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MUSIC THERAPHY DURING PREGNANCY

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ABSTRACT

We often take refuge in our favourite music to de-stress and relax. Good music seems to heal, soothe emotions and help in the mood regulation. But, have you ever thought about what impact listening to music during pregnancy can have on the growing baby? Scientists have been working to understand how music can affect a developing foetus but have yet to reach a definite conclusion. However, music therapy can be one of the great relaxation techniques and brighten pregnant women up, and she never know her baby inside may be enjoying it too. This article will talk more about the effects music may have on the baby growing in mother's womb.

INTRODUCTION

ANXIETY IN PREGNANACY

Anxiety is prevalent during pregnancy, with rates ranging from 18.2% in early pregnancy to 24.6% in late pregnancy. The highest levels of anxiety are observed during late pregnancy (<u>1</u>). As a result of the alterations in physical characteristics and hormonal levels that occur during pregnancy, women are susceptible to experiencing anxiety, which tends to escalate as the pregnancy progresses (<u>2</u>). Factors such as the lack of clarity over the baby's health, repeated stays in the hospital, multiple medical examinations and treatments, and a perceived decrease in independence can all contribute to heightened levels of anxiety (<u>4</u>). Research has demonstrated that prenatal stress and maternal psychological problems have a detrimental effect on the growth and development of the foetus, leading to unfavourable outcomes during pregnancy, childbirth, and obstetric procedures (<u>5</u>).

PREGNANCY AND MUSIC

Music is utilized in various domains. Listening to music is a cost-effective and natural practice that actively contributes to mental, emotional, and spiritual recovery. Currently, musical interventions are extensively employed in healthcare. Research has demonstrated that receptive music therapy in a serene and soothing setting has led to a reduction in blood pressure and heart rate values among pregnant women (<u>10</u>).

Pregnant women often experience anxiety during labour due to the pain and worry associated with childbirth. This anxiety can result in overall exhaustion, which further intensifies the pain experienced during labour and consequently diminishes the ability to manage the labour process.

Music enhances the physical, emotional, and spiritual well-being of pregnant women and serves as a readily available, affordable, organic, non-intrusive, and non-pharmacological intervention. Evidence

suggests interventions throughout the prenatal period can help avoid postpartum depression ($\underline{8}$). Music interventions have consistently shown positive effects on mental health and birth weight outcomes, specifically in reducing maternal stress, anxiety, and depression, as well as improving birth weight. These interventions have also been found to result in sustained improvements in maternal physiological indicators during pregnancy and shorter delivery times ($\underline{9}$).

When a pregnant woman experiences a state of relaxation during labour and delivery, it helps to decrease her anxiety levels and promotes the hormonal processes that are responsible for starting and sustaining labour. Adrenaline, which is released when anxiety is triggered, is a primary suppressor of natural oxytocin and aids in the normal progression of labour and childbirth (<u>15</u>).

Music increases the unborn child's intelligence, sound stimulation enhances the brain's maturation, the Mozart effect boosts creativity and cognitive skills, and in utero listening to lullabies improves postnatal sleeping habits. This sounds good, is highly promising, triggers expectations, and opens new markets: the commercialized birth of antenatal music classes and prenatal music education. In fact, there is high evidence that music exerts a positive influence on the foetal development. However, music should not be considered a sort of "aesthetic panacea." Even though many musical effects on the developing human psychophysiological system are stunning, we have to be careful not to overestimate the power of music and not to ignore underlying mechanisms.

Nonetheless, the more we discover how sound, rhythm, neural maturation, neuroplasticity, epigenetic processes, cognitive development, and so forth are interrelated, the more "music in antenatal care" gains in medical and educational importance. In obstetrics, midwifery, pre- and perinatal education, and developmental psychology, music has become a topic of concern. In many cases, however, interdisciplinary research and antenatal music application go separate ways. Bridging this gap could help to optimize the benefits of antenatal music activities, to control possible sound-associated risks, and to create scientifically reliable standards for best practice. This article intends to contribute to a scientific basis of this promising movement and suggests a multidimensional framework for antenatal music classes.

EFFECT OF MUSIC HAVE ON BABIES IN THE WOMB

It is proven that music has a role in brain development before birth. Listening to music during pregnancy will not only have a soothing and uplifting effect on the pregnant woman, but also a positive influence on the unborn baby. Around 16–18 weeks of pregnancy, the little one hears its very first sound. By 24 weeks, the little ears start to develop rapidly and babies have been shown to turn their heads in response to voices and noise in the last few months of pregnancy, an unborn baby can recognize her mother's voice, her native language, word patterns and rhymes.

