"IMPACT OF MUSIC THERAPY ON PREGNANT WOMEN IN LABOUR"

BY

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In partial fulfilment of requirements for the award of the degree of

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Under the guidance of

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ABBREVIATIONS

S. NO:	ABBREVIATIONS	EXPANSION
1	ACOG	American College of Obstetricians and Gynecologists
2	CRH	corticotropin-releasing hormone
3	COX	cyclooxygenase
4	15-OH-PGDH	15-hydroxyprostaglandin dehydrogenase
5	PGHS-2	prostaglandin H synthase-2
6	CGRP	Calcitonin gene-related peptide
7	SVD	Spontaneous Vaginal Delivery
8	AVD	Assisted Vaginal Delivery
9	NVD	Normal Vaginal Delivery
10	NO	nitric oxide
11	SR	sarcoplasmic reticulum
12	VAS	visual analogue scale
13	SBP	systolic blood pressure
14	DBP	Diastolic blood pressure
15	FHR	fetal heart rate
16	NICU	neonatal intensive care unit
17	CPAP	continuous positive airway pressure
18	HFNC	high-flow nasal cannula
19	PIH	Pregnancy induced hypertension
20	FHR	Fetal heart rate
21	ANOVA	analysis of variance

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ABSTRACT

INTRODUCTION

Labor and child birth includes intense physical, emotional, psychological, social, cultural elements that may be critical to an individual woman's experience of this major life event. Labour pain can induce stress and anxiety in pregnant women which can induce many physiological and psychological body responses in pregnant women like an increase in cardiac output, blood pressure, respiratory rate, oxygen consumption, catecholamine, cortisol, and glucagon level, which can lead to harmful effects on the body. Intervention for pain and discomfort during labor is a major part of modern obstetric care. Music interventions may decrease anxiety and physiological indices related to anxiety. Music heals the soul and also influences immune and endocrine function. It is a non-pharmacological modality that is non-invasive, cost-effective, easily accessible to all social group. So this study was conducted to know the impact of music therapy as a holistic approach to enhance comfort, reduce pain perception, and support emotional well-being during labour.

MATERIALS AND METHODS

This prospective interventional study, conducted from September 2022 to May 2024, examined the effects of music therapy on pregnant women in active labour. The study included 200 participants divided into two groups: an interventional group receiving music therapy and a control group. The interventional group underwent two 20-minute sessions of non-lyrical, instrumental classical (Behagrag) music with a 10-minute gap. The control group received routine obstetric care. Both groups were assessed for pain with Visual analogue scale, clinical parameters, cardiotocography, and serum cortisol levels at baseline, 20 minutes and at 50 minutes. Data was

analysed using JMP-SAS Software. A p-value <0.05 was considered statistically significant.

RESULTS

This study examined the effects of music therapy during labour on 200 pregnant women (100 in each group). Key findings include significantly lower serum cortisol levels in the music group at 50 minutes (23.83 ± 12.31 vs. 36.06 ± 14.15, p<0.00001), and lower pain scores on the Visual Analog Scale at 50 minutes (6.87 ± 0.86 vs. 8.69 ± 0.59, p<0.00001). The music group had significantly lower DBP at 20 minutes (p = 0.043749) and 50 minutes (p = 0.000934). Although not statistically significant, a trend towards better fetal outcomes was also observed in the music group. However, no significant differences were found in various maternal parameters between the groups.

CONCLUSION

In conclusion, this prospective interventional study demonstrates that music therapy during labour may benefit fetal well-being and maternal stress levels. The music group exhibited a significantly reduced pain and anxiety during labour demonstrated by Lower visual analogue scores , lower serum cortisol levels than the control group. These results suggest the potential benefits of music therapy in reducing stress and pain during labour. This study demonstrates significant decrease in diastolic blood pressure levels, Further research is required to determine the effects of music therapy in pre eclampsia patients. These findings suggest that music therapy could be a potential non-pharmacological intervention to promote fetal well-being and reduce maternal stress during labour. Further research with larger sample sizes and targeted interventions is warranted to clarify the relationship between music therapy and various maternal and fetal outcomes during labour.

Keywords

Labour, Music therapy, VAS, Pain

INTRODUCTION

Labor is the natural process of childbirth, marked by the uterus contracting to deliver the baby. Labor pain is a complex phenomenon, influenced by many physiological, psychological, and environmental factors. [1] It's a unique type of pain that arises from the contraction of the uterus, dilation of the cervix, and the pressure on and stretching of the birth canal and perineum during childbirth. This pain is not merely a physical sensation; it also encompasses emotional and psychological dimensions that can affect the woman's perception of pain and her overall childbirth experience.

A significant proportion of primiparas experience severe pain. This activation enhances the body's sensitivity to pain and can accumulate hypoxic metabolites, exacerbating muscle pain and fatigue. Consequently, this physiological response increases the intensity of labor pain. The stress and pain associated with labor can lead to adverse outcomes for both mother and baby, including maternal and fetal hypoxia, the potential failure of a trial of labor, and the risk of maternal emotional disorders like postpartum depression. [2]

Childbirth is undoubtedly a challenging and stressful experience for both the mother and baby. However, effective pain management, emotional support, and comprehensive childbirth preparation can significantly improve health outcomes and reduce risks. It's crucial to prioritize stress management and emotional well-being during pregnancy, which can be achieved through relaxation techniques, anxiety reduction, and childbirth education. These approaches can help alleviate the adverse effects of labor and create a more positive and manageable experience for expectant mothers.

The ACOG emphasizes that maternal requirements, determine the need for labor analgesia. Epidural analgesia is a commonly used method for its rapid action and effective pain relief by blocking nerve conduction. [3] Therefore, there's a persistent need to explore alternative, safe, and effective labor analgesia methods to ensure a more positive and safer childbirth experience.

The World Health Organization recommends several relaxation techniques for women in labor to reduce pain. These include progressive muscle relaxation, breathing regulation, and listening to music. Meditation can also help achieve deep rest and stress reduction. Walking or trying different positions can ease discomfort and facilitate labor progress. Maintaining an upright position is also recommended for better comfort and labor efficiency. These non-pharmacological methods are aimed at enhancing comfort and reducing pain during labor. [1]

Music relaxation during active labor provides a holistic and non-pharmacological method that helps enhance comfort, reduce pain perception, and support emotional well-being. It reduces stress and anxiety, manages pain, facilitates rhythmic breathing, and even aids labor progression by stimulating uterine contractions. Personalized music selections tailored to the mother's preferences can significantly contribute to a more positive and manageable labor experience. This approach highlights the importance of incorporating soothing and familiar auditory elements into the childbirth process for their therapeutic benefits.

NEED FOR STUDY

Labor pain can induce stress and anxiety in pregnant women, which can cause many physiological and psychological body responses, such as an increase in cardiac output, blood pressure, respiratory rate, oxygen consumption, catecholamine, cortisol, and glucagon levels, which can lead to harmful effects on the body. Music interventions may decrease anxiety and physiological indices related to stress. It is a non-pharmacological modality that is non-invasive, cost-effective, and easily accessible to all social groups.

AIMS AND OBJECTIVES OF THE STUDY

To study the effect of music therapy on anxiety and pain in pregnant women in labor

OUTCOME:

PRIMARY OUTCOME:

1. To determine whether music therapy reduces the pain perception of the mother, and decreases the visual analogue scale and serum cortisol level.

2. To determine whether music therapy causes changes in maternal parameters such as blood pressure, pulse rate and fetal outcome.

REVIEW OF LITERATURE

Vaginal delivery is the natural childbirth process, typically requiring minimal medical intervention. Giving birth vaginally is deemed the most secure method for both the mother and infant when the pregnancy reaches its full term, between 37 and 42 weeks. The inclination towards vaginal birth is influenced by the increasing risks of complications and fatalities linked to cesarean sections over the years. [5] As operative and surgical delivery techniques have become more common, the incidence of spontaneous labor has diminished while the frequency of labor inductions has risen.

There are four main types of vaginal deliveries: Spontaneous Vaginal Delivery (SVD), where labor occurs naturally; Assisted Vaginal Delivery (AVD), involving tools like forceps or vacuum extractors; Induced Vaginal Delivery, where labor is medically initiated; and Normal Vaginal Delivery (NVD), a broad term covering all vaginal births, contrasted with cesarean sections. Most births in the United States and Australia are vaginal, with a significant portion being spontaneous.

Effective labor is influenced by 3 key elements: the mother's exertions and uterine contractions, the fetus's features, and the structure of the pelvis. [6] Traditionally, these elements are known as the passenger (fetus), power (uterine contractions), and passage (pelvic anatomy).

To consider it a normal labor, the following criteria should be met: [7]

- Spontaneous delivery of a single, mature fetus,

- The fetus must be presented by vertex,

- The delivery should take place through the birth canal,

- The delivery time should be reasonable, neither less than 3 hours nor more than 18 hours,

- There should be no complications for either the mother or the fetus.

CAUSES OF ONSET OF LABOUR

The cause remains uncertain, but several theories have been proposed.

1. HORMONAL FACTORS

Corticotropin-releasing hormone (CRH)

Its unique role in pregnancy is genuinely captivating. Originating in the hypothalamus and later by the placenta during the second trimester, this hormone is a key player. A fascinating aspect is how maternal cortisol inhibits its precursors, CRH and ACTH, yet stimulates their release within the fetal environment. This creates a positive feedback mechanism, leading to an escalation in HPA axis activation and a surge in cortisol levels as pregnancy progresses.

CRH's role in synthesising estrogens is one of many significant contributions. As labour approaches, CRH primes the body in various ways, such as increasing prostaglandin production, stimulating myometrial contractility, and preparing fetal organ systems for life outside the womb. Its influence even extends to dilating uterine vessels and activating prostaglandin production, crucial to initiating labour. [8]

CRH's responsiveness to inflammatory cytokines underscores the intricate interplay between this hormone and the immune system in childbirth. This hormonal symphony, directed by CRH, underscores its crucial part in ensuring safety of both the mother and the child as they journey through pregnancy toward the pivotal moment of birth.

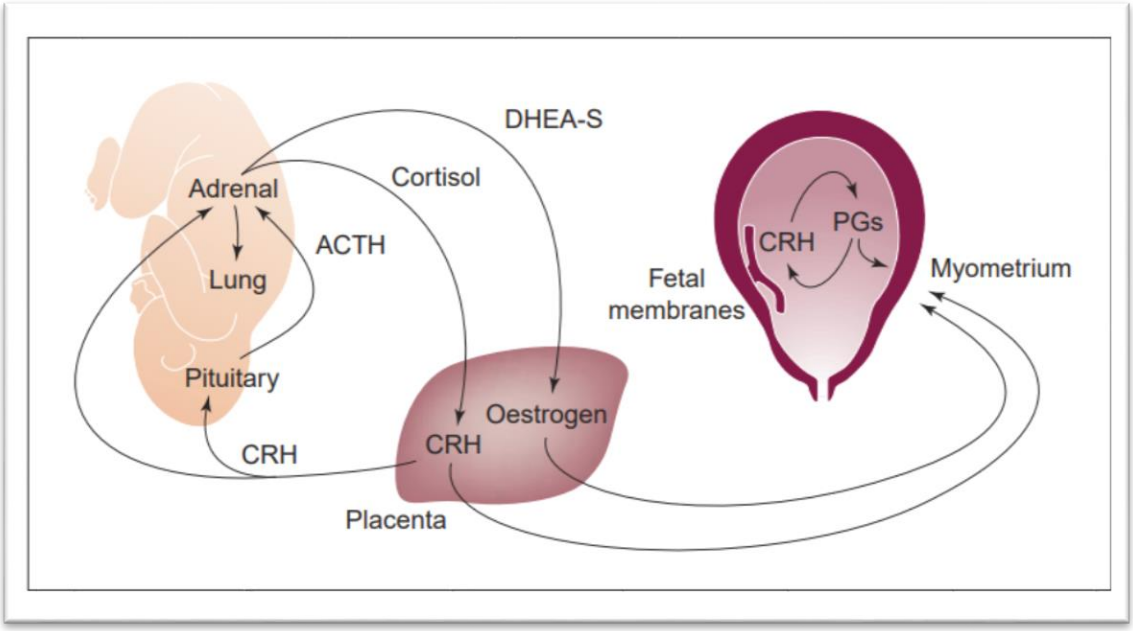


Figure 1 The effects of CRH in pregnancy & labor [9]

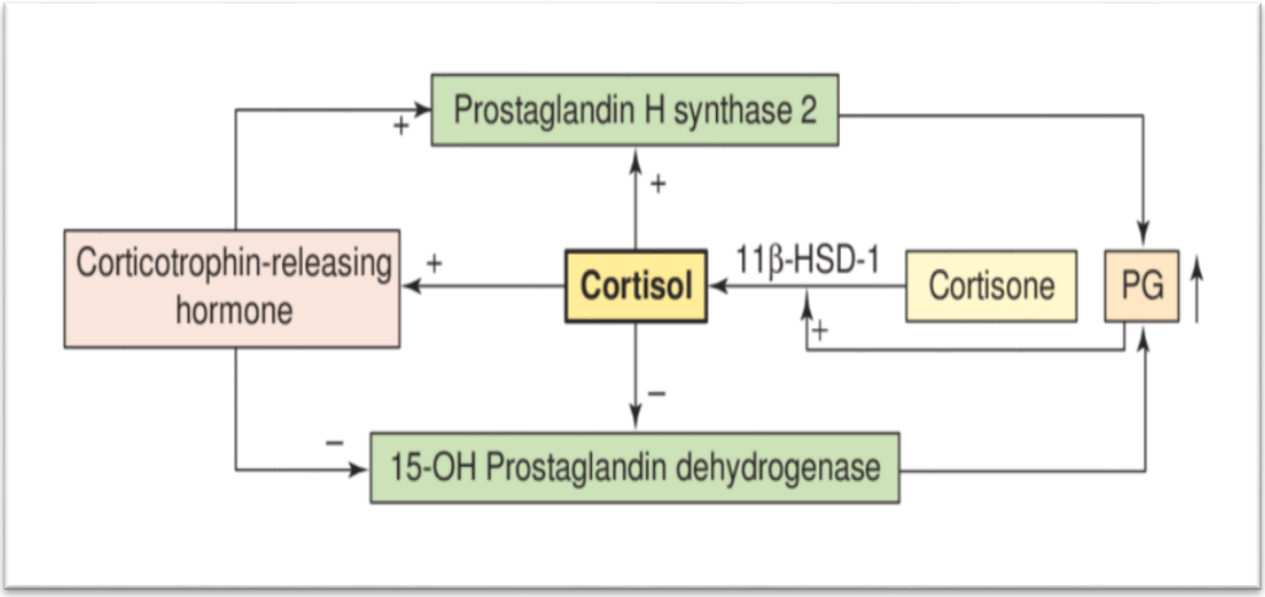


Figure 2 Interactions between Cortisol and prostaglandin (PG) [10] 11β-HSD-1: 11βhydroxysteroid dehydrogenase

ESTROGEN

Placenta is primary source of estrogen, producing increasingly higher hormone levels as pregnancy progresses. This is unlike non-pregnant states, where the ovaries are the primary source of estrogen. The shift is due to the different metabolic pathways involved in estrogen synthesis during gestation. The adrenal gland secretes DHEAS, which is then converted into the fetal liver to form 16-OH-DHEAS. The placenta ultimately transforms this intermediate into estriol, the dominant estrogen in pregnancy.

Other estrogens, such as estradiol and estrone, are mainly produced through the aromatization of maternal androgens. Estriol's synthesis, however, uniquely relies on fetal DHEAS, highlighting the collaborative metabolic interplay. Estriol levels

notably increases during the final weeks in pregnancy, indicating its significance in maternal and fetal physiology.

Estrogens play a crucial role in preparing the uterus for childbirth by inducing changes in the uterus. They increase the production of prostaglandins E2 and F2α and their receptors, elevate oxytocin and α-adrenergic agonist receptors, which affect calcium channels, and boost connexin levels for gap junction formation. These changes collectively facilitate synchronized uterine contractions essential for labor. [11]

Estrogens are also involved in cervical ripening, which is the process of preparing the cervix for delivery. This consists of modifying cervical estrogen receptors and reorganizing cervical components like collagen, elastin, and glycosaminoglycans, including decorin. Despite its critical importance, the exact mechanisms that control cervical ripening remain unclear, highlighting a significant gap in our understanding of labor's hormonal regulation.

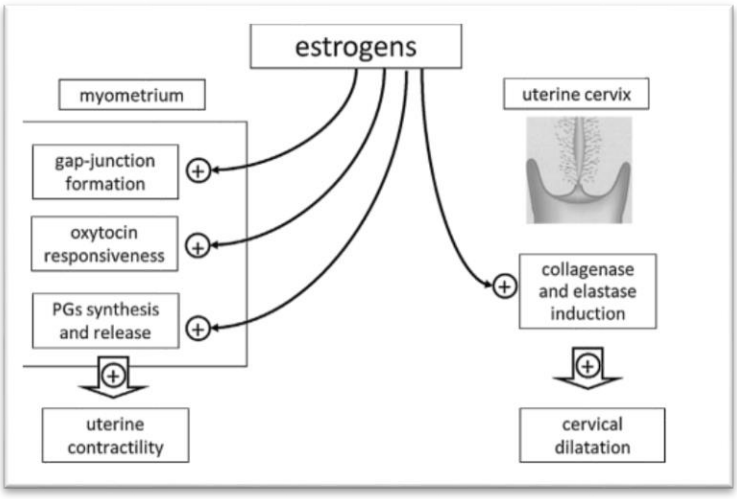


Figure 3 The effects of estrogens on the myometrium and cervix [12]

PROGESTERONE

The relationship between progesterone and estrogen is crucial for pregnancy maintenance and labor initiation. Progesterone, plays vital role for maintaining pregnancy by modulating uterine activity in a delicate balance with estrogen. Unlike many animal species, humans adopt a more subtle approach to initiate labor. Instead of a systemic decrease in progesterone levels, human physiology initiates a functional progesterone withdrawal, a reduction in progesterone activity at uterine receptors. This adaptive mechanism triggers a cascade of events culminating in labor and delivery. This adaptive mechanism highlights the complexity of human reproductive biology, demonstrating how a functional withdrawal of progesterone activity is sufficient to trigger the complex cascade of events culminating in labor and delivery. This adaptive mechanism underscores the sophistication of human reproductive biology and highlights the complexity of the process.

Progesterone is a hormone that is essential for pregnancy since it controls the functioning of the uterus and cervix. The primary function of this system is to inhibit contractions, which are crucial for maintaining a pregnancy till completion. Progesterone suppresses contractions of the myometrium, enhances the generation of nitric oxide, and controls the formation of prostaglandins.

The body undergoes changes in hormone levels, namely in the balance between progesterone and estrogen, in preparation for childbirth. This process entails heightened enzymatic activity inside the fetal membranes of 17,20-hydroxysteroid dehydrogenase. This enzymatic activity shifts towards increasing levels of 17β-estradiol and 20-dihydroprogesterone, facilitating the onset of labor. The reduction in progesterone receptor levels during the last stage of pregnancy also reduces labor

by diminishing the efficacy of progesterone, thus enabling the advancement toward childbirth. The intricate biochemical changes underscore the crucial hormonal interaction required for the shift from pregnancy maintenance to the initiation of labor, underlining the vital function of progesterone in this process.

The fetoplacental unit, consisting of the fetus, placenta, and related membranes, is a crucial system in which cortisol and progesterone have contrasting functions. Cortisol, a steroid hormone renowned for its stress response, notably impacts the body's preparation for labor by regulating the formation of prostaglandins. These prostaglandins are essential for the softening of the cervix and the contractions of the uterus. It increases the production of COX-2 in the amnion and chorion, which causes inflammation and plays a crucial role in starting labor. Cortisol inhibits the activity of g 15-OH-PGDH, an enzyme that breaks down prostaglandins. This inhibition leads to increased amounts of prostaglandins, which in turn helps to stimulate labor.

Conversely, progesterone functions by suppressing the synthesis of prostaglandins and impeding the process of cervical ripening and uterine contractions, thus ensuring the continuation of pregnancy. [14] This activity is crucial for maintaining uterine calmness during the majority of pregnancy. Cortisol and progesterone compete at the molecular level in controlling placental corticotropin-releasing hormone (CRH) gene expression. During labor, the milieu within the fetoplacental unit is progressively influenced by cortisol, primarily via autocrine and paracrine routes that enhance its effects. The intricate interaction between hormones during the period before delivery demonstrates the complicated nature of hormonal control.

