non-pharmacological, and cost-effective approach, music therapy effectively alleviates pregnancy-induced symptoms, addressing both physical and psychological changes commonly experienced during this period. Additionally, it promotes fetal well-being and development, making it a valuable complementary therapy for expectant mothers seeking holistic care.

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