Types of music should a pregnant mother listen to

In the third trimester, the baby will be definitely able to hear the music you play. Classical music, gentle sounds like lullabies, nice melodies that inspire happiness all are designed to be soothing.

THE BENEFITS OF LISTENING TO MUSIC DURING PREGNACY

• Anxiety Reduction:

Studies show that music therapy can significantly reduce anxiety levels in pregnant women, both during pregnancy and during labour. Music therapeutic reduction of maternal distress, anxiety, and depression as well as music-associated control of related dispositional risk factors concern antenatal care. <u>Vivette Glover (2015)</u>, one of the outstanding experts on prenatal stress, highlights that many prospective studies have shown that if a mother is depressed, anxious, or stressed while pregnant, this increases the risk of her child having a wide range of adverse outcomes including emotional problems, symptoms of attention deficit disorder, or impaired cognitive development. Glover mentions that

genetic conditions and postnatal care clearly affect these outcomes but lays stress on prenatal causal components.

In music-induced prenatal stress reduction, these also include prenatal bonding (<u>Carolan et al.</u>, <u>2012a</u>, <u>2012b</u>). During the third trimester of pregnancy, music and relaxation proved to have significant effects on the reduction of anxiety levels (<u>Liebman & MacLaren</u>, <u>1991</u>).Pre- and perinatal stress, anxiety, and depression have to be seen in a multidisciplinary and etiological context. Music therapy is one of the disciplines that are involved in prenatal health care and has shown positive effects on stress, anxiety, and depression (<u>Chang, Chen, & Huang, 2008</u>). On that account, we suggest individually shaped programs and treatment plans for antenatal music classes.

• Improved Sleep Quality:

Music therapy can help pregnant women improve their sleep quality, which is crucial for overall health and well-being.

• Pain Management:

Music can be an effective tool for managing pain during labour and delivery. Muscle tensions and lower back pain are common pregnancy discomforts. Although they are mostly caused by the woman's rapid weight gain and specific abdominal muscle strain, we also have to take possible psychosomatic stress factors into account. In such cases, progressive muscle relaxation (PMR) therapy proved to be an adequate complementary therapy that is likely to improve the physical and psychological outcomes of pregnancy. <u>Akmeşe and Oran (2014)</u> show that PMR accompanied by music may be an effective therapy for improving pain and quality of life in pregnant women with lower back pain.

Relaxation, muscular control, and pain management play, of course, a crucial role in obstetrics and midwifery. Today, music is widely regarded as an appropriate alternative, complementary, or add-on means to reduce anxiety and pain (Beckett, 2012). Although there is good general evidence for positive effects of music in anaesthesia and analgesia (Matsota et al., 2013), we emphatically suggest classes including active music-body–oriented trainings for relaxation, pain management, and the preparation of birth. The woman's competence to actively control pain sensation and motor processes seems to be more adequate than singular application of music during labour and birth.

• Enhanced Maternal-Foetal Bonding:

Singing to the baby or listening to music together can strengthen the bond between mother and child. Music is often tagged as a perfect tool to strengthen mother-child bonding. A recent study brings the complex aspect of vaginal birth and pain up to consideration. Regarding the fact that unfavourable birth experiences have been shown to negatively impact postpartum maternal health, <u>Simavli et al.</u> (2014) underscore that using music therapy during labour decreased postpartum anxiety and pain, increased the satisfaction with childbirth, and reduced early postpartum depression rate . They say that music therapy can be clinically recommended as an alternative, safe, easy, and enjoyable nonpharmacological method for postpartum well-being. Moreover, music is also an appropriate means to decrease preoperative anxiety in mothers expecting caesarean surgery (<u>Kushnir, Friedman, Ehrenfeld, & Kushnir, 2012; Li & Dong, 2012</u>). In this context, we have to consider anxieties and pain experiences as important factors that interfere with bonding, attitudes toward parenting, and self-efficacy.

From a music therapeutic perspective, such positions match up with <u>Hosseini</u>, <u>Bagheri</u>, and <u>Honarparvaran (2013)</u> who say that music therapy during labour increases tolerance to pain, increase parturition and uterus activity, and shorten labour duration. In a wider context and comparing similar results, we have to take multifaceted consequences of these benefits into consideration. Pain and the experience of helplessness are likely to exert a negative influence on bonding and the mother's

awareness of self-efficacy. Symptoms of self-consciousness and lacking self-efficacy not only decrease the mother's life quality but also may destabilize bonding characteristics and the infant's emotional stability.