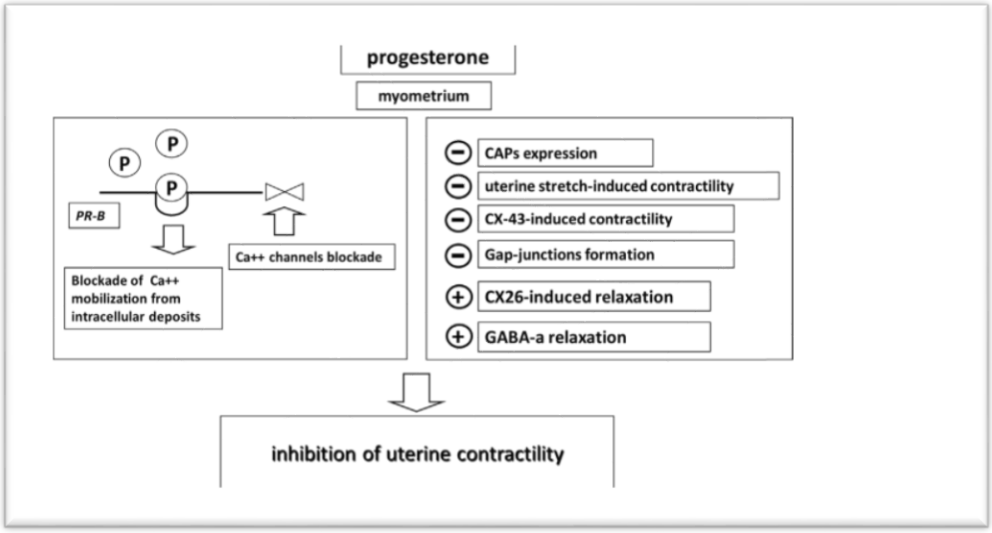


Figure 4: The Effects of Progesterone on Myometrium. [12]

PROSTAGLANDINS

Prostaglandins, the driving force behind the natural labor and birthing process, are vital in inducing uterine contractions and softening the cervix. They are derived from arachidonic acid through the action of enzymes like PGHS-2 and COX-2. The concentration of PGHS-2, an enzyme that can be activated, is significantly increased by cytokines. Conversely, nitric oxide (NO) enhances the activity of COX-2. This underscores the vital link between inflammatory responses and prostaglandin production. Among the prostaglandins, PGF2α and PGE2, each has a unique role in the delivery process. PGE2, originating from the fetoplacental unit, is crucial in cervical ripening. It aids in the breakdown of collagen and the dilation of blood channels in the cervix. The intricate regulation of prostaglandin levels highlights the precise coordination of biological mechanisms that prepare the female body for labor. This regulation is influenced by hormones such as progesterone, estrogens, and interleukins. These lipid compounds play a critical role in reproductive physiology.

Interleukins, a cytokine from white blood cells, boost prostaglandin production, linking the immune system to processes like inflammation and labor. Activating COX-2 enzymes enhances prostaglandin synthesis, crucial for cervical ripening and uterine contractions in childbirth. This demonstrates the immune system's role beyond pathogen defense, influencing vital physiological events. [15]

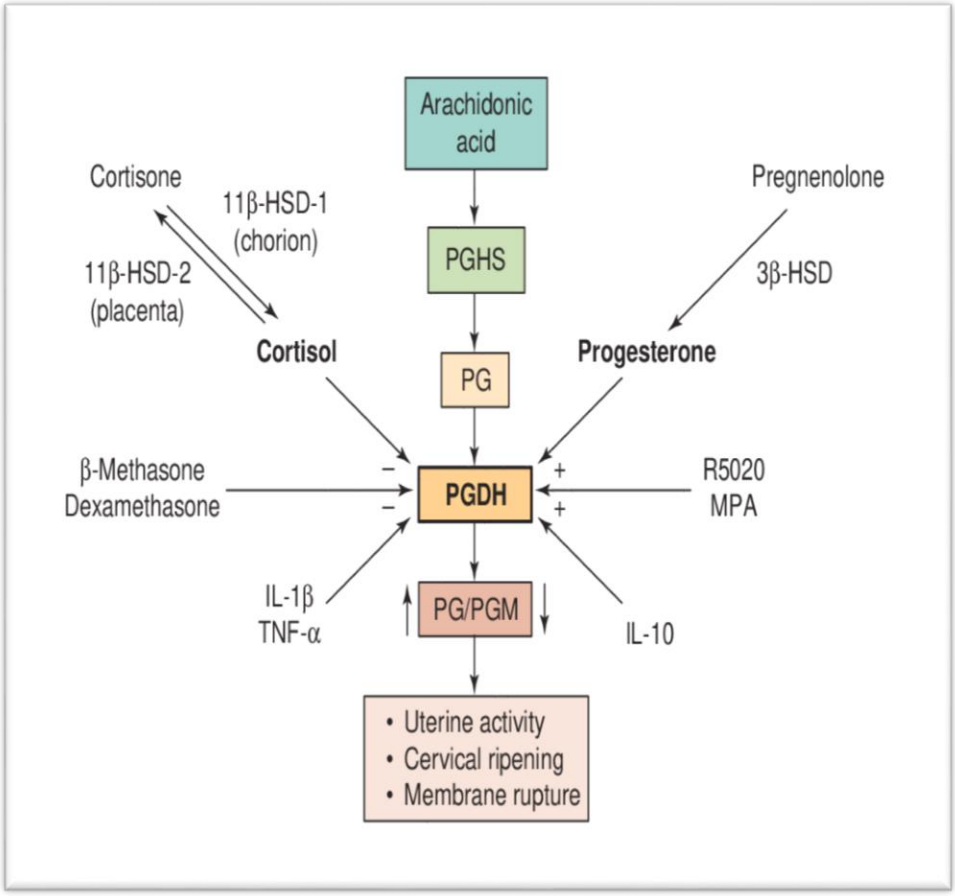


Figure 5: The Effects of Prostaglandins on Myometrium. [10]

OXYTOCIN

It plays a crucial role in parturition. The neurohypophysis releases its pulsatile, and its receptors are enhanced during labor. Oxytocin levels do not rise in the latter stages of pregnancy, but as the pregnancy progresses, there is a higher concentration of

oxytocin receptors in the uterus. Estrogen enhances the expression of oxytocin receptor. It stimulates contractions and increases the generation of prostaglandins, particularly prostaglandin F2 alpha, by the decidua. It is not a necessary contributor to labor, as mice without oxytocin may still give birth properly.

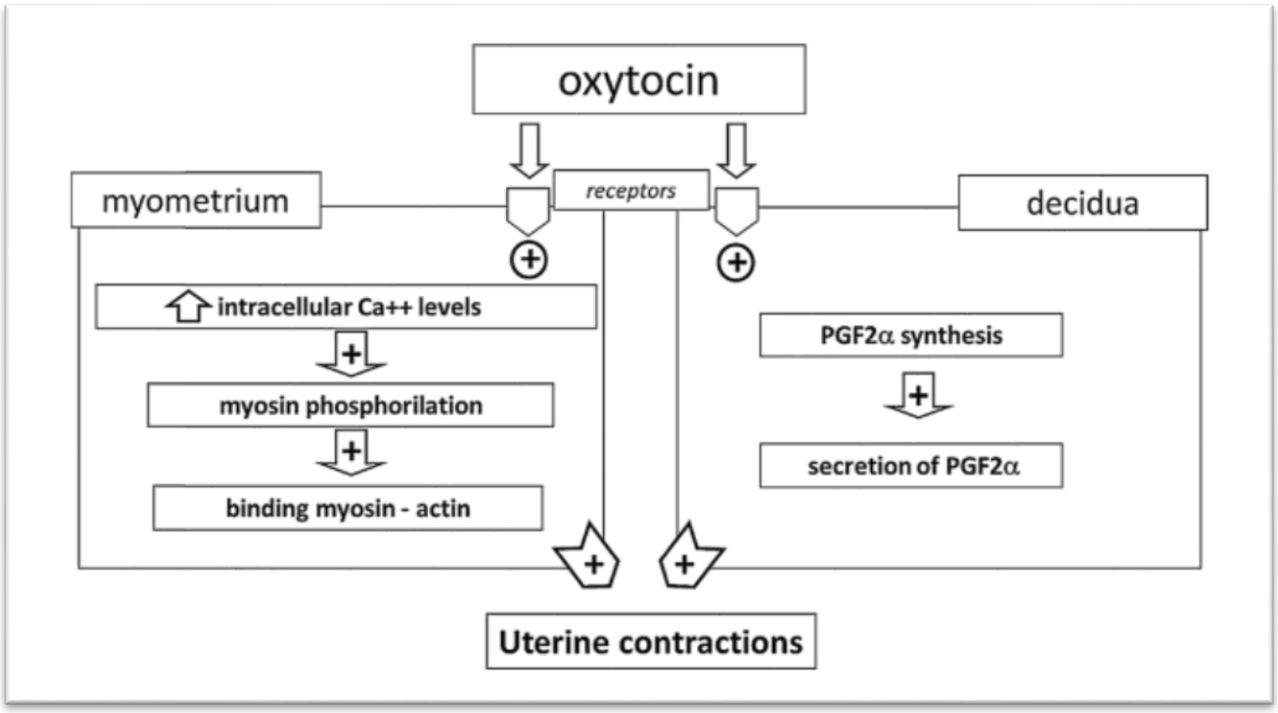


Figure 6 Effects of Oxytocin effects [12]

RELAXIN

It is a fundamental component in the body's preparation for delivery. It facilitates the development of blood vessels in the endometrium and initiates the relaxation of joints, tendons, and the cervix. Understanding the intricate role of relaxin is crucial to comprehend the reproductive system's complexities. [16]

During pregnancy, the synthesis of relaxin is a complex process. The synthesis of relaxin triggers the activation of enzymes that promote cervical ripening and decrease the levels of TIMP-1 in the reproductive system.

Interestingly, relaxin can inhibit contractions in nonpregnant human myometrial strips, but this effect is not present in the uterine tissue of pregnant humans due to the opposing effects of progesterone. Understanding the essential role of relaxin in the reproductive system and its importance in ensuring a successful delivery is vital.

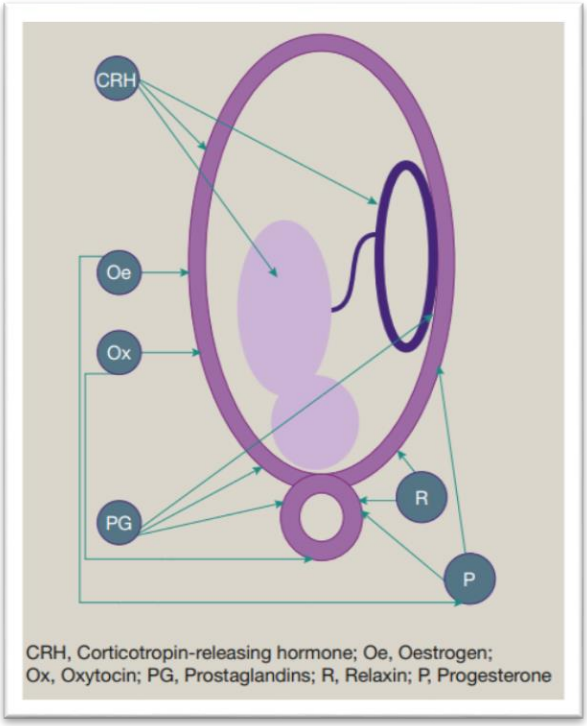


Figure 7 Hormonal control targets involved in the beginning and maintenance of labor [18]

2. MECHANICAL FACTORS

The three Ps—Power, Passenger, and Passage—are foundational concepts in obstetrics that help medical professionals understand and manage the process of labor and delivery effectively. Each "P" represents a critical element in the childbirth

process, and the interaction among them is crucial for a successful delivery. Here's a detailed look at each component:

Power

"Power" in the context of labor and delivery refers to the forces that aid in delivering the baby. These forces primarily include the uterine contractions, the primary force, and the mother's efforts of pushing, the secondary force. Uterine contractions are responsible for thinning and opening of the cervix, allowing the fetus to move down the birth canal. Hormonal factors, maternal energy levels, and other physiological factors can influence the effectiveness of these contractions.

Passenger

During labor, the "Passenger" refers to the fetus, amniotic fluid, and placenta. The fetus's size, position, and characteristics can significantly affect labor's progress. The moulding of the fetal skull bones and the presentation and lie of the fetus can also impact the course of labour and the type of delivery. For instance, it can determine whether a vaginal delivery or cesarean section is needed.

Passage

The 1st stage of labor involves the cervix ripening with dilating, that can be shortened. The role of high pelvic tone in aiding or obstructing fetal passage is unclear, but it may guide presentation and stretch as needed. High pelvic tone may guide presentation, and passive stretching may be done as needed.

Interaction Among Three Ps

Interplay between Power, Passenger, and Passage is dynamic and complex. Efficient labor requires effective uterine contractions (Power) to propel a well-positioned fetus (Passenger) through a suitable and accommodating birth canal (Passage). Any issues with one of the three Ps can lead to complications or delays in labor. For example, suppose the fetus is in an unfavorable position (Passenger issue). This can hinder progress even if the contractions are muscular (Power) and the maternal pelvis is well-shaped (Passage). Similarly, a narrow pelvis (Passage issue) can obstruct labor progress despite optimal fetal positioning (Passenger) and muscular contractions (Power).

PREPARATORY MECHANICAL CHANGES FOR ONSET OF LABOUR

CERVIX

The cervix, a fibrous connective tissue, is a crucial human body part. It contains collagen, elastin, blood vessels, fibroblasts, and a small amount of smooth muscle. As gestation progresses, collagen content decreases, leading to cervical ripening, resulting in growth in blood vessels, enlargement of stromal and epithelial tissues, and modifications in the cervical extracellular matrix. The density of cervical nerves remains constant or increases throughout the last stage of pregnancy, which can slow down the process and decrease immune cell infiltration.

M macrophages and neutrophils disrupt fiber organization, while increased hyaluronic acid production exacerbates this effect. The influx of water, caused by the rise in decorin expression, further exacerbates the situation.

Genetic abnormalities in this artificial route are believed to be linked to cervical insufficiency, a significant factor in miscarriage and premature delivery. Infection, which causes early cervical remodeling, is related to 25 to 40% of preterm delivery cases. Monitoring cervical length is essential to identify individuals with a higher likelihood of giving birth prematurely. CGRP has a important role in blood vessel changes during early pregnancy and the widening of the cervix during cervical ripening.

The alterations in the cervix lead to enhanced cervical flexibility and sensitivity to increased pressure inside the uterus caused by gradual contractions. The cervix undergoes gradual thinning and widening to a diameter of 10 cm to facilitate the birth. Chemical with mechanical interventions may be used to alter the cervix during childbirth.

UTERUS

The uterus, a smooth muscle organ, undergoes morphological changes from the early stages of pregnancy to accommodate the developing embryo and facilitate its final ejection. The myometrium generates electrical activity responsible for the contractile forces necessary for labor, which are regulated by hormonal, metabolic, and mechanical variables.

Uterus myocytes are large and facilitate their connection, increasing their quantity as pregnancy advances. Uterine contractions are caused by the production of action potential in the myocyte, which is triggered by voltage-dependent channels, leading to an increase in intracellular calcium (Ca^{2+}). The activation of voltage-dependent K^+ channel causes the flow of K^+ ions out of the cell, causing the inactivation of L-type Ca^{2+} channels and restoring the cell's resting potential. The resting membrane potential of myocytes becomes increasingly depolarized as pregnancy progresses,

allowing for the input of calcium ions and leading to an increase in the frequency of contractions in the myometrium.

Calcium phosphorylation allows for the interaction between myosin and actin myofilaments, generating a contraction by cross-bridge cycling. Myometrial contractions, such as dihydropyridine receptors. Myocytes are characterized by their relatively large sarcoplasmic reticula (SR), which stores calcium ions and affects smooth muscle excitability. The release of Ca2+ by the sarcoplasmic reticulum increases the levels of Ca2+ in the cytosol.

During spontaneous labor, uterine contractions are caused by the entrance and exit of Ca2+ ions across the plasma membrane. In contrast, the sarcoplasmic reticulum (SR) does not play a role in this process. Oxytocin attaches to receptor on the cell membrane, leading to elevation in cytosolic Ca2+ levels, causing the membrane potential to become more positive and strengthening the muscle's ability to contract. Modulating potassium (K+) channels impact the action potential's length and the repolarization process.

Contractions intensify in strength and frequency as labor advances, with intermittent patterns crucial to avoiding chronic oxygen deprivation in the uterine muscle. Short periods of low oxygen levels help sustain the gradual increase in contractions needed for childbirth.

The myometrium produces lactate even when there is enough oxygen, and lactate build-up outside of cells is believed to be a factor in dystocia.

PERINEUM AND VAGINA

During pregnancy, peritoneal and vaginal muscle vascularity increases due to softening of connective tissue and hypertrophy of smooth muscle cells, enabling distension during labor.

PELVIS

The ischial spines serve as a reference point for evaluating the downward movement of the fetus's presenting portion.

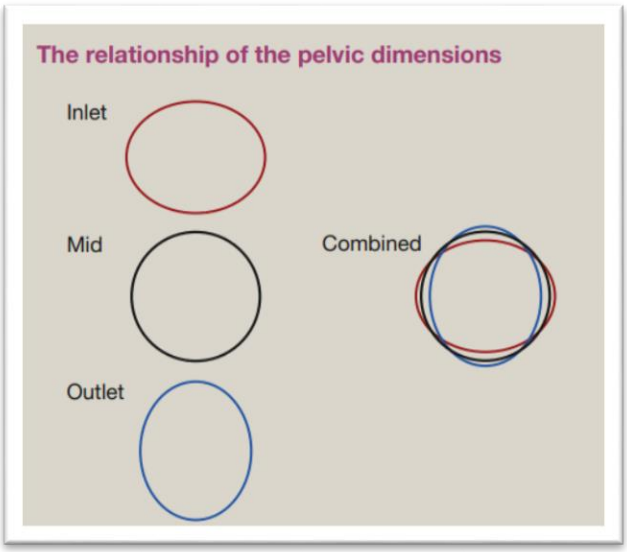


Figure 8 illustrates the correlation between pelvic dimensions and their collective role in forming a pathway for the fetus's descent.[18]

LIE

Fetal lies refer to the position of the baby within the uterus, which can affect labor and delivery plans. Several common fetal lies exist, including longitudinal, transverse, and oblique. The longitudinal lie can be head down (cephalic) or buttocks/feet down (breech). The transverse lie occurs when the baby is positioned horizontally across the uterus. The oblique lie is diagonal and may require medical attention.

Each type of fetal lie has implications for delivery. Cephalic presentation, where the head is down, is ideal for vaginal delivery. Breech and transverse lies often require a cesarean delivery. Healthcare providers may recommend procedures or exercises to encourage the baby's optimal position.

PRESENTATION

It is the specific fetus body portion which enters the mother's pelvis during childbirth. This has significant mechanical consequences in the 2nd stage of labor.

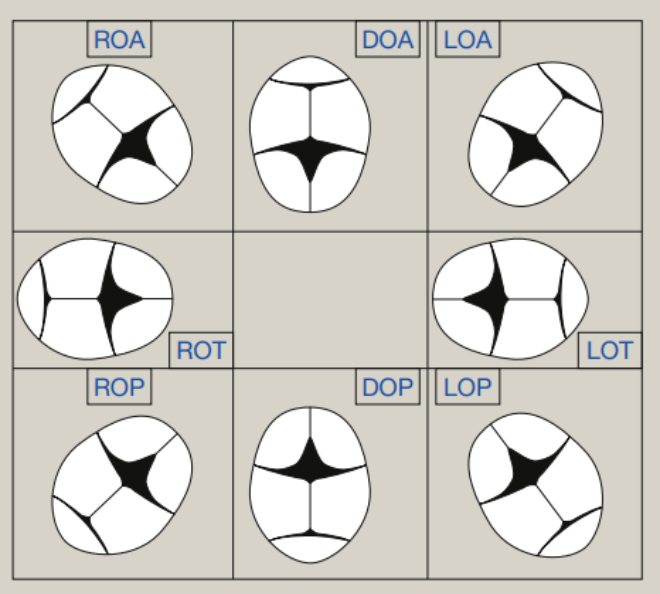


Figure 9 Various fetus head positions [18]

The process of labor may be separated into four distinct stages [7]

FIRST STAGE

It occurs during pregnancy, is often experienced through painful contractions. Friedman et al. were early researchers who defined labor is starting when the women has significant and regular contractions. [20] They graphed the dilation of cervical and found normal labor showed a sigmoid shape. They proposed three divisions of labor: a preparatory stage, the active phase, and a pelvic division phase. The onset often relies on retrospective or subjective data.

2nd STAGE OF LABOUR

Pelvic division phase is the 2nd stage of parturition, starting when the cervix dilates up to 10 cm and ending with the baby's birth. The duration of this stage varies depending on the woman's previous vaginal childbirth experience. In the absence of anesthesia, depending on her history, the duration may be less than two to three hours. If anesthesia is used, it may range from three to four hours. If the duration exceeds these periods, it is classified as protracted. Nulliparous women who have never given birth need a longer time than multiparous women who have given birth several times. Nulliparous women usually finish the 2nd stage in three hours, while multiparous women usually complete it in two hours. If the 2nd stage exceeds these criteria, it is classified as protracted.

It depends on the size of the fetus, the shape of the mother's body, the strength of her pushing attempts, any additional health conditions like hypertension or diabetes, the mother's age, and her history of prior births. [22]

3rd STAGE OF LABOR

It starts after the child is born and ends after delivery of the placenta. Typically, the placenta will come out independently within 5 to 30 minutes. If it takes longer than 30 minutes, it may be necessary to manually remove it or take other steps to prevent excessive bleeding. To help speed up the delivery of the placenta, pressure is applied to both the umbilical cord and the top of the uterus. [19]

4th STAGE OF LABOR

It is the early postpartum period, which starts right after the placenta is delivered and lasts for one hour. This stage focuses on the mother's recovery and includes careful monitoring for signs of postpartum hemorrhage, a critical concern at this time. Key interventions include routine uterine massage every 15 minutes to ensure the uterus contracts appropriately, reducing the risk of bleeding. Vital signs are closely observed, and any signs of excessive bleeding or changes in the mother's condition are promptly addressed. Support for breastfeeding initiation and emotional comfort is also provided during this stage, along with pain management and postpartum care education.

PHYSIOLOGICAL EFFECTS OF LABOR [7]

During labour, a mother experiences various physiological changes:

- In the first stage, there are minimal effects on her body.

The second stage may lead to a slight rise in temperature (up to 37.5°C), pulse (up to 100/min), and systolic blood pressure due to pain and stress. Additionally, there might be edema and congestion in the conjunctiva and minor injuries to the birth canal and perineum, particularly in first-time mothers.

- The third stage typically involves a total average blood loss of approximately 250 ml, accounting for both placental site loss (100-200 ml) and any additional loss from lacerations or an episiotomy (around 100 ml).

ON THE FOETUS

During labor, the fetus undergoes fetal adaptations such as moulding, which refers to the natural overlaying of skull bones as the fetus moves down the birth canal. This transient alteration in cranial morphology facilitates a reduced circumference, enabling smoother traversal. Excessive or fast molding is a risk and may result in cerebral bleeding. The degree of moulding is categorized as low (sutures are closed without any overlap), moderate (bones overlap but may be repositioned), and severe (overlapping bones are fixed and cannot be repositioned). Caput succedaneum is a painful swelling that appears on the baby's head after delivery, particularly after the amniotic sac has ruptured. It is more likely to develop in cases of protracted labor. It occurs when there is a blockage in the veins returning blood from the scalp caused by the cervical ring. Caput succedaneum usually resolves within a few hours to days after delivery and indicates a viable fetus.

The WHO emphasizes the importance of integrating environmental and psychological support mechanisms into labor and delivery care to enhance the childbirth experience and align physical well-being with emotional and mental health. These holistic approaches underscore the importance of integrating environmental and psychological support mechanisms in labor and delivery care. [30]

The treatment of labor pain encompasses both non-pharmacological and pharmaceutical approaches. Non-pharmacological techniques provide adequate pain relief, safety, and consistent outcomes and allow the mother to have control over the process. Pharmacological interventions are intrusive and expensive, do not impede the development of labor, and do not result in any side effects or allergic reactions.

Music has been used since ancient times to enhance people's overall health and alleviate discomfort. It has the potential to directly or indirectly impact the physiological, psychological, and socio-emotional symptoms experienced by patients. It cures or alleviate issues by harnessing its positive impacts. It involves using sound-based approaches for diagnostic, therapeutic, and preventative reasons. [26] Music therapy may also indirectly affect patients by changing the attitudes and actions of healthcare personnel. Strategically chosen music can decrease tension, enhance comfort, induce relaxation, alleviate pain severity, and enhance the performance of medical professionals. [28]

It's common to experience elevated stress levels during this period. That's why playing music during childbirth can be helpful - it stimulates pleasure and serves as a distraction, helping to enhance pain tolerance and coping. Moreover, playing music during delivery can stimulate the production of endorphins, which are the brain's natural painkillers. By doing so, it can reduce the severity of pain experienced during labor and decrease the activity of the sympathetic nervous system, which includes HR, BP, breathing rate, immunological stress. This further reduces anxiety and helps make the delivery experience more comfortable. By stimulating the auditory area, located next to the pain center in the cerebral cortex, it is possible to suppress the activity of the pain center.

I did a literature review on similar topic.

Ji C et al. (2024) conducted a systematic research of 240 articles, with 17 articles selected for review. The results showed that the music therapy could reduce pain during childbirth, lower mothers' anxiety and stress, improve quality of sleep, and increase movements of fetus. The study highlights the importance of considering music therapy as an alternative obstetric intervention. [23]

Gautam S et al. (2023) conducted a study to check the impact of the music therapy on labor pain among primigravid women in Kathmandu. After thirty min of therapy, they experienced a mean difference of 1.9 in total pain during the latent phase and 6.57 in the post-music. The mean difference in total pain during the active phase was 1.00 during the pre-test and 6.95 during the post-test. The findings suggest music therapy can reduce pain during labor's latent and active phases. [24]

Hunter AR et al. (2023) conducted a systematic review of the Effects of Music-Based therapy during NVD and CS. The review included 28 identified studies with 2835 participants, following PRISMA guidelines. Most studies showed reduced anxiety and pain during these procedures. Music-based interventions decreased light to moderate pain and anxiety. Overall, music-based therapy can show positive effects in reducing pain and anxiety in a women who is in labor. [25]

Gaiki SP et al. (2023) conducted a study to determine the impact of music therapy on the level of anxiety in the 1st stage of labor among pregnant women. The research methodology used was exploratory, descriptive research with a quantitative quasi-experimental control group research method. 60 women in labor during the first stage selected through non-probability convenient sampling. A semi-structured questionnaire and observational checklist were developed. The results mean pre-test anxiety score was 1.56±0.50 in the group and 2.3±0.87 in the control group. Post-

test anxiety scores were 3.36±0.71 in the group and 1.80±0.76 in the control group. The experimental group experienced a significant decrease in anxiety levels after the administration of music therapy, with an important difference found in the control group. They showed association between the level of anxiety with age, education, family types, and monthly income. The majority of pregnant women had moderate anxiety before music therapy, but after the treatment, there was a reduction in anxiety levels among pregnant women. However, no association was found with their selected demographic variables. [28]

Liu S et al. (2022) conducted a study involving 1,053 pregnant women and found that musical activities effectively reduced the fear of a birth of child. The study used a questionnaire. The associations between musical activities and their positive effect on fear of childbirth was evaluated using a structural equation modeling approach. Results have shown that musical activities were correlated with an increase in positive affect, which predicted a decrease in fear of childbirth. Positive affect also mediated the effect of musical activities on fear of childbirth. [29]

Estrella-Juarez F et al. (2022) conducted a randomised controlled study on the Effect of Virtual Reality and Music Therapy on the physiological parameters of Pregnant Women and Fetuses and on Anxiety Levels. Anxiety negatively impacts pregnant women and their fetuses, leading to misleading test readings, affecting labour duration, and influencing childbirth aspects. A study involving 343 full-term pregnant women found that music therapy and virtual reality interventions reduced anxiety levels, improved maternal and fetal physiologic parameters, and improved labour and birth outcomes. The intervention was delivered during a nonstress test in the third trimester and during labour. The findings showed the use of music and virtual reality as nonpharmacologic to reduce anxiety and improve labour and birth outcomes. [30]

Shimada BMO et al. (2021) reviewed a study on Interventions among Pregnant Women in the Field of Music Therapy. This study aimed to explore the benefits of music therapy interventions for pregnant women during prenatal, delivery, and postpartum periods. The research was conducted using electronic databases and specialised journals. The study was conducted between January 2009 and June 2019. The data was collected through peer review and analysed using various data collection methods. Out of 146 identified articles, 23 were included in the systematic review. The results showed that music therapy can provide relaxation, decrease anxiety and pain, increase maternal bond, improve sleep quality, control fetal heart rate and blood pressure, and reduce drug intake during the postoperative period. The study concludes that music therapy can significantly benefit pregnant women and newborns. [31]

Perkovic R et al. (2021) reviewed music therapy and mental health in pregnancy. Music therapy has been proven to have therapeutic effects on both mother and child, inspiring hope for improved well-being during pregnancy and reduced postpartum depression symptoms. It also reduces stress and anxiety in pregnant women, calms children, and enhances emotional bonding. The use of GIM therapy, music-induced imagination, also strengthens psychological resilience. This simple, non-pharmacological, and safe method significantly contributes to mental health during pregnancy and after childbirth, sparking scientific potential and offering exciting avenues for medical music research. [32]

He H et al. (2021) conducted a systemic review on the effect of prenatal music therapy on fetal and neonatal status. The research involved searching 821 records and identifying nine eligible studies involving 1419 pregnant women. The results showed that prenatal music therapy did not change fetal heart rate, number of fetal movements, or accelerations compared to no music therapy. This result remained

unchanged even when two studies with a high risk of bias were excluded. The study concludes that prenatal music therapy might not change fetal and neonatal status, but more systematic strategies of prenatal music therapy deserve further exploration. [33]

Santiváñez-Acosta R et al. (2020) conducted a systematic review were performed using randomised clinical trials and the Visual Analogue Scale (VAS). Twelve studies were included, with six (778 women) being meta-analyzed. Results showed that music therapy decreased VAS scores for pain intensity in the latent and active phases of labour and VAS scores for anxiety in both phases. The study concluded that music therapy seems to have beneficial effects on pain intensity and anxiety during labour, especially for women giving birth for the first time. However, the evidence is classified as low. [34]

Aisyah A et al (2019) reviewed the effect of music therapy on pregnant women. The review found that out of 263 published literature, only 10 were included in the review. The results of these studies showed that music therapy has positive impacts on pregnant women, serving as relaxation and helping reduce anxiety, depression, blood pressure, and psychological stress. [36]

Gokyildiz S et al (2018) conducted a study on the Effect Of Music On the Pain And Anxiety Of Women During Their First Time Pregnancy. The experimental group was given Acemasiran mode music for 3 hours, with breaks. After the first hour, the pain was significantly less in the experimental group. Trait anxiety scores were similar between the experimental and control groups. However, after the practice, state anxiety scores decreased in favour of the experimental group, with a significant correlation. The study concludes that musicotherapy, a non-pharmacological method, can help women cope with labour pain and improve their well-being during labour. [37]

Park HJ et al. (2017) conducted a study aimed at investigating the impact of music therapy on stress in pregnant women with preterm labour. 35 women were divided into two groups: a control group receiving only tocolytic drugs and an experimental group receiving additional music therapy, Traumerei, applied before the Non-Stress Test. The results showed a significant difference in stress due to preterm labour, suggesting that music therapy is an effective method for reducing stress in pregnant women. [39]

Mastnak W et al. (2016) conducted a study about the Perinatal Music Therapy and Antenatal Music Classes. Antenatal music activities are increasingly popular due to their potential to control stress, anxiety, and depression, prepare for mental and physical birth, foster bonding and self-efficacy, trigger learning processes, and facilitate acculturation and adaptive self-regulation. These activities can be influenced by neuroplasticity and should be adapted to individual conditions and features of the mother and child, ensuring they are harmonized with complementary perinatal programs. This multifaceted approach to pre- and perinatal care is supported by evidence-based research. [40]

MATERIALS AND METHODS

Source of data

- All the Pregnant women in active labour admitted to the Department of OBSTETRICS AND GYNAECOLOGY in B.L.D.E. (DEEMED TO BE UNIVERSITY) Shri B.M. Patil's Medical College, Hospital and Research Centre, Vijayapura were included.
- All the patients who fulfilled inclusion criteria were studied. Written and informed consent was taken following the declaration of Helsinki once the patient was admitted.

Period of study: September 2022 to May 2024.

Study design: a prospective interventional study.

Inclusion criteria

Pregnant women (both Primigravida and multigravida) in active labour (4 -6 cms dilated cervix)

Exclusion criteria

Pregnant women with hearing defects,

Pregnant women with medically diagnosed anxiety disorders and other psychiatric illnesses

Sample size

190 (considering the drop rate, we have taken 100 in each group)

SAMPLE SIZE

- The anticipated Mean±SD of VAS score for labour pains 4.04±2.23 and in control women 6.24 ±2.05 resp. (ref) the required minimum sample size is 95 per group (i.e. a total sample size of 190, assuming equal group sizes) to achieve a power of 98% and a level of significance of 5% (two-sided), for detecting a true difference in means between two groups.

(Statulator software ttp://statulator.com/SampleSize/ss1P.html)

$$N = 2\left[\frac{(Z_{\propto} + z_{\beta}) * S}{d}\right]^2$$

$Z_{\propto}$ Level of significance=95%

Z_{β}--power of the study=90%

d=clinically significant difference between two parameters

SD= Common standard deviation

Methodology:

The participants were enrolled into the study after considering the inclusion criteria and exclusion criteria. Informed consent was taken when the patient is in latent labour.

- Tossing of the coin was done to decide whether to take the first odd number as case or control, or first even numbers as cases or control.
- After tossing, it was decided to take odd serial numbers as cases and even serial number as control.

- Serial numbers were allotted and a list of 100 primigravida and 100 multigravida was made.
- Among all the odd serial numbers, 50 primigravida and 50 multigravida were enrolled as cases.
- Among all the even serial numbers, 50 primigravida and 50 multigravida were enrolled as controls
- From September 2022 to may 2024 until the sample size is fulfilled.

Group 1-Interventional group (music group): The interventional group was subjected to

➢ Complete clinical history, Clinical examination, Anxiety/pain score visual analogue scale (for literates) and Wong Baker face scale (for illiterates), cardiotocography, serum cortisol levels.

The participants were given music therapy through headphones, and the music played was non-lyrical, instrumental, and classical, with behagaraga in a closed room.

1st session for 20 minutes

2nd session was 20 minutes with 10-minute gap .

After the end of each session, the patient was subjected to an anxiety/pain assessment with appropriate tests (visual analog scale or Wong Baker face scale).

After the end of both sessions (50 minutes), the patients were reassessed for clinical examination, cardiotocography and serum cortisol levels.

GROUP 2: Control group: The patients were subjected to

➢ Clinical history,Clinical examinations, Pain /anxiety scales assessment with appropriate scales (visual analogue scale or Wong Baker face scale) ,Serum cortisol levels.

They received routine obstetric care and were reassessed after 50 minutes for pain /anxiety assessment with scales (visual analogue scale and Wong Baker face scale), serum cortisol levels and cardiotocograph. The data was collected and analysed appropriately.

Statistical Analysis

• The data obtained was entered in a Microsoft Excel sheet, and statistical analysis was performed using JMP-SAS Software

• Results were presented as Mean±SD, Median and Inter quartile ranges, Frequency, percentages, and diagrams.

• For normally distributed continuous variables between two groups, they were compared using an independent t-test. For not normally distributed variables, the Mann-Whitney U test was used. Categorical variables between the two groups were compared using the Chi-square test.

• Paired data was compared using paired t-test/Wilcoxon signed rank test.

• $p<0.05$ was considered statistically significant. All statistical tests were performed in two-tailed.

RESULTS

In this prospective interventional study conducted from September 2022 to May 2024, pregnant women in active labour (4-6 cm dilated cervix) admitted to the Department of Obstetrics and Gynecology at B.L.D.E. (Deemed to be University) Shri B.M. Patil's Medical College, Hospital and Research Centre, Vijayapura, were included. The study aimed to assess the effects of music therapy on anxiety, pain, and serum cortisol levels during labour.

Patients who met the inclusion criteria were randomised into the interventional and control groups. The interventional group received music therapy through headphones, with non-lyrical, instrumental, and classical music featuring behagaraga as its main component. They underwent two 20-minute sessions with a 10-minute gap, during which a cardiotocograph was taken. Pain and anxiety were assessed using the visual analogue scale (for literates) and Wong Baker face scale (for illiterates) before and after each session. Clinical examination, cardiotocography, and serum cortisol levels were evaluated before and after the music therapy sessions.

The control group received routine obstetric care and was assessed for pain, anxiety, serum cortisol levels, and cardiotocography at the beginning and end of 50 minutes.

The data was collected and analysed using JMP-SAS Software, with results presented as Mean±SD, median, interquartile ranges, frequency, percentages, and diagrams. Statistical tests, such as independent t-test, Mann-Whitney U test, Chi-

square test, paired t-test, and Wilcoxon signed rank test, were used as appropriate. A p-value of <0.05 was considered statistically significant.

Age Distribution

In the music group, 6% of the women were under 20 years old, 57% were between 21-25 years old, 36% were between 26-30 years old, and only 1% were over 31 years old. Similarly, in the control group, 10% of the women were under 20 years old, 58% were between 21-25 years old, 25% were between 26-30 years old, and 7% were over 31 years old. The total number of participants in each group was 100.

Most participants in both groups were between 21-25 years old, accounting for 57% in the music group and 58% in the control group. The second most common age group was 26-30 years old, with 36% in the music group and 25% in the control group. The proportion of women under 20 years old was slightly higher in the control group (10%) compared to the music group (6%). Conversely, the proportion of women over 31 years old was higher in the control group (7%) compared to the music group (1%).

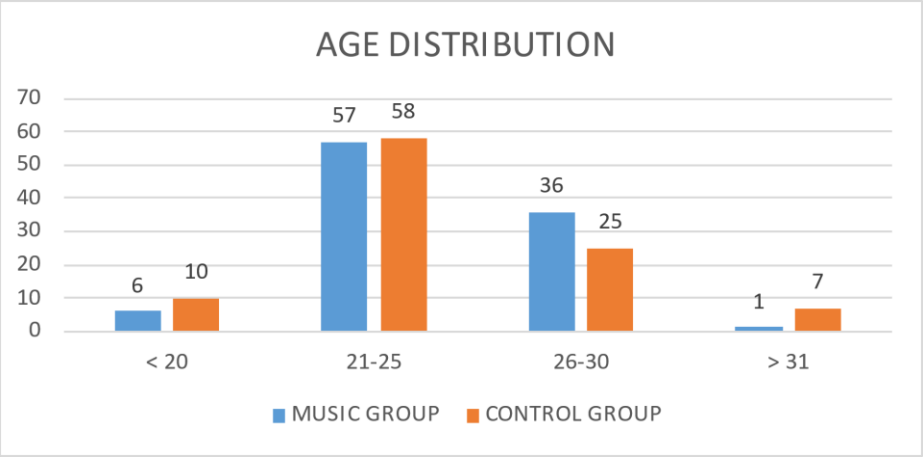
The age distribution of the participants in both the music group and control group was similar, with the majority of the women in the age range of 21-25 years, followed by the 26-30 age group. This suggests that the two groups were well-matched in age, minimising the potential influence of age as a confounding factor in the study results.

Table 1. Comparison of the age distribution of the study population

AGE (YRS)	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
< 20	6	6	10	10
21-25	57	57	58	58

26-30	36	36	25	25
> 31	1	1	7	7
TOTAL	100	100	100	100

Chart 1. Cluster bar chart of the age distribution of the study population



Residential background of the participants in both the music and control groups

81% of the women in the music group were from rural areas, while 19% were from urban areas. In the control group, 90% of the women were from rural areas, and 10% were from urban areas.