Experience of helplessness, intolerance of uncertainty, and poor self-efficacy are potentially detrimental to a mother's quality of life and may exert unfavourable influences on the child's development and behaviour. To control such negative factors and their probable interference with pregnancy, parenting is considered a major benefit of antenatal classes. Although we advocate holistic antenatal programs, even simple activities show convincing results. An antenatal music project in Limerick showed that singing lullabies in pregnancy had a soothing and calming effect and appeared to facilitate the expression of difficult emotions such as fear and anxiety (Carolan, Barry, Gamble, Turner, & Mascareñas, 2012a). These interventions that are easy to implement appeared to have an effect on reducing maternal stress and encouraging infant attachment (Carolan, Barry, Gamble, Turner, & Mascareñas, 2012b).

• Potential for Better Pregnancy Outcomes:

Music therapy may contribute to improved pregnancy outcomes, such as reduced rates of postpartum depression and improved birth weight.

• Non-Pharmacological Approach:

Music therapy is a safe, non-invasive, and non-pharmacological approach to managing pregnancyrelated challenges, which can be particularly beneficial for women who are hesitant to use medication.

EFFECTS OF MUSIC ON UNBORN BABY

- Improves Unborn Baby's Reflexes: When women listening to music while pregnant, their unborn baby will be able to hear the vibrations and will start reacting to the same. Their baby may also try to move in sync with the beats of the vibration and the corresponding audio stimulation. This may improve unborn baby's reflexes and reactions, and also its overall movement.
- Improves Unborn Baby's Auditory Senses: As pregnant women listen to music with headphones, it will significantly enhance their unborn baby's concentration, auditory senses, and skills. Their unborn baby may not be able to understand music at this stage, and what reach babies are most likely the vibrations from sound waves. However, babies will still try to concentrate on sounds, and doing so will better its mental stimulation.
- Act as A Soothing Lullaby After Birth: Many researchers believe that the unborn baby will be able to remember the music and the sounds that women listened to while they were pregnant. If women listen to certain soothing songs and lullabies while they are pregnant, it is highly likely that their baby will remember them even after birth. It means that they can use the same music to soothe their little one after it is born. Their baby will be able to recognize the sounds and it will help to relax and calm their baby instantly. This improves the parent-child bonding. As the hearing perception develops with advancing pregnancy, the foetus responds to even low-level music stimulation. Also, the foetal heart rate rises when the mother listens to fast music and drops in response to slow, calming music (2).
- 4. **Will Shape Baby's Overall Personality:** The type of music women listens to while they are pregnant can have an effect on the baby's overall personality. If they listen to soothing sounds and soft music, their baby could develop a calm personality. On the other hand, if women listen to music that is loud and jarring, it could lead to an aggressive and anxious personality of their baby. However, there are no medical studies or research to back the same as experts are still

working on the same.

Types of Music Therapy Interventions:

• Receptive Music Therapy:

This involves listening to music, which can be calming and relaxing.

• Active Music Therapy:

This involves participating in musical activities, such as singing, playing instruments, or creating music.

• Virtual Reality Experiences:

Some studies have explored the use of virtual reality experiences combined with music to reduce anxiety.

• Classical Music, Lullabies, and Patient-Selected Music:

A variety of music genres can be used, depending on the individual's preferences and needs.

Considerations and Precautions:

• Loud Noise Exposure:

While music can be beneficial, it's important to avoid prolonged exposure to very loud noise, as this could potentially damage the baby's developing hearing.

• Individual Preferences:

The type and style of music that is most beneficial can vary from person to person, so it's important to choose music that is enjoyable and relaxing.

• Consult with Healthcare Providers:

It's always a good idea to discuss music therapy with your healthcare provider to ensure that it is appropriate for your individual needs and circumstances.

COMMON QUESTIONES RELATE TO MUSIC DURING PREGANACY

How Can pregnant women Make Sure That their Unborn Baby Is Listening to Music?

Even though you may play a lot of music while you are pregnant, your unborn baby will not be able to listen to it the same way as you do. If you want to be certain that your baby hears the music from inside the womb, you can play it on your headphones and place the same on your belly.

Don't play the music too loud just to ensure that your unborn baby can hear. Your placenta can carry the rhythms and beats to your baby even if you are playing something on a low volume.

How Much Music Should You Make Your Unborn Baby Listen To?

As with anything you do while you are pregnant, it is not a good idea to overdo the music part as well. If you want to play music in the background throughout the day, you can certainly do so on a loudspeaker at normal volume levels.