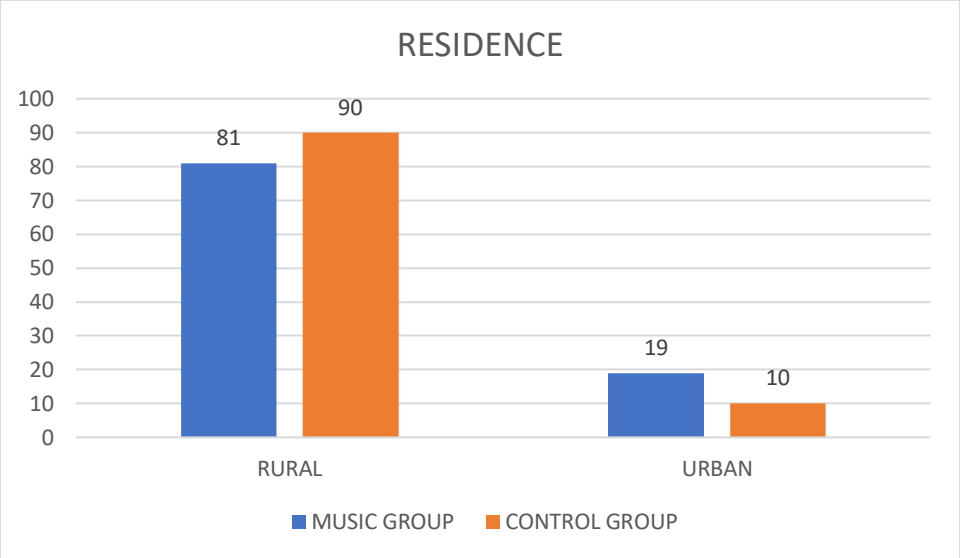
The vast majority of the participants in both groups were from rural areas, with 81% in the music group and 90% in the control group. In contrast, only a small proportion of the participants were from urban areas, with 19% in the music group and 10% in the control group.

The residential background of the participants in the music and control groups was predominantly rural, with a notably higher percentage of women from rural areas than urban areas. This suggests that the study population essentially represented women from rural settings. The similarity in the residential background between the two groups indicates that this factor is unlikely to have significantly influenced the study results. However, it is essential to consider the potential impact of rural-urban differences in access to healthcare, socioeconomic status, and cultural factors on the women's experiences during labour and their responses to music therapy. Future studies could explore the effects of music therapy on anxiety, pain, and serum cortisol levels in women from diverse residential backgrounds to provide a more comprehensive understanding of its benefits during labour.

Table 2. Comparison of the residential background of the participants in both the music and control groups

RESIDENCE	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
RURAL	81	81	90	90
URBAN	19	19	10	10
TOTAL	100	100	100	100

Chart 2. Cluster bar chart of the residential background of the participants in both the music and control groups



Educational status of the participants in both the music and control groups

The educational status of the participants in both the music and control groups was analysed. In the music group, 13% of the women were illiterate, 33% had primary education, 27% had secondary education, 20% had completed their Pre-University Course (PUC), 7% had a degree, and none had professional qualifications. Similarly, in the control group, 20% of the women were illiterate, 35% had primary education, 20% had secondary education, 19% had completed their PUC, 6% had a degree, and none had professional qualifications.

The most common educational level among the participants in both groups was primary education, with 33% in the music group and 35% in the control group. The second most common educational level was secondary education, with 27% in the music group and 20% in the control group. Illiteracy rates were 13% in the music group and 20% in the control group. The proportion of women who had completed their PUC was similar in both groups, with 20% in the music group and 19% in the control group. A small percentage of women in both groups had a degree, with 7% in the music group and 6% in the control group. None of the participants in either group had professional qualifications.

The educational status of the participants in the music and control groups was diverse, with the majority having either primary or secondary education. The proportion of women in each educational category was similar between the two groups, suggesting that the groups were well-matched in terms of academic background. This minimises the potential influence of education as a confounding factor in the study results.

However, it is essential to consider the potential impact of educational status on the women's understanding of the study procedures, their ability to communicate their experiences, and their coping mechanisms during labour. The presence of illiteracy among the participants highlights the need for clear verbal explanations and demonstrations of the study procedures and assessment tools.

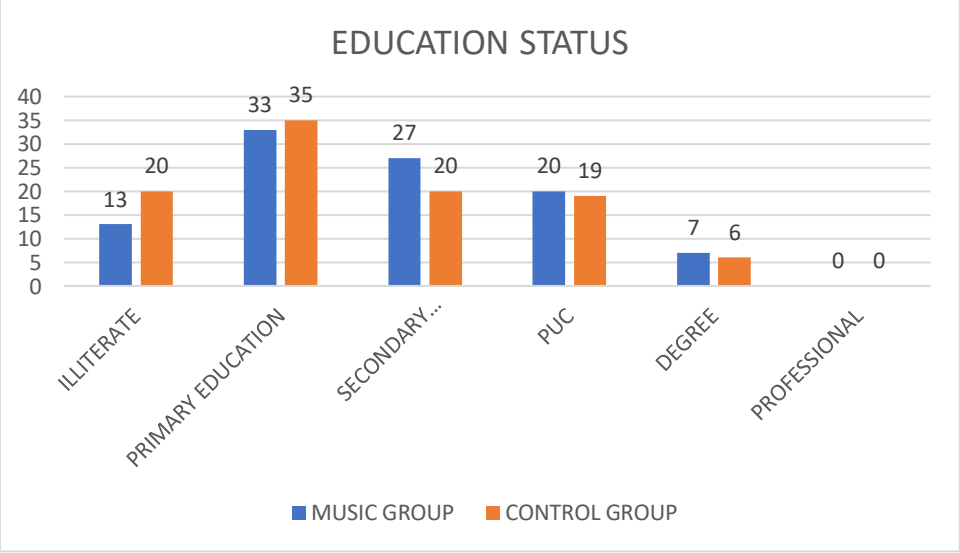
Future studies could explore the influence of educational status on the effectiveness of music therapy in managing anxiety, pain, and stress during labour. This could help tailor interventions to meet the needs of women with diverse educational

backgrounds and ensure that the benefits of music therapy are accessible to all women, regardless of their academic status.

Table 3. The educational status of the participants in both the music and control groups

EDUCATION STATUS	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
ILLITERATE	13	13	20	20
PRIMARY EDUCATION	33	33	35	35
SECONDARY EDUCATION	27	27	20	20
PUC	20	20	19	19
DEGREE	7	7	6	6
PROFESSIONAL	0	0	0	0
TOTAL	100	100	100	100

Chart 3. Cluster bar chart of the educational status of the participants in both the music and control groups



Religious affiliations of the participants in both the music group and control group

The religious affiliations of the participants in both the music group and control group were examined. In the music group, 85% of the women were Hindu, 7% were Muslim, and 8% were Christian. Similarly, in the control group, 80% of the women were Hindu, 16% were Muslim, and 4% were Christian.

Most of the participants in both groups were Hindu, 85% in the music group and 80% in the control group. The second most common religion was Islam, 7% in the music group and 16% in the control group. Christianity was the least represented religion, 8% in the music group and 4% in the control group.

The religious composition of the participants in both the music group and control group was predominantly Hindu, with Islam being the second most common religion and Christianity being the least represented. The distribution of religious affiliations was similar between the two groups, although the control group had a slightly higher percentage of Muslim participants than the music group.

The similar religious backgrounds of the two groups suggest that religion is unlikely to have significantly influenced the study results. However, it is important to consider the potential impact of religious beliefs and practices on women's experiences during labour and their receptiveness to music therapy.

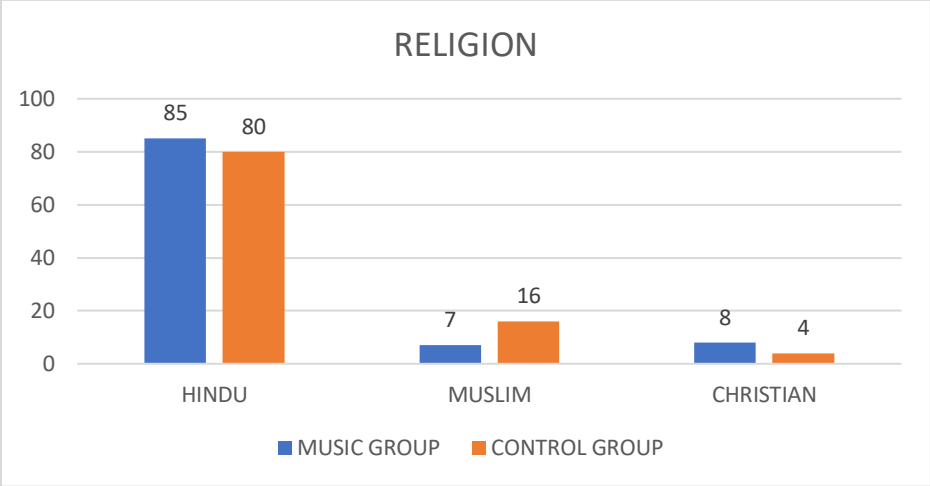
Different religions may have specific cultural practices or beliefs surrounding childbirth that could affect the women's emotional states and coping mechanisms. Future studies could explore the role of religion in shaping women's experiences during labour and how music therapy can be tailored to respect and accommodate different religious beliefs.

Additionally, the study's findings highlight the need for healthcare providers to be sensitive to the religious diversity among pregnant women and to provide culturally appropriate care that respects their beliefs and practices. This can help create a more inclusive and supportive environment for all women during the challenging labour and delivery experience.

Table 4. The religious affiliations of the participants in both the music group and control group

RELIGION	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
HINDU	85	85	80	80
MUSLIM	7	7	16	16
CHRISTIAN	8	8	4	4
TOTAL	100	100	100	100

Chart 4. Cluster bar chart of the religious affiliations of the participants in both the music group and control group



Obstetric history of the participants in both the music and control groups

The obstetric history of the participants in both the music and control groups was analysed. In both groups, 50% of the women were primigravida (having had their first pregnancy), and 50% were multigravida (having had one or more previous pregnancies).

The equal distribution of primigravida and multigravida participants in the music and control groups indicates that the study population was well-balanced regarding obstetric history.

The study population consisted of an equal proportion of primigravida and multigravida women in both the music and control groups. This balanced

distribution of obstetric history between the two groups minimises the potential influence of parity as a confounding factor in the study results.

However, it is essential to consider the potential differences in the labour experiences and coping mechanisms between primigravida and multigravida women. Primigravida women may have higher levels of anxiety and uncertainty due to the novelty of the childbirth experience. In contrast, multigravida women may have different expectations and coping strategies based on their previous labour experiences.

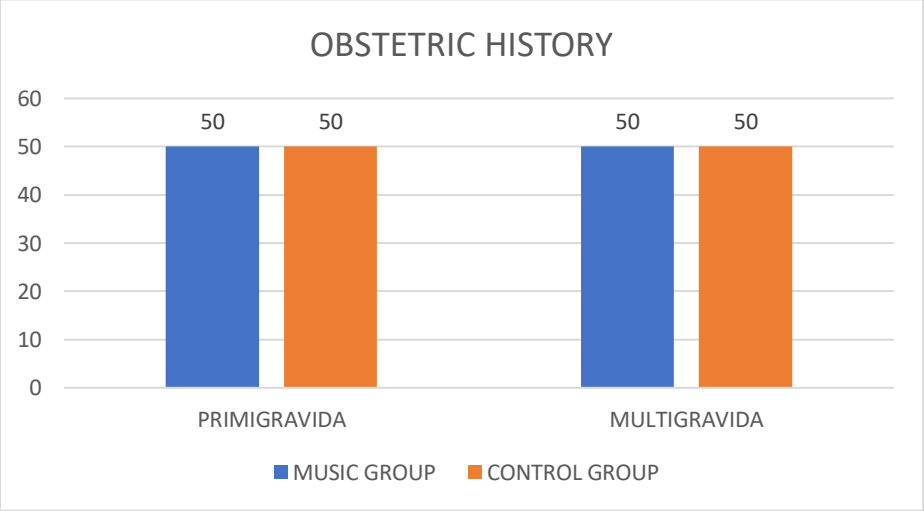
The equal representation of primigravida and multigravida women in this study allows for a comprehensive understanding of the effects of music therapy on anxiety, pain, and serum cortisol levels during labour across different parity groups. Future studies could further explore the specific needs and responses of primigravida and multigravida women to music therapy interventions.

Healthcare providers should be aware of the unique challenges and support requirements of both primigravida and multigravida women during labour. Tailoring interventions, such as music therapy, to address the specific needs of each parity group can help optimise the birthing experience and improve maternal well-being.

Table 5. The obstetric history of the participants in both the music and control groups

OBSTETRIC HISTORY	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
PRIMIGRAVIDA	50	50	50	50
MULTIGRAVIDA	50	50	50	50
TOTAL	100	100	100	100

Chart 5. Cluster bar chart of the obstetric history of the participants in both the music and control groups



Past medical history of the participants in both the music group and control group

The past medical history of the participants in both the music group and control group was examined. In the music group, 2% of the women had hypertension, 2% had diabetes mellitus, 7% had thyroid disorders, 1% had cardiac disorders, 2% had asthma, and none had epilepsy. Most women in the music group (86%) had no significant medical history.

In the control group, 3% of the women had hypertension, none had diabetes mellitus, 16% had thyroid disorders, none had cardiac disorders or asthma, and 2% had epilepsy. Most women in the control group (79%) had no significant medical history.

Thyroid disorders were the most common past medical condition in both groups, with 7% in the music group and 16% in the control group. Hypertension was the second most common condition, with 2% in the music group and 3% in the control group. The prevalence of other conditions, such as diabetes mellitus, cardiac disorders, asthma, and epilepsy, was low in both groups.

The past medical history of the participants in both the music group and control group was largely unremarkable, with the majority of women having no significant past medical conditions. Thyroid disorders and hypertension were the most common conditions reported, although the prevalence was relatively low.

The slightly higher percentage of women with thyroid disorders in the control group compared to the music group may warrant further investigation to ensure that this difference does not significantly impact the study results. However, the overall similarity in the past medical history between the two groups suggests that these factors are unlikely to have a substantial influence on the study's outcomes.

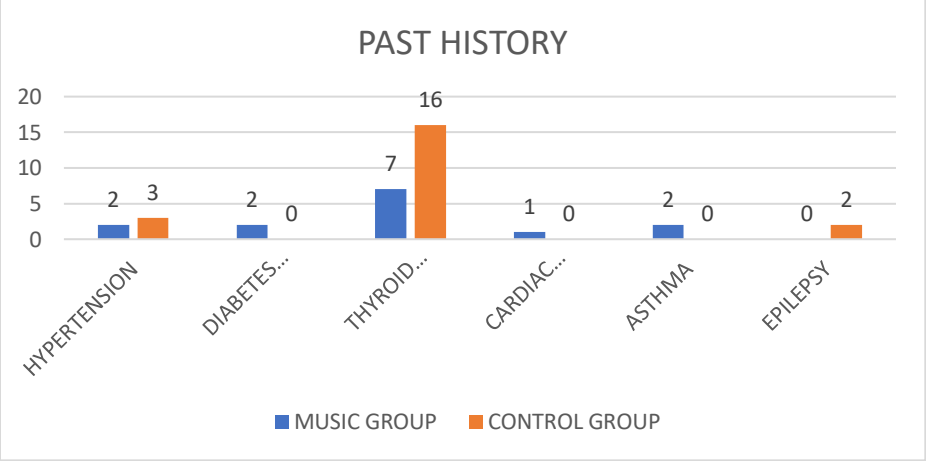
Healthcare providers must be aware of any pre-existing medical conditions among pregnant women, as these conditions may affect the course of pregnancy, labour, and delivery. Appropriate management and monitoring of these conditions can help minimise potential complications and ensure the well-being of both the mother and the baby.

Future studies could explore the potential impact of specific past medical conditions on the effectiveness of music therapy in managing anxiety, pain, and stress during labour. This could help identify subgroups of women who may require additional support or tailored interventions to optimise their birthing experience.

Table 6. Past medical history of the participants in both the music group and control group

PAST HISTORY	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
HYPERTENSION	2	2	3	3
DIABETES MELLITUS	2	2	0	0
THYROID DISORDER	7	7	16	16
CARDIAC DISORDER	1	1	0	0
ASTHMA	2	2	0	0
EPILEPSY	0	0	2	2
NOTHING SIGNIFICANT	86	86	79	79
TOTAL	100	100	100	100

Chart 6. Cluster bar chart of the Past medical history of the participants in both the music group and control group



Participants' pulse rate was at 0 minutes (baseline) for the music and control groups.

The participants' pulse rate was 0 minutes (baseline), and the music group and the control group were compared. The mean pulse rate in the music group was 81.80 beats per minute (bpm), with a standard deviation (SD) of 9.56 bpm. In the control group, the mean pulse rate was 81.46 bpm, with an SD of 7.41 bpm.

The t-value for comparing pulse rates between the two groups was 0.27972, with a corresponding p-value of 0.389993. The p-value is more significant than the conventional significance level of 0.05, indicating no statistically significant difference in the baseline pulse rates between the music and control groups.

The analysis of the baseline pulse rates (at 0 minutes) revealed no significant difference between the music and control groups. The mean pulse rates in both groups were similar, with values of 81.80 bpm in the music group and 81.46 bpm in the control group. The small difference in mean pulse rates and the high p-value (0.389993) suggest that any observed difference is likely due to chance rather than a true difference between the groups.

The similarity in baseline pulse rates between the two groups is important, as it indicates that the participants in both groups had comparable cardiovascular status at the start of the study. This helps to minimize the potential influence of pre-existing differences in heart rate on the study results.

Pulse rate is an important physiological parameter that can reflect an individual's emotional state and stress levels. The lack of significant difference in baseline pulse rates between the music group and the control group suggests that both groups had similar levels of physiological arousal at the beginning of the study.

As the study progresses, monitoring changes in pulse rate in response to music therapy and comparing these changes between the two groups can provide valuable insights into the effectiveness of music in reducing stress and promoting relaxation during labour. Future analyses should focus on the changes in pulse rate over time and the potential impact of music therapy on these changes.

Table 7. Participants' pulse rate was at 0 minutes (baseline) for both the music and control groups.

PULSE RATE AT 0 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	81.80	81.46
SD	9.56	7.41
t- value	0.27972	
p-value	0.389993	

Comparison of the Pulse rate between a music group and a control group after 20 minutes of intervention.

The study compared the pulse rate between a music group and a control group after 20 minutes of intervention. The music group had a mean pulse rate of 81.62 beats per minute (bpm) with a standard deviation of 6.98, while the control group had a mean pulse rate of 80.58 bpm with a standard deviation of 7.05. The t-value for the comparison between the two groups was 1.04275.

The p-value for the difference in pulse rate between the music group and the control group was 0.149169. This p-value is greater than the commonly used significance level of 0.05, indicating that the difference in pulse rate between the two groups was not statistically significant.

Based on the results of this study, there was no significant difference in pulse rate between the music group and the control group after 20 minutes of intervention. The mean pulse rate for the music group was slightly higher than that of the control group. Still, this difference was not statistically significant, as indicated by the p-value of 0.149169. Therefore, the study does not provide sufficient evidence to conclude that the music intervention significantly affected pulse rate compared to the control condition at the 20-minute mark.

Table 8. Comparison of the Pulse rate between a music group and a control group after 20 minutes of intervention.

PULSE RATE AT 20 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	81.62	80.58
SD	6.98	7.05
t- value	1.04275	
p-value	0.149169	

Comparison of the Pulse rate between a music group and a control group after 50 minutes of intervention.

At this point, the music group had a mean pulse rate of 81.86 beats per minute (bpm) with a standard deviation of 6.49, while the control group had a mean pulse rate of

80.30 bpm with a standard deviation of 6.37. The t-value for comparing the two groups at 50 minutes was 1.7061.

The p-value for the difference in pulse rate between the music group and the control group at 50 minutes was 0.044779. This p-value is less than the commonly used significance level of 0.05, indicating that the difference in pulse rate between the two groups was statistically significant.

This study's results suggest a significant difference in pulse rate between the music group and the control group after 50 minutes of intervention. The mean pulse rate for the music group was higher than that of the control group, and this difference was statistically significant, as indicated by the p-value of 0.044779. This finding proves that the music intervention substantially increased the pulse rate compared to the control condition at the 50-minute mark.

Overall, while there was no significant difference in pulse rate between the groups at 20 minutes, the music intervention appeared to have a delayed effect, resulting in a significantly higher pulse rate in the music group compared to the control group after 50 minutes of exposure. Further research may be needed to explore the mechanisms behind this delayed effect and determine the potential implications of using music to influence physiological responses such as pulse rate.

Table 9. Comparison of the Pulse rate between a music group and a control group after 50 minutes of intervention.

PULSE RATE AT 50 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	81.86	80.30
SD	6.49	6.37
t- value	1.7061	
p-value	0.044779	

Comparison of the pulse rate of participants in the music group and control group at three different time points

The study examined the pulse rate of participants in the music group and control group at three different time points: 0 minutes (baseline), 20 minutes, and 50 minutes after the intervention. At baseline, the music group had a mean pulse rate of 81.80 with a percentage of 9.56%, while the control group had a mean pulse rate of 81.46 at 7.41%. At 20 minutes, the music group's mean pulse rate was 81.62 with a percentage of 6.98%, and the control group's mean pulse rate was 80.58 with a percentage of 7.05%. At 50 minutes, the music group's mean pulse rate was 81.86 with a percentage of 6.49%, and the control group's mean pulse rate was 80.30 with a percentage of 6.37%.

The study also conducted a repeated measures analysis of variance (ANOVA) to determine if there were significant differences in pulse rate within each group across the three-time points. The f-ratio for the music group was 0.02541, with a p-value of 0.97492, indicating no significant difference in pulse rate across the three-time points within the music group. Similarly, the f-ratio for the control group was

0.74965, with a p-value of 0.47342, indicating no significant difference in pulse rate across the three-time points within the control group.

The results suggest no significant changes in pulse rate within either the music group or the control group across the three-time points (0 minutes, 20 minutes, and 50 minutes). The p-values for both groups were more significant than the commonly used significance level of 0.05, indicating that the variations in pulse rate within each group over time were not statistically significant.

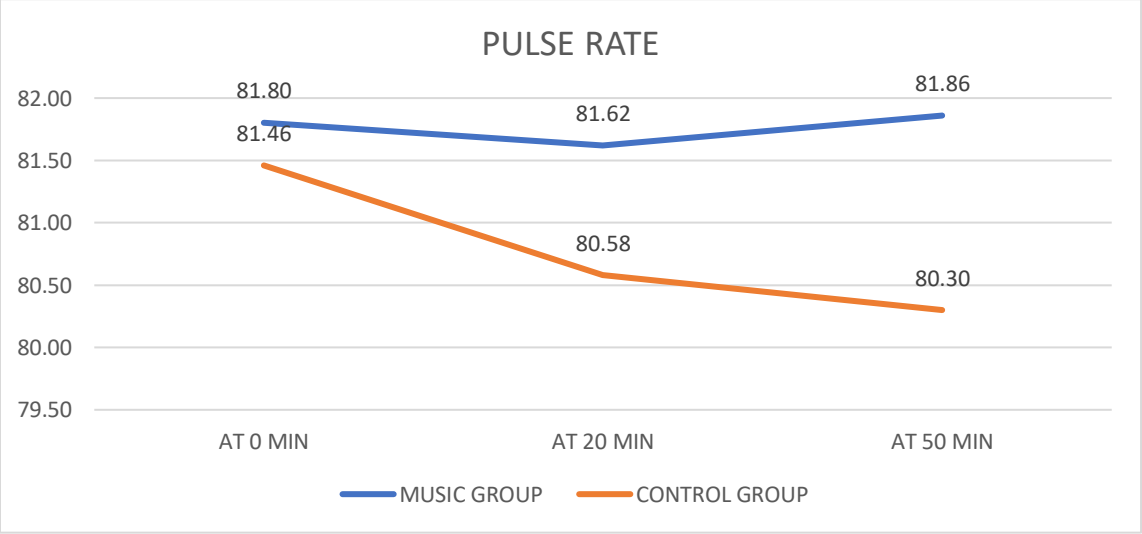
These findings imply that neither the music intervention nor the control condition significantly impacted the pulse rate of participants when considering the changes within each group separately. However, it is important to note that this analysis does not directly compare the pulse rates between the music group and the control group at each time point, which would require a different statistical test (e.g., independent samples t-test) to determine if there were significant differences between the groups at specific time points.

In summary, while there were no significant changes in pulse rate within each group across the three time points, a further analysis comparing the groups at each time point would be necessary to determine if there were any significant differences in pulse rate between the music group and the control group at specific time points during the intervention.

Table 10. Comparison of the pulse rate of participants in the music group and control group at three different time points

PULSE RATE	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
AT 0 MIN	81.80	9.56	81.46	7.41
AT 20 MIN	81.62	6.98	80.58	7.05
AT 50 MIN	81.86	6.49	80.30	6.37
f- ratio	0.02541		0.74965	
p- value	0.97492		0.47342	

Chart 7. Line chart of the pulse rate of participants in the music group and control group at three different time points



Comparison of the systolic blood pressure (SBP) between the music and control groups at baseline (0 minutes)

The study compared the systolic blood pressure (SBP) between the music and control groups at baseline (0 minutes). The music group had a mean systolic BP of 123.26 mmHg with a standard deviation of 5.41, while the control group had a mean systolic BP of 125.56 mmHg with a standard deviation of 8.07. The t-value for the comparison between the two groups at baseline was -2.35514.

The p-value for the difference in systolic BP between the music group and the control group at baseline was 0.009747. This p-value is less than the commonly used significance level of 0.05, indicating that the difference in systolic BP between the two groups was statistically significant at the start of the study.

The results suggest a significant difference in systolic BP between the music and control groups at baseline (0 minutes). The control group had a significantly higher mean systolic BP compared to the music group, as indicated by the p-value of 0.009747. This finding implies that the two groups were not equivalent in their systolic BP at the start of the study, which could influence the interpretation of any changes in systolic BP observed during the intervention.

It is essential to consider this baseline difference when interpreting the study results, as it may affect the conclusions drawn about the impact of the music intervention on systolic BP. If the groups were not comparable at baseline, it becomes more challenging to attribute any observed changes in systolic BP solely to the music intervention. Researchers should account for this baseline difference in their analysis and interpretation of the results and consider the potential limitations it may impose on the study's findings.

Table 11. Comparison of the systolic blood pressure (SBP) between the music and control groups at baseline (0 minutes)

SYSTOLIC BP AT 0 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	123.26	125.56
SD	5.41	8.07
t- value	-2.35514	
p-value	0.009747	

Comparison of the systolic blood pressure (SBP) between the music and control groups at 20 minutes

The study also examined the systolic blood pressure (SBP) between the music and control groups 20 minutes after the intervention. At this point, the music group had a mean systolic BP of 117.16 mmHg with a standard deviation of 6.32, while the control group had a mean systolic BP of 115.54 mmHg with a standard deviation of 8.19. The t-value for comparing the two groups at 20 minutes was 1.55853.

The p-value for the difference in systolic BP between the music group and the control group at 20 minutes was 0.060352. This p-value is greater than the commonly used significance level of 0.05, indicating that the difference between the two groups was not statistically significant at the 20-minute mark.

The results suggest no significant difference in systolic BP between the music and control groups 20 minutes after the intervention. Although the music group had a slightly higher mean systolic BP than the control group, this difference was not statistically significant, as indicated by the p-value of 0.060352. This finding implies

that the music intervention did not significantly impact systolic BP compared to the control condition at the 20-minute time point.

It is worth noting that the p-value of 0.060352 is close to the significance level of 0.05, which may suggest a trend towards a difference in systolic BP between the groups at 20 minutes. However, as the p-value is still above the significance threshold, we cannot conclude that there was a statistically significant difference between the groups at this time point.

Considering the baseline difference in systolic BP between the groups, it is important to interpret these results cautiously. The lack of a significant difference at 20 minutes may be influenced by the initial difference in systolic BP between the groups. Further analysis, such as an analysis of covariance (ANCOVA) or a repeated measures analysis, could help to account for the baseline difference and provide a more accurate assessment of the impact of the music intervention on systolic BP over time.

Table 12. Comparison of the systolic blood pressure (SBP) between the music and control groups at 20 minutes

SYSTOLIC BP AT 20 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	117.16	115.54
SD	6.32	8.19
t- value	1.55853	
p- value	0.060352	

Comparison of the systolic blood pressure (SBP) between the music and control groups at 50 minutes

The study further investigated the systolic blood pressure (SBP) between the music and control groups 50 minutes after the intervention. At this point, the music group had a mean systolic BP of 117.94 mmHg with a standard deviation of 5.73, while the control group had a mean systolic BP of 119.00 mmHg with a standard deviation of 5.97. The t-value for comparing the two groups at 50 minutes was -1.27454.

The p-value for the difference in systolic BP between the music group and the control group at 50 minutes was 0.101983. This p-value is greater than the commonly used significance level of 0.05, indicating that the difference in systolic BP between the two groups was not statistically significant at the 50-minute mark.

The results suggest no significant difference in systolic BP between the music group and the control group at 50 minutes after the intervention. Although the control group had a slightly higher mean systolic BP than the music group, this difference was not statistically significant, as indicated by the p-value of 0.101983. This finding implies that the music intervention did not significantly impact systolic BP compared to the control condition at the 50-minute time point.

When interpreting these results, it is essential to consider the baseline difference in systolic BP between the groups. The control group had a significantly higher systolic BP at baseline, potentially influencing the observed differences at subsequent time

points. The initial difference in systolic BP between the groups may be affected by the lack of a significant difference at 50 minutes.

Additional statistical techniques, such as an analysis of covariance (ANCOVA) or a repeated measures analysis, could be employed to account for the baseline difference and provide a more comprehensive analysis of the changes in systolic BP over time. These methods would help to control for the baseline difference and provide a clearer picture of the impact of the music intervention on systolic BP throughout the study.

In summary, while there was no significant difference in systolic BP between the music and the control groups at 50 minutes, interpreting these results should consider the baseline difference between the groups. Further analysis using appropriate statistical methods could help clarify the music intervention's impact on systolic BP over time while controlling for the initial differences between the groups.

Table 13. Comparison of the systolic blood pressure (SBP) between the music and control groups at 50 minutes

SYSTOLIC BP AT 50 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	117.94	119.00
SD	5.73	5.97
t- value	-1.27454	
p-value	0.101983	

Comparison of the systolic blood pressure (SBP) between the music and control groups at different time points

The study examined participants' systolic blood pressure (SBP) in the music and control groups at three different time points: 0 minutes (baseline), 20 minutes, and 50 minutes after the intervention. At baseline, the music group had a mean systolic BP of 123.26 mmHg with a percentage of 5.41%, while the control group had a mean systolic BP of 125.56 mmHg of 8.07%. At 20 minutes, the music group's mean systolic BP was 117.16 mmHg with a percentage of 6.32%, and the control group's mean systolic BP was 115.54 mmHg at 8.19%. At 50 minutes, the music group's mean systolic BP was 117.94 mmHg with a percentage of 5.73%, and the control group's mean systolic BP was 119.00 mmHg with a rate of 5.97%.

The study conducted a repeated measures analysis of variance (ANOVA) to determine if there were significant differences in systolic BP within each group across the three-time points. The f-ratio for the music group was 32.08074, with a p-value less than 0.00001, indicating a highly significant difference in systolic BP across the three-time points within the music group. Similarly, the f-ratio for the control group was 45.83422, with a p-value less than 0.00001, indicating a highly significant difference in systolic BP across the three time points within the control group.

The results suggest significant changes in systolic BP within the music and control groups across the three-time points (0 minutes, 20 minutes, and 50 minutes). The p-values for both groups were less than 0.00001, indicating that the variations in systolic BP within each group over time were highly statistically significant.

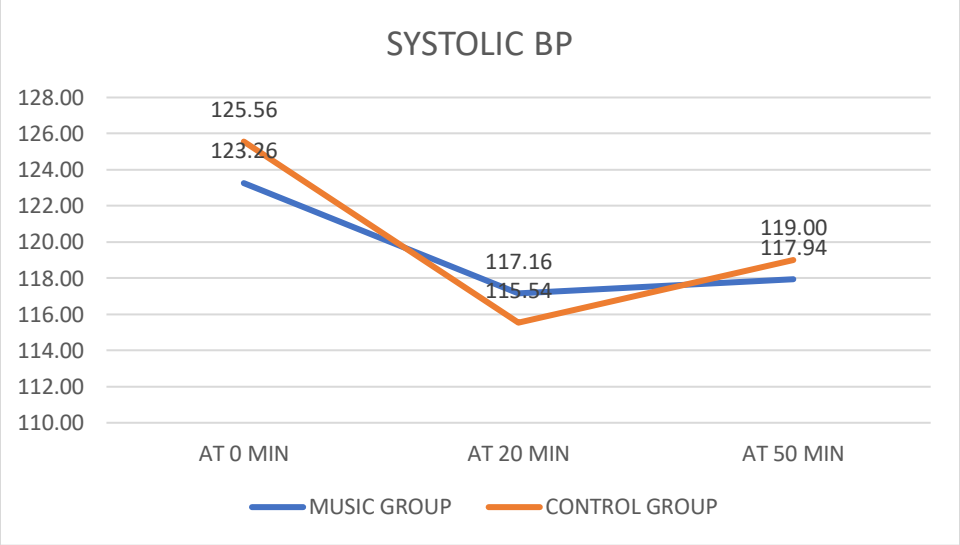
These findings imply that both the music intervention and the control condition significantly impacted the systolic BP of participants when considering the changes within each group separately. The significant f-ratios and low p-values suggest that the changes in systolic BP across the three-time points were not due to chance and were likely influenced by the intervention or control condition.

In summary, the repeated measures ANOVA revealed significant changes in systolic BP within the music and control groups across the three time points. This suggests that both the music intervention and the control condition significantly impacted systolic BP over time when considering each group separately. Further analysis comparing the groups at each time point would provide more information about the specific differences in systolic BP between the music group and the control group during the intervention.

Table 14. Comparison of the systolic blood pressure (SBP) between the music and control groups at different time points

SYSTOLIC BP	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
AT 0 MIN	123.26	5.41	125.56	8.07
AT 20 MIN	117.16	6.32	115.54	8.19
AT 50 MIN	117.94	5.73	119.00	5.97
f- ratio	32.08074		45.83422	
p- value	< .00001		< .00001	

Chart 8. Line chart of the systolic blood pressure (SBP) between the music and control groups at different time points



Comparison of the Diastolic blood pressure (DBP) between the music and control groups at baseline (0 minutes)

The study compared the diastolic blood pressure (DBP) between the music and control groups at baseline (0 minutes). The music group had a mean diastolic BP of 81.72 mmHg with a standard deviation of 5.00, while the control group had a mean diastolic BP of 80.58 mmHg with a standard deviation 5.08. The t-value for the comparison between the two groups at baseline was 1.59105.

The p-value for the difference in diastolic BP between the music group and the control group at baseline was 0.056597. This p-value is slightly more significant than the commonly used significance level of 0.05, indicating that the difference in diastolic BP between the two groups was not statistically significant at the start of the study.

The results suggest no significant difference in diastolic BP between the music and control groups at baseline (0 minutes). Although the music group had a slightly higher mean diastolic BP than the control group, this difference was not statistically significant, as indicated by the p-value of 0.056597. This finding implies that the two groups were comparable in diastolic BP at the start of the study.

However, it is worth noting that the p-value of 0.056597 is very close to the significance level of 0.05. This suggests that there may be a trend towards a difference in diastolic BP between the groups at baseline, even though it did not reach statistical significance. This potential trend should be considered when interpreting the study results, as it may influence the observed changes in diastolic BP during the intervention.

In summary, while there was no statistically significant difference in diastolic BP between the music group and the control group at baseline, the close proximity of the p-value to the significance level suggests a potential trend that should be taken into account when analysing and interpreting the study's results.

Table 15. Comparison of the Diastolic blood pressure (DBP) between the music and control groups at baseline (0 minutes)

DIASTOLIC BP AT 0 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	81.72	80.58
SD	5.00	5.08
t- value	1.59105	
p- value	0.056597	

Comparison of the Diastolic blood pressure (DBP) between the music and control groups at 20 minutes

The study also examined the diastolic blood pressure (BP) between the music and control groups 20 minutes after the intervention. At this point, the music group had a mean diastolic BP of 79.32 mmHg with a standard deviation of 6.19, while the control group had a mean diastolic BP of 81.10 mmHg with a standard deviation of 8.25. The t-value for comparing the two groups at 20 minutes was -1.71725.

The p-value for the difference in diastolic BP between the music group and the control group at 20 minutes was 0.043749. This p-value is less than the commonly used significance level of 0.05, indicating that the difference in diastolic BP between the two groups was statistically significant at the 20-minute mark.

The results suggest a significant difference in diastolic BP between the music and control groups 20 minutes after the intervention. The music group had a significantly lower mean diastolic BP than the control group, as indicated by the p-value of

0.043749. This finding implies that the music intervention significantly reduced diastolic BP compared to the control condition at the 20-minute time.

The significant difference in diastolic BP at 20 minutes suggests that the music intervention may have affected lowering diastolic BP in the music group compared to the control group. This finding is exciting, considering there was no significant difference in diastolic BP between the groups at baseline.

However, it is important to interpret these results with caution, as the study design and analysis do not account for potential confounding factors that may have influenced the observed difference in diastolic BP at 20 minutes. Additionally, the long-term effects of the music intervention on diastolic BP cannot be determined from this single time point.

In summary, the results indicate a significant difference in diastolic BP between the music group and the control group 20 minutes after the intervention, with the music group having a lower mean diastolic BP. This finding suggests that the music intervention positively reduced diastolic BP in the short term. However, further research is needed to confirm these findings and investigate music interventions' long-term effects on diastolic BP.

Table 16. Comparison of the Diastolic blood pressure (DBP) between the music and control groups at 20 minutes

DIASTOLIC BP AT 20 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	79.32	81.10
SD	6.19	8.25
t- value	-1.71725	
p-value	0.043749	

Comparison of the Diastolic blood pressure (DBP) between the music and control groups at 50 minutes

The study further investigated the diastolic blood pressure (BP) between the music and control groups 50 minutes after the intervention. At this point, the music group had a mean diastolic BP of 77.22 mmHg with a standard deviation of 6.13, while the control group had a mean diastolic BP of 79.78 mmHg with a standard deviation of 5.26. The t-value for comparing the two groups at 50 minutes was -3.153.

The p-value for the difference in diastolic BP between the music group and the control group at 50 minutes was 0.000934. This p-value is much less than the commonly used significance level of 0.05, indicating that the difference in diastolic BP between the two groups was highly statistically significant at the 50-minute mark.

The results suggest a highly significant difference in diastolic BP between the music and control groups 50 minutes after the intervention. The music group had a significantly lower mean diastolic BP than the control group, as indicated by the p-value of 0.000934. This finding strongly implies that the music intervention significantly reduced diastolic BP compared to the control condition at the 50-minute time.

The highly significant difference in diastolic BP at 50 minutes further supports the potential beneficial effect of the music intervention on lowering diastolic BP. This finding, in conjunction with the significant difference observed at 20 minutes, suggests that the music intervention may have a sustained impact on reducing diastolic BP over time.

The low p-value (0.000934) at 50 minutes provides strong evidence against the null hypothesis of no difference between the groups, indicating that the observed difference in diastolic BP is unlikely to have occurred by chance alone. This finding strengthens the conclusion that the music intervention had a significant impact on diastolic BP.

However, as mentioned earlier, potential confounding factors and the study design's limitations must be considered when interpreting these results. Additionally, the long-term effects of the music intervention on diastolic BP beyond the 50-minute time point cannot be determined from this study alone.

In summary, the results demonstrate a highly significant difference in diastolic BP between the music group and the control group 50 minutes after the intervention, with the music group having a lower mean diastolic BP. This finding, along with the significant difference observed at 20 minutes, provides strong evidence for the potential beneficial impact of the music intervention on reducing diastolic BP in the short term. Further research is warranted to confirm these findings, investigate the underlying mechanisms, and assess the long-term effects of music interventions on diastolic BP.

Table 17. Comparison of the Diastolic blood pressure (DBP) between the music and control groups at 50 minutes

DIASTOLIC BP AT 50 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	77.22	79.78
SD	6.13	5.26
t- value	-3.153	
p- value	0.000934	

Comparison of the Diastolic blood pressure (DBP) between the music and control groups at different time points

The study examined participants' diastolic blood pressure (BP) in the music and control groups at three different time points: 0 minutes (baseline), 20 minutes, and 50 minutes after the intervention. At baseline, the music group had a mean diastolic BP of 81.72 mmHg with a percentage of 5.00%, while the control group had a mean diastolic BP of 80.58 mmHg with a rate of 5.08%. At 20 minutes, the music group's mean diastolic BP was 79.32 mmHg with a percentage of 6.19%, and the control group's mean diastolic BP was 81.10 mmHg at 8.25%. At 50 minutes, the music group's mean diastolic BP was 77.22 mmHg with a percentage of 6.13%, and the control group's mean diastolic BP was 79.78 mmHg at 5.26%.