If you are planning to listen to music on your headphones or want to place the headphones directly on your abdomen, then make sure you do not do so for more than a couple of hours a day, spaced out in smaller bits and parts. This ensures that your unborn baby relaxes for some time instead of constantly reacting to the rhythms and beats.

Through constant exposure of your unborn baby to loud music, you may unknowingly disturb your baby's natural sleep pattern. It is important for your baby to sleep well while in the womb, as it develops many mental, physical, psychological and other developments in sleep.

Do You Only Have To Listen To Soft Music While You Are Pregnant?

Your musical preference depends largely on your personality and mood and what you are feeling at the moment. So it is not right to say that you should only listen to a particular type of music while you are pregnant.

In addition to listening to soft and soothing sounds and music, you can also listen to your favorite pop numbers. The beats from pop music have a certain rhythm and pattern to them, which your unborn baby will find easy to identify and remember.

Do remember that the way your baby breathes in your womb will also change according to the sounds and the beats that the baby hears. It means that if you are listening to very loud or jarring music, such as hard rock or very loud music, it can have an adverse impact on your unborn baby. It is fine if you are listening to such music for a short time but not for a longer stretch at a time, as the constantly shifting beats and rhythms from such music can actually cause stress to your unborn baby.

Should You Make Your Unborn Baby Listen To Classical Music?

Whether you should make your unborn baby listen to classical music is again a matter of your personal choice. While there is no medical data to support it yet, it is thought that making your unborn baby listen to classical music while still in the womb does have some positive effects. It is said that your baby will be able to appreciate the rhythms and sounds that emanate from classical music, and that the same can also help to soothe your little one after birth. As a result music can be of great help during prenatal classes.

However, the main aim here should be to form an emotional connect with your unborn baby, and not to try and turn your little one into a classical music genius, even before it is actually born.

Will Listening To Music Actually Make Your Unborn Baby Smarter?

The opinion on whether or not listening to music will make your unborn baby smarter is still under a lot of debate. While one camp believes that exposing your baby to music while still in the womb will definitely increase the level of its smartness, the other camp feels that there is no real truth behind that. There is also this widespread belief that if you expose your unborn baby to music while it is still in the womb, it will make your baby smarter in math. There is no medical study to back the claim, and the studies that do exist are all conducted on older children and not unborn babies.

For instance, there are medical studies that show that if you expose your child to piano lessons, it will help to improve the skills of spatial reasoning. However, these studies were also conducted on three and four-year-old kids and not on unborn babies. Carrying forward the same logic, some people do believe that exposing unborn babies to the sounds of a piano can have similar effects on them.

How Do You Know If The Music Is Too Loud?

Exposing your unborn baby to very loud music is said to be risky as it could lead to premature birth and other adverse neonatal outcomes. It can also cause certain other health complications such as low weight at the time of birth, or hearing difficulties or high frequency hearing loss at the time of birth. While it may sound scary, doctors raise an alarm only if you listen to very loud music on a regular basis, or if you are constantly in an environment where there are very loud noises. Exposing your unborn baby to loud noises or music on a few occasions, such as a rare visit to a rock concert, will not have the same effect as prolonged exposure to <u>loud noises during pregnancy</u>.

Here are some of the sound levels that you should keep in mind

- When you are listening to music on your player, make sure the volume is not higher than 65 decibels.
- If you feel you are going to listen to the music for a long duration of time, keep the volume at or below 50 decibels.

When pregnant women sing to their babies or listen to music on loudspeakers during their pregnancy, babies are born with a better ability for neuronal encoding of speech sounds.

CONCLUSION

Worldwide antenatal classes and prenatal music stimulation gain in importance. Ethical standards require high responsibility when dealing with the development of the foetus and a sound stimuluscontrolled enhancement of cortical neuroplasticity. We advocate activities that are based on interdisciplinary scientific research and respect individual experiences. According to the conclusions, daily musical exposure during the last weeks of the pregnancy is associated with an improved encoding of low-frequency sound compounds, which could improve the newborn's perception of the tone. There is a need to focus on the mental health of women during pregnancy as the emotional perception of the mother affects the foetus on an emotional, affective and organic level. Receptive music therapy is an inexpensive, effective and easy to use application. Receptive music therapy is effective in reducing pain during labour and anxiety during prenatal and postnatal periods. The use of receptive music therapy in obstetric care can be an effective tool in preventing anxiety-induced complications. Healthcare professionals can incorporate this musical intervention into the psychosocial care of pregnant women as a complementary and supportive practice.

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