The study conducted a repeated measures analysis of variance (ANOVA) to determine if there were significant differences in diastolic BP within each group across the three-time points. The f-ratio for the music group was 14.92495, with a p-value less than 0.00001, indicating a highly significant difference in diastolic BP across the three-time points within the music group. In contrast, the f-ratio for the control group was 1.08019, with a p-value of 0.340861, indicating no significant difference in diastolic BP across the three-time points within the control group.

The results suggest significant changes in diastolic BP within the music group across the three-time points (0 minutes, 20 minutes, and 50 minutes). At the same time, there were no significant changes in diastolic BP within the control group. The p-value for the music group was less than 0.00001, indicating that the variations in diastolic BP within this group over time were highly statistically significant. In

contrast, the p-value for the control group was 0.340861, suggesting that the changes in diastolic BP within this group were not statistically significant.

These findings imply that the music intervention had a significant impact on reducing diastolic BP over time within the music group, while the control condition did not have a substantial effect on diastolic BP. The significant f-ratio and low p-value for the music group suggest that the observed changes in diastolic BP were not due to chance and were likely influenced by the music intervention.

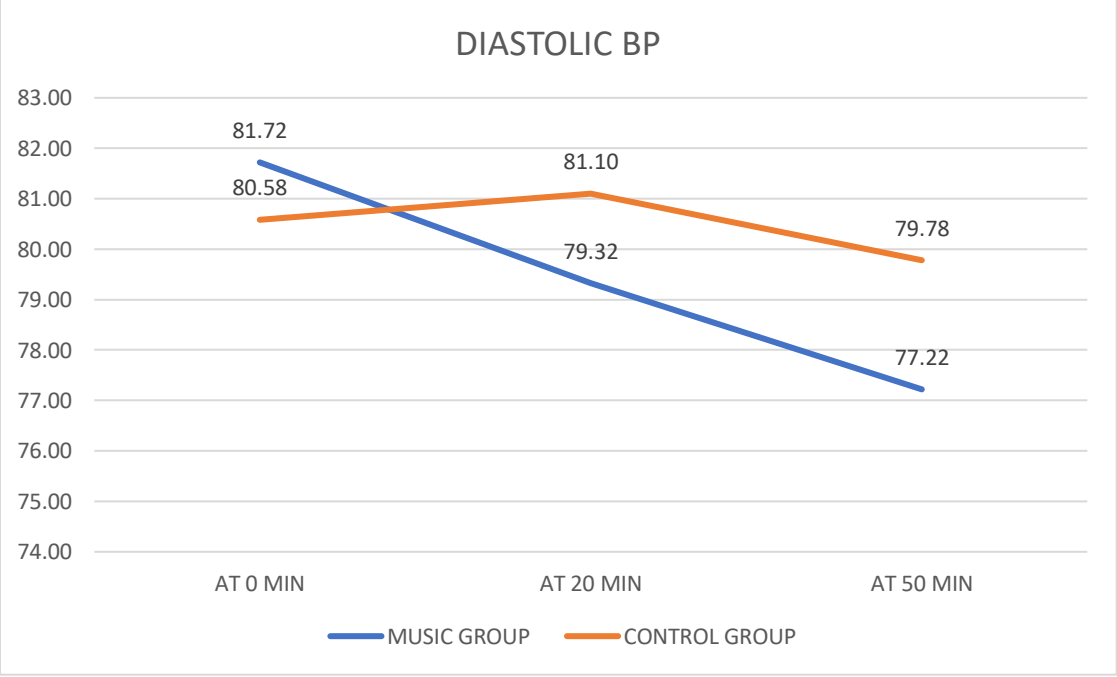
However, it is essential to note that this analysis does not directly compare the diastolic BP between the music and the control groups at each time point. To determine if there were significant differences in diastolic BP between the groups at specific time points, additional statistical tests (e.g., independent samples t-tests) would be necessary.

In summary, the repeated measures ANOVA revealed significant changes in diastolic BP within the music group across the three-time points. In contrast, no significant changes were observed within the control group. This suggests that the music intervention substantially reduced diastolic BP over time, while the control condition did not have a considerable effect. Further analysis comparing the groups at each time point would provide more information about the differences in diastolic BP between the music and the control groups during the intervention.

Table 18. Comparison of the Diastolic blood pressure (DBP) between the music and control groups at different time points

DIASTOLIC BP	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
AT 0 MIN	81.72	5.00	80.58	5.08
AT 20 MIN	79.32	6.19	81.10	8.25
AT 50 MIN	77.22	6.13	79.78	5.26
f- ratio	14.92495		1.08019	
p- value	< .00001		0.340861	

Chart 9. Line chart of the Diastolic blood pressure (DBP) between the music and control groups at different time points



Comparison of uterine contractions between the music and control groups at baseline (0 minutes).

The study compared the frequency and intensity of uterine contractions between the music and control groups at baseline (0 minutes). In the music group, 97% of participants experienced mild contractions (1-2 contractions lasting 10-20 seconds per 10 minutes), 3% experienced moderate contractions (2-3 contractions lasting 20-40 seconds per 10 minutes), and none experienced muscular contractions (3-4 contractions lasting 40-45 seconds per 10 minutes). Similarly, in the control group, 98% of participants had mild contractions, 2% had moderate contractions, and none had muscular contractions.

A chi-square test was conducted to determine if there was a significant difference in the distribution of uterine contraction intensity between the two groups at baseline. The chi-square value was 0.20512, with a p-value of 0.65061.

The results suggest no significant difference in the distribution of uterine contraction intensity between the music group and the control group at baseline (0 minutes). The high p-value of 0.65061, more significant than the commonly used significance level of 0.05, indicates that the observed differences in the distribution of contraction intensity between the groups were not statistically significant.

Most participants in both groups experienced mild contractions, with only a tiny percentage having moderate contractions and none having muscular contractions. The similarity in the distribution of contraction intensity between the groups at baseline suggests that the two groups were comparable in terms of their uterine activity at the start of the study.

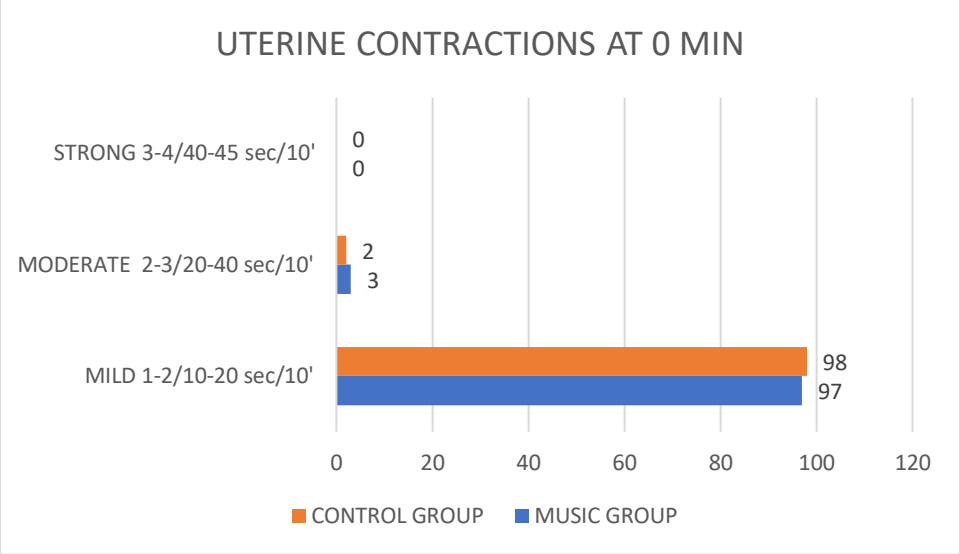
This finding is important as it establishes a baseline equivalence between the groups in terms of uterine contractions. Any differences in uterine activity observed between the groups during the intervention can be more confidently attributed to the intervention's effects rather than pre-existing differences between the groups.

In summary, the chi-square test revealed no significant difference in the distribution of uterine contraction intensity between the music group and the control group at baseline, with both groups having a similar proportion of participants experiencing mild, moderate, and muscular contractions. This baseline equivalence strengthens the validity of the study design and allows for a more accurate interpretation of the intervention's effects on uterine activity.

Table 19. Comparison of uterine contractions between the music and control groups at baseline (0 minutes).

UTERINE CONTRACTIONS AT 0 MIN	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
MILD 1-2/10-20 sec/10'	97	97	98	98
MODERATE 2-3/20-40 sec/10'	3	3	2	2
STRONG 3-4/40-45 sec/10'	0	0	0	0
chi-square	0.20512			
p-value	0.65061			

Chart 10. Cluster bar chart of the uterine contractions between the music and control groups at baseline (0 minutes).



Comparison of uterine contractions between the music and control groups at 50 minutes.

The study also examined the frequency and intensity of uterine contractions between the music and control groups 50 minutes after the intervention. In the music group, 9% of participants experienced mild contractions (1-2 contractions lasting 10-20 seconds per 10 minutes), 91% experienced moderate contractions (2-3 contractions lasting 20-40 seconds per 10 minutes), and none experienced muscular contractions (3-4 contractions lasting 40-45 seconds per 10 minutes). In the control group, 6% of participants had mild contractions, 93% had moderate contractions, and 1% had strong contractions.

A chi-square test was conducted to determine if there was a significant difference in the distribution of uterine contraction intensity between the two groups at 50 minutes. The chi-square value was 1.62173, with a p-value of 0.44447.

The results suggest no significant difference in the distribution of uterine contraction intensity between the music group and the control group 50 minutes after the intervention. The high p-value of 0.44447, more significant than the commonly used significance level of 0.05, indicates that the observed differences in the distribution of contraction intensity between the groups were not statistically significant.

At 50 minutes, most participants in both groups experienced moderate contractions, with a small percentage having mild contractions and a meagre rate (1% in the control group) having strong contractions. The similarity in the distribution of contraction intensity between the groups at this time point suggests that the music intervention did not significantly impact the intensity of uterine contractions compared to the control condition.

However, it is essential to note that there was a shift in the distribution of contraction intensity from baseline to 50 minutes in both groups. Most participants had mild contractions at baseline, whereas at 50 minutes, most had moderate contractions. This shift may be due to the natural progression of labour or other factors unrelated to the intervention.

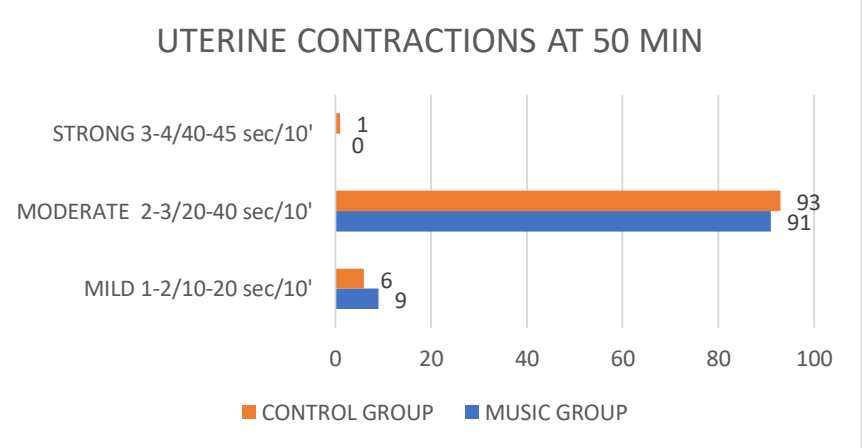
In summary, the chi-square test revealed no significant difference in the distribution of uterine contraction intensity between the music group and the control group at 50

minutes after the intervention. Both groups had a similar proportion of participants experiencing mild, moderate, and muscular contractions at this time point. While there was a shift in the distribution of contraction intensity from baseline to 50 minutes, this change was observed in both groups. It may not be attributable to the music intervention.

Table 20. Comparison of uterine contractions between the music and control groups at 50 minutes.

UTERINE CONTRACTIONS AT 50 MIN	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
MILD 1-2/10-20 sec/10'	9	9	6	6
MODERATE 2-3/20-40 sec/10'	91	91	93	93
STRONG 3-4/40-45 sec/10'	0	0	1	1
chi-square	1.62173			
p-value	0.44447			

Chart 11. Cluster bar chart of the uterine contractions between the music and control groups at 50 minutes.



Comparison of cervical dilatation between the music and control groups at 0 minutes.

The study compared the cervical dilatation between the music and control groups at baseline (0 minutes). In the music and control groups, 100% of participants had a cervical dilatation of 4-5 centimetres (cms), and none had a cervical dilatation of 6-7 cm.

A chi-square test was not performed to determine if there was a significant difference in the distribution of cervical dilatation between the two groups at baseline because there was no variation in the data. All participants in both groups had the same cervical dilatation of 4-5 cms.

The results show no difference in cervical dilatation between the music and control groups at baseline (0 minutes). All participants in both groups had a cervical dilatation of 4-5 cm, indicating that they were identical at the start of the study.

This finding is important as it establishes a baseline equivalence between the groups in terms of cervical dilatation. Any differences in cervical dilatation observed between the groups during the intervention can be more confidently attributed to the intervention's effects rather than pre-existing differences between the groups.

However, a chi-square test could not be performed due to the lack of variation in the data at baseline. The chi-square test requires that there are differences in the distribution of data between the groups to calculate the test statistic and p-value.

Since all participants in both groups had the same cervical dilatation, there was no variation to analyse.

In summary, the data shows that the music group and the control group had identical cervical dilatation of 4-5 cm at baseline, with no participants in either group having a cervical dilatation of 6-7 cm. This baseline equivalence strengthens the validity of the study design and allows for a more accurate interpretation of the intervention's effects on cervical dilatation. However, due to the lack of variation in the data, a chi-square test could not be performed to statistically compare the groups at baseline.

Table 21. Comparison of cervical dilatation between the music and control groups at 0 minutes.

CERVICAL DILATATION AT 0 MIN	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
4-5 CMS	100	100	100	100
6-7 CMS	0	0	0	0
chi-square	-			
p-value	-			

Comparison of cervical dilatation between the music and control groups at 50 minutes.

The study also examined the cervical dilatation between the music and control groups 50 minutes after the intervention. In the music group, 7% of participants had a cervical dilatation of 4-5 centimetres (cms), and 93% had a cervical dilatation of

6-7 cm. Similarly, in the control group, 6% of participants had a cervical dilatation of 4-5 cm, and 94% had a cervical dilatation of 6-7 cm.

A chi-square test was conducted to determine if there was a significant difference in the distribution of cervical dilatation between the two groups at 50 minutes. The chi-square value was 0.08227, with a p-value of 0.77424.

The results suggest no significant difference in the distribution of cervical dilatation between the music and control groups at 50 minutes after the intervention. The high p-value of 0.77424, much greater than the commonly used significance level of 0.05, indicates that the observed differences in the distribution of cervical dilatation between the groups were not statistically significant.

At 50 minutes, most participants in both groups had a cervical dilatation of 6-7 cm, with only a small percentage having a cervical dilatation of 4-5 cm. The similarity in the distribution of cervical dilatation between the groups at this time point suggests that the music intervention did not significantly impact the progression of cervical dilatation compared to the control condition.

However, it is essential to note that there was a substantial change in the distribution of cervical dilatation from baseline to 50 minutes in both groups. At baseline, all participants had a cervical dilatation of 4-5 cm, whereas at 50 minutes, most progressed to 6-7 cm. This change indicates that cervical dilatation progressed similarly in both groups throughout the study period, regardless of the intervention.

In summary, the chi-square test revealed no significant difference in the distribution of cervical dilatation between the music group and the control group at 50 minutes after the intervention. Both groups had a similar proportion of participants with cervical dilatation of 4-5 cm and 6-7 cm at this time. While there was a substantial change in the distribution of cervical dilatation from baseline to 50 minutes, this progression was observed in both groups. It may not be attributable to the music intervention.

Table 22. Comparison of cervical dilatation between the music and control groups at 50 minutes.

CERVICAL DILATATION AT 50 MIN	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
4-5 CMS	7	7	6	6
6-7 CMS	93	93	94	94
chi-square	0.08227			
p-value	0.77424			

Comparison of cervical effacement between the music and control groups at 0 minutes.

The study compared cervical effacement between the music and control groups at baseline (0 minutes). In the music group, 59% of participants had a cervical effacement of 20-30%, 36% had a cervical effacement of 40-50%, 5% had a cervical effacement of 60-70%, and none had a cervical effacement of 80-90%. In the control group, 71% of participants had a cervical effacement of 20-30%, 27% had a cervical effacement of 40-50%, 2% had a cervical effacement of 60-70%, and none had a cervical effacement of 80-90%.

A chi-square test was conducted to determine if there was a significant difference in the distribution of cervical effacement between the two groups at baseline. The chi-square value was 3.67912, with a p-value of 0.158887.

The results suggest no significant difference in the distribution of cervical effacement between the music group and the control group at baseline (0 minutes). The p-value of 0.158887, greater than the commonly used significance level of 0.05, indicates that the observed differences in the distribution of cervical effacement between the groups were not statistically significant.

At baseline, most participants in both groups had a cervical effacement of 20-30%, followed by 40-50%, with only a small percentage having a cervical effacement of 60-70% and none having a cervical effacement of 80-90%. Although there were slight differences in the percentages between the groups, they were not statistically significant, suggesting that the two groups were comparable regarding their cervical effacement at the start of the study.

This finding is important as it establishes a baseline equivalence between the groups in terms of cervical effacement. Any differences in cervical effacement observed between the groups during the intervention can be more confidently attributed to the intervention's effects rather than pre-existing differences between the groups.

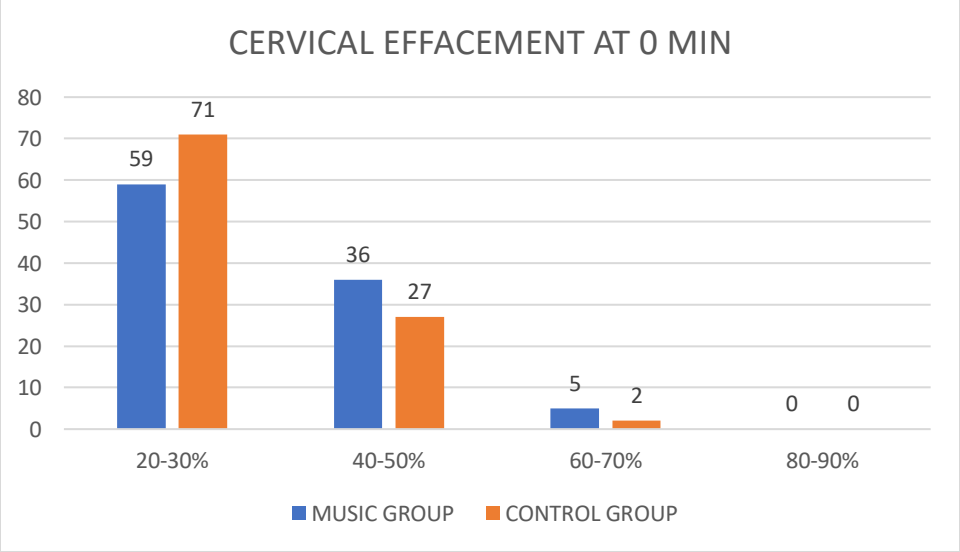
In summary, the chi-square test revealed no significant difference in the distribution of cervical effacement between the music group and the control group at baseline. Both groups had a similar distribution of participants across the different categories

of cervical effacement, with the majority having a cervical effacement of 20-30% and 40-50%. This baseline equivalence strengthens the validity of the study design and allows for a more accurate interpretation of the intervention's effects on cervical effacement.

Table 23. Comparison of cervical effacement between the music and control groups at 0 minutes (baseline)

CERVICAL EFFACEMENT AT 0 MIN	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
20-30%	59	59	71	71
40-50%	36	36	27	27
60-70%	5	5	2	2
80-90%	0	0	0	0
chi-square	3.67912			
p-value	0.158887			

Chart 12. Cluster bar chart of the cervical effacement between the music and control groups at 0 minutes (baseline)



Comparison of cervical effacement between the music and control groups at 50 minutes

The study also examined cervical effacement between the music and control groups at 50 minutes after the intervention. In the music group, 7% of participants had a cervical effacement of 20-30%, 46% had a cervical effacement of 40-50%, 45% had a cervical effacement of 60-70%, and 2% had a cervical effacement of 80-90%. In the control group, 8% of participants had a cervical effacement of 20-30%, 45% had a cervical effacement of 40-50%, 47% had a cervical effacement of 60-70%, and none had a cervical effacement of 80-90%.

A chi-square test was conducted to determine if there was a significant difference in the distribution of cervical effacement between the two groups at 50 minutes. The chi-square value was 2.12113, with a p-value of 0.547649.

The results suggest no significant difference in the distribution of cervical effacement between the music group and the control group 50 minutes after the intervention. The high p-value of 0.547649, much more significant than the commonly used significance level of 0.05, indicates that the observed differences in the distribution of cervical effacement between the groups were not statistically significant.

At 50 minutes, the majority of participants in both groups had a cervical effacement of 40-50% and 60-70%, with a small percentage having a cervical effacement of 20-30% and a tiny percentage (2% in the music group) having a cervical effacement of 80-90%. The similarity in the distribution of cervical effacement between the groups at this time point suggests that the music intervention did not significantly impact the progression of cervical effacement compared to the control condition.

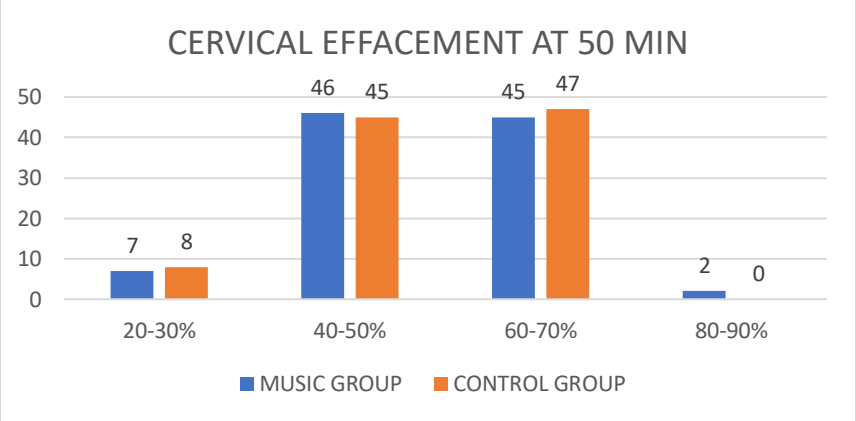
However, it is important to note that the distribution of cervical effacement changed from baseline to 50 minutes in both groups. At baseline, most participants had a cervical effacement of 20-30% and 40-50%, whereas at 50 minutes, the distribution shifted towards higher percentages of effacement (40-50% and 60-70%). This change indicates that cervical effacement progressed in both groups throughout the study period, regardless of the intervention.

In summary, the chi-square test revealed no significant difference in the distribution of cervical effacement between the music group and the control group at 50 minutes after the intervention. Both groups had a similar distribution of participants across the different categories of cervical effacement, with the majority having a cervical effacement of 40-50% and 60-70%. While there was a change in the distribution of cervical effacement from baseline to 50 minutes, this progression was observed in both groups. It may not be attributable to the music intervention.

Table 24. Comparison of cervical effacement between the music and control groups at 50 minutes

CERVICAL EFFACEMENT AT 50 MIN	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
20-30%	7	7	8	8
40-50%	46	46	45	45
60-70%	45	45	47	47
80-90%	2	2	0	0
chi-square	2.12113			
p-value	0.547649			

Chart 13. Cluster bar chart of the cervical effacement between the music and control groups at 50 minutes



Comparison of Fetal head station between the music and control groups at 0 minutes (baseline)

The study compared fetal head stations between the music and control groups at baseline (0 minutes). In the music group, 25% of participants had a fetal head station of -2, 60% had a fetal head station of -1, 15% had a fetal head station of 0, and none had a fetal head station of 1. In the control group, 27% of participants had a fetal head station of -2, 61% had a fetal head station of -1, 12% had a fetal head station of 0, and none had a fetal head station of 1.

A chi-square test was conducted to determine if there was a significant difference in the distribution of fetal head stations between the two groups at baseline. The chi-square value was 0.41852, with a p-value of 0.81118.

The results suggest no significant difference in the distribution of fetal head stations between the music group and the control group at baseline (0 minutes). The high p-

value of 0.81118, which is much greater than the commonly used significance level of 0.05, indicates that the observed differences in the distribution of fetal head stations between the groups were not statistically significant.

At baseline, most participants in both groups had a fetal head station of -1, followed by -2, with a smaller percentage having a fetal head station of 0 and none having a fetal head station of 1. The similarity in the distribution of fetal head stations between the groups suggests that the two groups were comparable in terms of the position of the fetal head relative to the pelvic inlet at the start of the study.

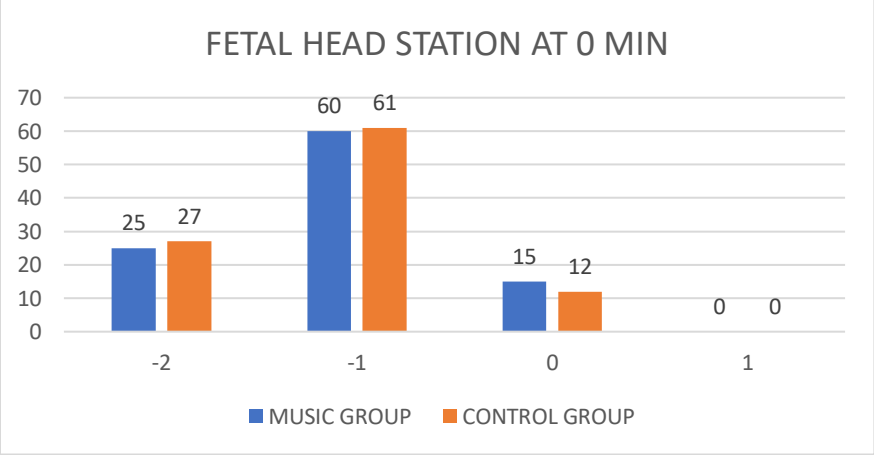
This finding is important as it establishes a baseline equivalence between the groups in terms of fetal head station. Any differences in fetal head station observed between the groups during the intervention can be more confidently attributed to the intervention's effects rather than preexisting differences between the groups.

In summary, the chi-square test revealed no significant difference in the distribution of fetal head stations between the music group and the control group at baseline. Both groups had a similar distribution of participants across the different categories of the fetal head station, with the majority having a fetal head station of -1 and -2. This baseline equivalence strengthens the validity of the study design and allows for a more accurate interpretation of the intervention's effects on the fetal head station.

Table 25. Comparison of Fetal head station between the music and control groups at 0 minutes (baseline)

FETAL HEAD STATION AT 0 MIN	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
-2	25	25	27	27
-1	60	60	61	61
0	15	15	12	12
1	0	0	0	0
chi-square	0.41852			
p-value	0.81118			

Chart 14. Cluster bar chart of the Fetal head station between the music and control groups at 0 minutes (baseline)



Comparison of Fetal head station between the music and control groups at 50 minutes

The study also examined the fetal head station between the music and control groups 50 minutes after the intervention. In the music group, 5% of participants had a fetal head station of -2, 18% had a fetal head station of -1, 71% had a fetal head station of 0, and 6% had a fetal head station of 1. In the control group, 2% of participants had a fetal head station of -2, 25% had a fetal head station of -1, 63% had a fetal head station of 0, and 10% had a fetal head station of 1.

A chi-square test was conducted to determine if there was a significant difference in the distribution of fetal head stations between the two groups at 50 minutes. The chi-square value was 3.9028, with a p-value of 0.27214.

The results suggest no significant difference in the distribution of fetal head stations between the music group and the control group 50 minutes after the intervention. The p-value of 0.27214, greater than the commonly used significance level of 0.05, indicates that the observed differences in the distribution of fetal head stations between the groups were not statistically significant.

At 50 minutes, the majority of participants in both groups had a fetal head station of 0, followed by -1, with a smaller percentage having a fetal head station of -2 and 1. Although there were slight differences in the percentages between the groups, these differences were not statistically significant, suggesting that the music intervention

did not significantly impact the progression of the fetal head station compared to the control condition.

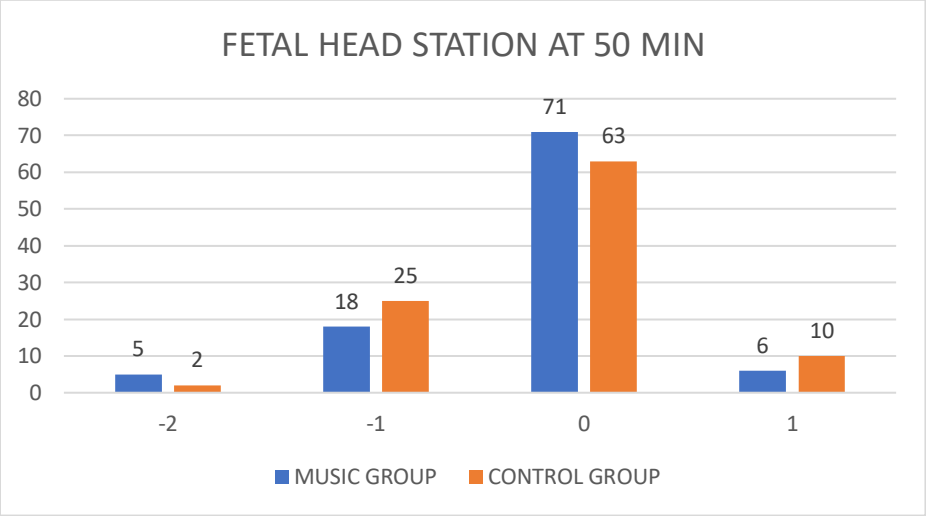
However, it is important to note that the distribution of fetal head stations changed from baseline to 50 minutes in both groups. At baseline, most participants had a fetal head station of -1 and -2, whereas at 50 minutes, the distribution shifted towards higher stations (0 and 1). This change indicates that fetal head station progressed in both groups throughout the study period, regardless of the intervention.

In summary, the chi-square test revealed no significant difference in the distribution of fetal head stations between the music group and the control group 50 minutes after the intervention. Both groups had a similar distribution of participants across the different categories of the fetal head station, with the majority having a fetal head station of 0. While there was a change in the distribution of fetal head station from baseline to 50 minutes, this progression was observed in both groups. It may not be attributable to the music intervention.

Table 26. Comparison of Fetal head station between the music and control groups at 50 minutes

FETAL HEAD STATION AT 50 MIN	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
-2	5	5	2	2
-1	18	18	25	25
0	71	71	63	63
1	6	6	10	10
chi-square	3.9028			
p-value	0.27214			

Chart 15. Cluster bar chart of the Fetal head station between the music and control groups at 50 minutes



Comparison of the characteristics of the liquor (amniotic fluid) between the music group and the control group

The study compared the characteristics of the liquor (amniotic fluid) between the music group and the control group. In the music group, 92% of participants had clear liquor, 7% had meconium-stained liquor, and 1% had blood-stained liquor. In the control group, 95% of participants had clear liquor, 5% had meconium-stained liquor, and none had blood-stained liquor.

A chi-square test was conducted to determine if there was a significant difference in the distribution of liquor characteristics between the two groups. The chi-square value was 1.38146, with a p-value of 0.501209.

The results suggest no significant difference in the distribution of liquor characteristics between the music group and the control group. The high p-value of 0.501209, which is much greater than the commonly used significance level of 0.05, indicates that the observed differences in the distribution of liquor characteristics between the groups were not statistically significant.

The majority of participants in both groups had clear liquor, with a small percentage having meconium-stained liquor and a tiny percentage (1% in the music group) having blood-stained liquor. The similarity in the distribution of liquor characteristics between the groups suggests that the music intervention did not significantly impact the presence of meconium or blood in the amniotic fluid.

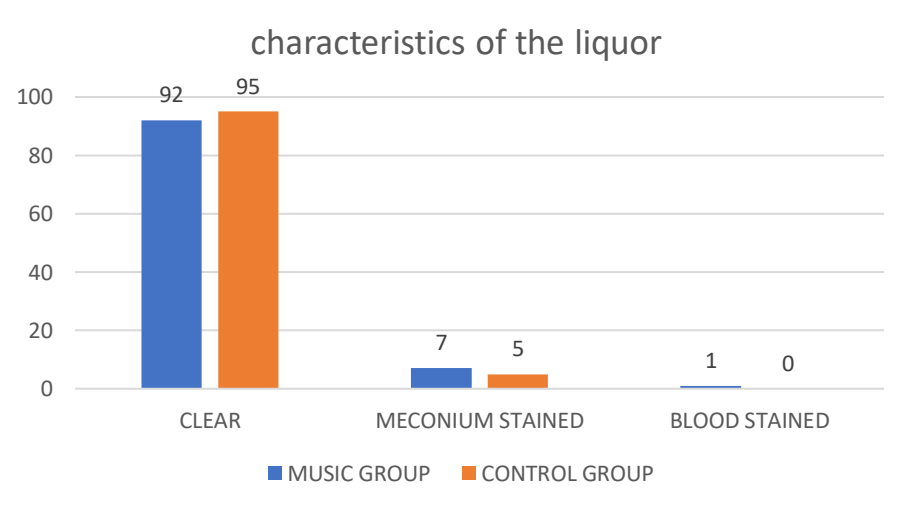
It is important to note that various factors, such as fetal distress, infection, or placental issues can influence the presence of meconium or blood in the amniotic fluid. The lack of a significant difference between the groups in terms of liquor characteristics suggests that the music intervention did not significantly affect these factors.

In summary, the chi-square test revealed no significant difference in the distribution of liquor characteristics between the music group and the control group. Both groups had a similar distribution of participants with clear, meconium-stained, and blood-stained liquor, with the majority having clear liquor. This finding suggests that the music intervention did not significantly influence the presence of meconium or blood in the amniotic fluid.

Table 27. Comparison of the characteristics of the liquor (amniotic fluid) between the music group and the control group

LIQUOR	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
CLEAR	92	92	95	95
MECONIUM STAINED	7	7	5	5
BLOODSTAINED	1	1	0	0
chi-square	1.38146			
p-value	0.501209			

Chart 16. Cluster bar chart of the characteristics of the liquor (amniotic fluid) between the music group and the control group



Comparison of fetal heart rate (FHR) between the music and control groups at baseline (0 minutes).

The study compared the fetal heart rate (FHR) between the music and control groups at baseline (0 minutes). The music group had a mean FHR of 149.54 beats per minute (bpm) with a standard deviation of 4.66, while the control group had a mean FHR of 145.90 bpm with a standard deviation of 7.47. The t-value for the comparison between the two groups at baseline was 4.11302, with a p-value of 0.000029, indicating a highly statistically significant difference in FHR between the two groups at the start of the study.

The results of this study demonstrate a highly significant difference in fetal heart rate (FHR) between the music group and the control group at baseline. The music group had a significantly higher mean FHR compared to the control group, as evidenced by the low p-value of 0.000029. This finding raises concerns about the comparability of the groups at the start of the study and suggests that there may be potential confounding factors influencing the baseline FHR.

The significant difference in baseline FHR between the groups could affect the interpretation of any changes in FHR observed during the intervention. Researchers should account for this baseline difference in their analysis and use appropriate statistical methods, such as analysis of covariance (ANCOVA), to adjust for it and provide a more accurate assessment of the intervention's effect on FHR.

In conclusion, while the study aimed to investigate the impact of a music intervention on FHR, the highly significant difference in baseline FHR between the groups highlights the importance of assessing baseline equivalence and considering potential confounding factors. Researchers should interpret the results cautiously and address the baseline difference when evaluating the effectiveness of the music intervention on FHR.

Table 28. Comparison of fetal heart rate (FHR) between the music and control groups at baseline (0 minutes).

FHR AT 0 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	149.54	145.90
SD	4.66	7.47
t- value	4.11302	
p- value	0.000029	

Comparison of fetal heart rate (FHR) at 50 minutes between the music and control groups

The comparison of fetal heart rate (FHR) at 50 minutes between the music and control groups reveals notable differences. The music group has a mean FHR of 150.78 beats per minute, while the control group has a mean FHR of 147.08 beats per minute. The standard deviation of FHR in the music group is 2.94, considerably smaller than the standard deviation of 8.27 in the control group.

The t-value of 4.19581 indicates the magnitude of the difference between the group means in terms of standard error units. The positive t-value suggests that the music group has a higher mean FHR than the control group. The p-value of 0.000021 is extremely small, falling well below the conventional significance levels of 0.05 and 0.01. This low p-value strongly suggests that the difference in FHR between the music and control groups is statistically significant and not likely to have occurred by chance.

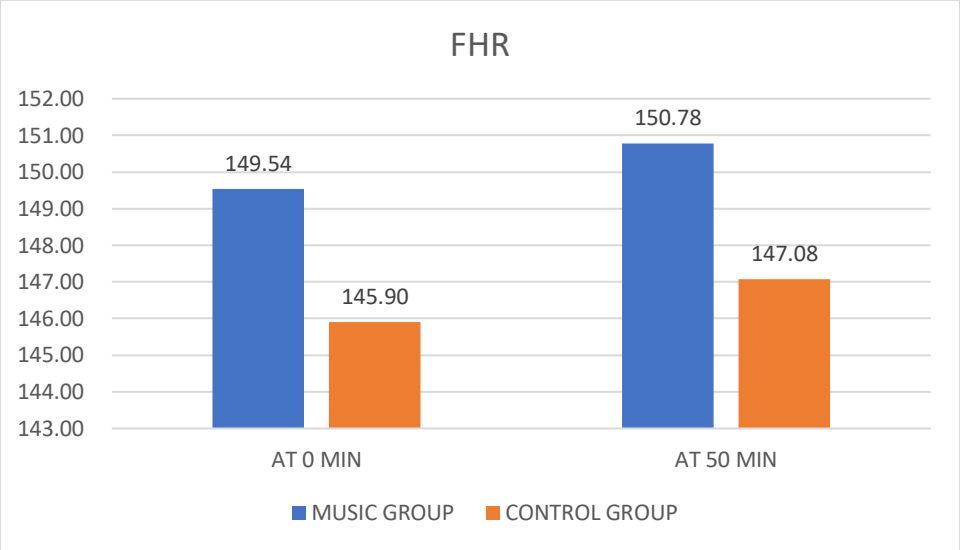
The smaller standard deviation in the music group compared to the control group indicates that the FHR values in the music group are more tightly clustered around the mean. In contrast, the control group exhibits more significant variability in FHR values.

The results of this study provide evidence that exposure to music significantly increases the fetal heart rate at 50 minutes compared to the control condition. The statistically significant difference in mean FHR between the groups and the lower variability in FHR values in the music group supports the conclusion that music has a demonstrable effect on fetal heart rate.

Table 29. Comparison of fetal heart rate (FHR) at 50 minutes between the music and control groups

FHR AT 50 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	150.78	147.08
SD	2.94	8.27
t- value	4.19581	
p- value	0.000021	

Chart 17. Cluster bar chart of the fetal heart rate (FHR) at baseline and 50 minutes between the music and control groups



Comparison of the number of accelerations in fetal heart rate between a music group and a control group.

The study compared the number of accelerations in fetal heart rate between a music group and a control group. The data shows that in the music group, 69% of the participants had 2 accelerations, and 29% had 3 accelerations. In contrast, the control group had a more varied distribution, with 1% having 0 accelerations, 10% having 1 acceleration, 52% having 2 accelerations, 35% having 3 accelerations, and 2% having 4 accelerations.

The chi-square value of 11.28426 indicates the difference between the observed and expected frequencies of accelerations in the two groups. The p-value associated with

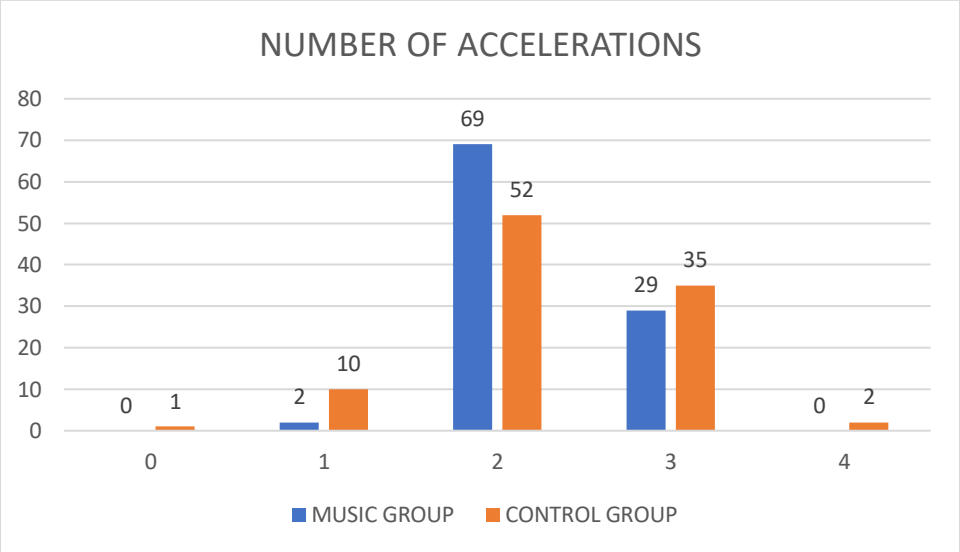
this chi-square value is 0.023548, less than the conventional significance level of 0.05. This suggests a statistically significant difference in the distribution of the number of accelerations between the music and control groups.

The results demonstrate a significant difference in the number of accelerations in fetal heart rate between the music group and the control group. The music group exhibits a more concentrated distribution, with most participants having 2 or 3 accelerations. In contrast, the control group shows a more diverse distribution across different numbers of accelerations. The significant p-value (0.023548) supports the conclusion that the distribution of accelerations differs significantly between the two groups, suggesting that exposure to music may influence the occurrence of accelerations in fetal heart rate.

Table 30. Comparison of the number of accelerations in fetal heart rate between a music group and a control group.

NUMBER OF ACCELERATIONS	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
0	0	0	1	1
1	2	2	10	10
2	69	69	52	52
3	29	29	35	35
4	0	0	2	2
chi square	11.28426			
p- value	0.023548			

Chart 18. Cluster bar chart of the number of accelerations in fetal heart rate between a music group and a control group.



Comparison of beat-to-beat variability in fetal heart rate between a music group and a control group.

The study examined the presence or absence of beat-to-beat variability in fetal heart rate between a music group and a control group. In the music group, beat-to-beat variability was present in 96% of the participants and absent in 4%. Similarly, in the control group, beat-to-beat variability was present in 93% of the participants and absent in 7%.

The chi-square value of 0.8658 represents the difference between the observed and expected frequencies of beat-to-beat variability in the two groups. The corresponding p-value is 0.35212, more significant than the conventional

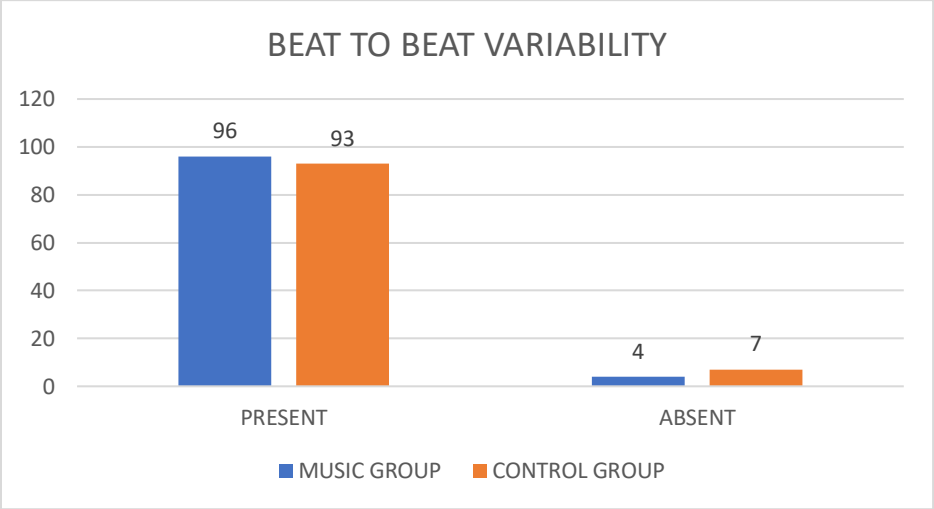
significance level of 0.05. This indicates no statistically significant difference between the music and control groups in the presence or absence of beat-to-beat variability.

The results suggest no significant difference in beat-to-beat fetal heart rate variability between the music and control groups. Both groups exhibit a high percentage of participants with present beat-to-beat variability (96% in the music group and 93% in the control group). The non-significant p-value (0.35212) supports the conclusion that the presence or absence of beat-to-beat variability is not significantly influenced by exposure to music in this study.

Table 31. Comparison of beat-to-beat variability in fetal heart rate between a music group and a control group.

BEAT-TO-BEAT VARIABILITY	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
PRESENT	96	96	93	93
ABSENT	4	4	7	7
chi square	0.8658			
p- value	0.35212			

Chart 19. Cluster bar chart of the beat-to-beat variability in fetal heart rate between a music group and a control group.



Comparison of the number of decelerations in fetal heart rate between a music group and a control group.

The study investigated the number of decelerations in fetal heart rate between a music group and a control group. In the music group, 95% of the participants had no decelerations (0), and 5% had one deceleration (1). Similarly, in the control group, 91% of the participants had no decelerations (0), and 9% had one deceleration (1).

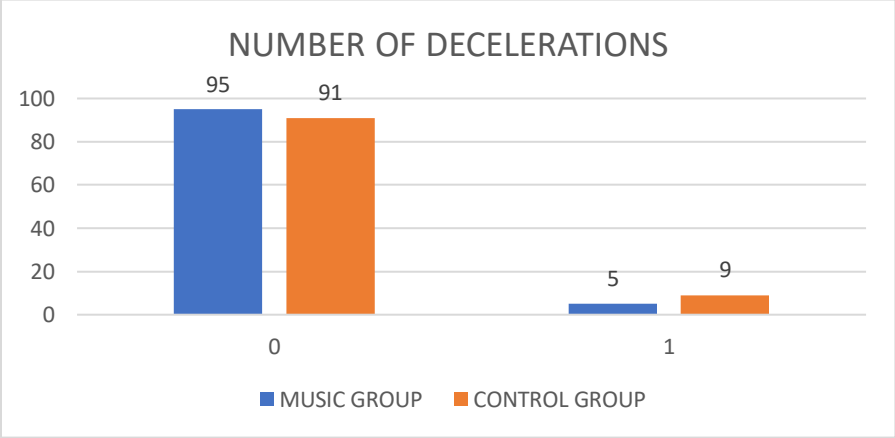
The chi-square value of 1.2288 represents the difference between the observed and expected frequencies of decelerations in the two groups. The associated p-value is 0.26762, greater than the conventional significance level of 0.05. This suggests no statistically significant difference in the number of decelerations between the music and control groups.

The results indicate no significant difference in the occurrence of decelerations in fetal heart rate between the music group and the control group. Both groups have a high percentage of participants with no decelerations (95% in the music group and 91% in the control group). The non-significant p-value (0.26762) supports the conclusion that the number of decelerations is not significantly affected by exposure to music in this study.

Table 32. Comparison of the number of decelerations in fetal heart rate between a music group and a control group.

NUMBER OF DECELERATIONS	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
0	95	95	91	91
1	5	5	9	9
chi-square	1.2288			
p-value	0.26762			

Chart 20. Cluster bar chart of the number of decelerations in fetal heart rate between a music group and a control group.



Comparison of the Visual Analog Scale (VAS) scores between a music group and a control group at different time points

The study compared the Visual Analog Scale (VAS) scores between a music group and a control group at different time points: 0 minutes (V1), 20 minutes (V2), 30 minutes (V3), and 50 minutes (V4). The mean VAS scores for the music group were 4.14 (SD = 0.77) at V1, 5.08 (SD = 0.76) at V2, 5.83 (SD = 0.81) at V3, and 6.87 (SD = 0.86) at V4. In the control group, the mean VAS scores were 3.96 (SD = 0.77) at V1, 5.50 (SD = 0.83) at V2, 7.13 (SD = 0.87) at V3, and 8.69 (SD = 0.59) at V4.

The f-ratio for the music group is 102.06971, and for the control group, it is 689.64682. These f-ratios indicate the variance between the time points relative to the variance within each time point. The p-values associated with these f-ratios are both less than .00001, which is highly significant. This suggests that there are significant differences in VAS scores across the time points within each group.

The results demonstrate significant changes in VAS scores over time in both the music and the control groups. The p-values (< .00001) for both groups indicate that the differences in VAS scores across the time points are highly significant. The mean VAS scores in both groups increase from V1 to V4, suggesting an increased measured variable (e.g., pain or discomfort) over time. However, the control group appears to have higher mean VAS scores than the music group at each time point, particularly at V3 and V4. Further statistical analysis would be needed to determine if the differences in VAS scores between the music and control groups are significant each time. (as shown in Table 34 and Figure 30)

At 0 min, difference in VAS score was not significant (P value 0.10348071) between the groups. At 20 min, difference in VAS score was not significant (P value 0.26231) between the groups.

At 30 min, difference in VAS score was significant (P value < .00001) between the groups.

At 50 min, difference in VAS score was significant (P value < .00001) between the groups.

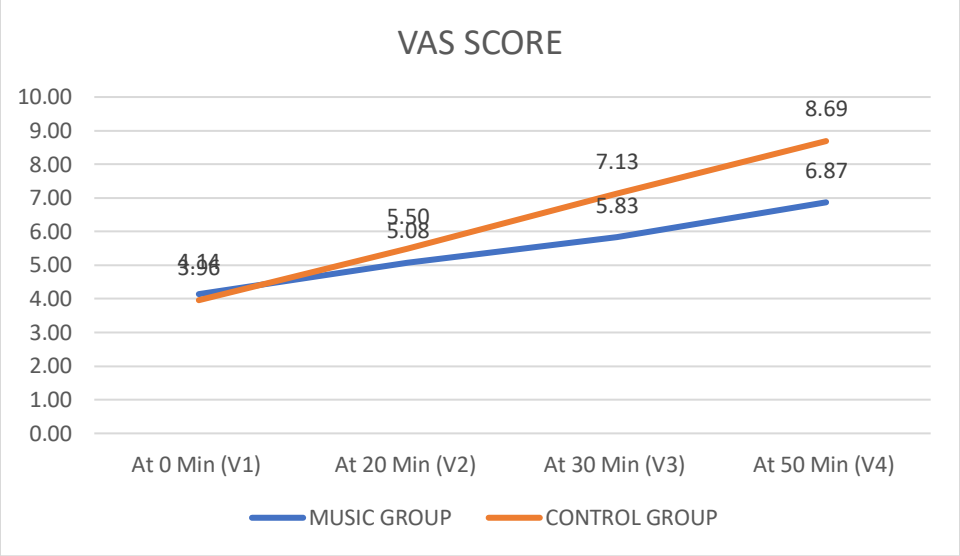
This shows that the VAS scores have significantly increased in the control groups as compared to the music group.

Table 33. Comparison of the Visual Analog Scale (VAS) scores between a music group and a control group at different time points

VAS SCORE	MUSIC GROUP		CONTROL GROUP	
	MEAN	SD	MEAN	SD
At 0 Min (V1)	4.14	0.77	3.96	0.77
At 20 Min (V2)	5.08	0.76	5.50	0.83
At 30 Min (V3)	5.83	0.81	7.13	0.87
At 50 Min (V4)	6.87	0.86	8.69	0.59
f- ratio	102.06971		689.64682	
p-value	< .00001		< .00001	

VAS SCORE	MUSIC GROUP	CONTROL GROUP	p- value
At 0 Min (V1)	4.14	3.96	0.10348071
At 20 Min (V2)	5.08	5.50	0.26231
At 30 Min (V3)	5.83	7.13	< .00001
At 50 Min (V4)	6.87	8.69	< .00001

Chart 21. Line chart of the Visual Analog Scale (VAS) scores between a music group and a control group at different time points



Comparison of the serum cortisol levels between a music group and a control group at 0 minutes.

The study compared serum cortisol levels between a music group and a control group at 0 minutes. The music group had a mean serum cortisol level of 26.58 (SD = 12.87), while the control group had a mean serum cortisol level of 27.28 (SD = 14.28).

The t-value for the comparison between the two groups is -0.36074, indicating a slight difference in the opposite direction (the control group has a slightly higher mean than the music group). The associated p-value is 0.359338, more significant than the conventional significance level of 0.05. This suggests no statistically significant difference in serum cortisol levels between the music and control groups at 0 minutes.

The results indicate no significant difference in serum cortisol levels between the music and control groups at the start of the study (0 minutes). The negative t-value and the non-significant p-value (0.359338) support the conclusion that the two groups have similar serum cortisol levels at baseline. This finding ensures that any potential differences in serum cortisol levels observed later in the study can be attributed to the intervention (music) rather than pre-existing differences between the groups.

Table 34. Comparison of the serum cortisol levels between a music group and a control group at 0 minutes.

SERUM CORTISOL AT 0 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	26.58	27.28
SD	12.87	14.28
t- value	-0.36074	
p- value	0.359338	

Comparison of the serum cortisol levels between a music group and a control group at 50 minutes

The study compared serum cortisol levels between a music group and a control group at 50 minutes. The music group had a mean serum cortisol level of 23.83 (SD = 12.31), while the control group had a mean serum cortisol level of 36.06 (SD = 14.15).

The t-value for the comparison between the two groups at 50 minutes is -6.4857, indicating a substantial difference between the groups, with the control group having a significantly higher mean serum cortisol level than the music group. The associated p-value is less than .00001, which is highly significant and well below the conventional significance level of 0.05. This suggests a statistically significant

difference in serum cortisol levels between the music and control groups at 50 minutes.

The results demonstrate a significant difference in serum cortisol levels between the music and control groups at 50 minutes. The negative t-value and the highly substantial p-value (< .00001) strongly support the conclusion that the music group has significantly lower serum cortisol levels compared to the control group at this time point. This finding suggests that exposure to music may have a stress-reducing effect, as indicated by the lower cortisol levels in the music group. The difference in cortisol levels between the groups at 50 minutes is notable, given that there was no significant difference at baseline (0 minutes), highlighting the potential impact of music intervention on stress reduction over time.

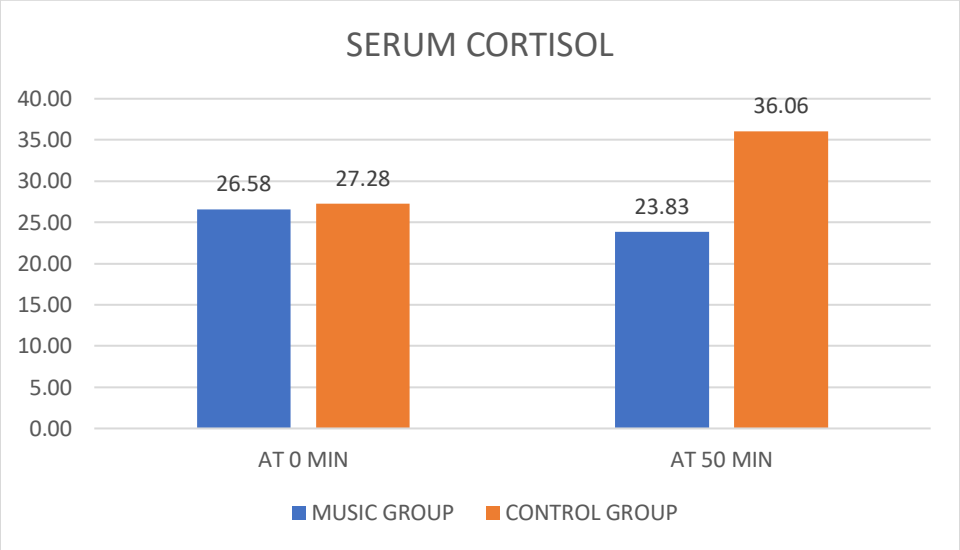
Table 35. Comparison of the serum cortisol levels between a music group and a control group at 50 minutes

SERUM CORTISOL AT 50 MIN	MUSIC GROUP	CONTROL GROUP
MEAN	23.83	36.06
SD	12.31	14.15
t- value	-6.4857	
p- value	< .00001	

SERUM CORTISOL	MUSIC GROUP	CONTROL GROUP
AT 0 MIN	26.58	27.28
AT 50 MIN	23.83	36.06
P VALUE	0.063393	0.000011

The serum cortisol levels decreased in music group whereas, in control group it has increased (with a significant difference).

Chart 22. Cluster bar chart of the serum cortisol levels between a music group and a control group at baseline and 50 minutes



The frequency and percentage of participants who were given analgesics between a music group and a control group

The study compared the frequency and percentage of participants who were given analgesics between a music group and a control group. In the music group, 3% of participants (frequency = 3) received analgesics, while 97% (frequency = 97) did not. In the control group, 6% of participants (frequency = 6) received analgesics, and 94% (frequency = 94) did not.

The chi-square value for the comparison between the two groups is 1.0471, indicating a slight difference in the distribution of analgesic administration between the groups. The associated p-value is 0.306171, greater than the conventional

significance level of 0.05. This suggests no statistically significant difference in the proportion of participants who received analgesics between the music and control groups.

The results indicate that there is no significant difference in the administration of analgesics between the music group and the control group. The small percentage of participants who received analgesics in both groups (3% in the music group and 6% in the control group) and the non-significant p-value (0.306171) support the conclusion that the use of analgesics is similar between the two groups. This finding suggests that the music intervention did not significantly impact this study's need for analgesic administration.

Comparison of APGAR score between a music and control group at three different time points

The study compared Apgar scores between a music group and a control group at three different time points: 1 minute, 5 minutes, and 10 minutes after birth. In the music group, the mean Apgar scores were 7.13 (SD = 0.44) at 1 minute, 8.26 (SD = 0.56) at 5 minutes, and 8.60 (SD = 0.60) at 10 minutes. In the control group, the mean Apgar scores were 6.92 (SD = 0.42) at 1 minute, 7.98 (SD = 0.60) at 5 minutes, and 8.53 (SD = 0.71) at 10 minutes.

The f-ratio for the music group is 203.22738, and for the control group, it is 190.82884. These f-ratios indicate the variance in Apgar scores between the time points relative to the variance within each time point. The p-values associated with these f-ratios are both less than .00001, which is highly significant. This suggests substantial differences in Apgar scores across the time points within each group.

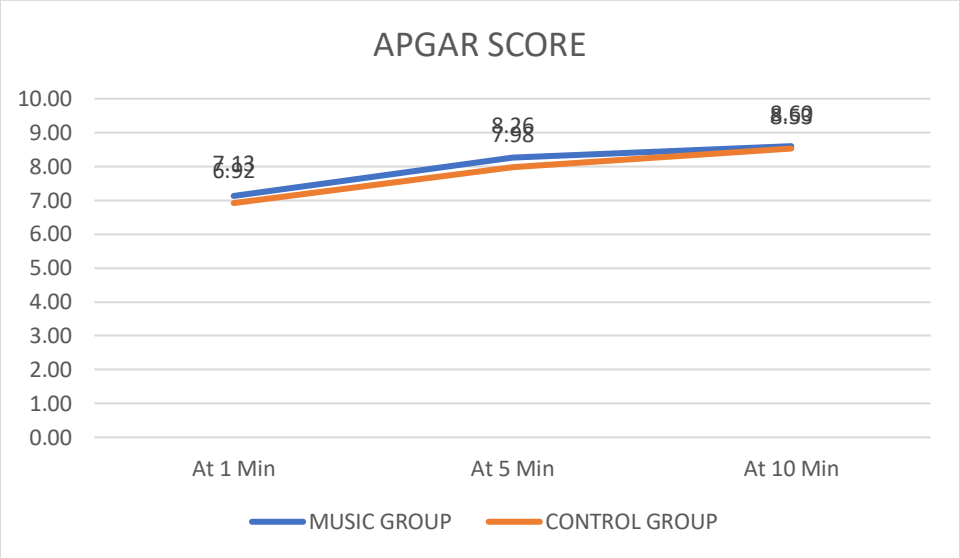
The results demonstrate significant changes in Apgar scores over time in both the music and the control groups. The p-values (< .00001) for both groups indicate that the differences in Apgar scores across the time points (1, 5, and 10 minutes) are highly significant. The mean Apgar scores in both groups increase from 1 minute to 10 minutes, suggesting an improvement in the newborns' condition over time.

Although the music group appears to have slightly higher mean Apgar scores than the control group at each time point, further statistical analysis would be needed to determine if the differences in Apgar scores between the music and control groups are significant at each time point. The current study focuses on the changes in Apgar scores within each group over time rather than directly comparing the scores between the groups.

Table 36. Comparison of APGAR score between a music and control group at three different time points.

APGAR SCORE	MUSIC GROUP		CONTROL GROUP	
	MEAN	SD	MEAN	SD
At 1 Min	7.13	0.44	6.92	0.42
At 5 Min	8.26	0.56	7.98	0.60
At 10 Min	8.60	0.60	8.53	0.71
f- ratio	203.22738		190.82884	
p- value	< .00001		< .00001	

Chart 23. Line chart of APGAR score between a music and control group at three different time points.



Comparison of fetal outcomes between a music group and a control group

The study compared fetal outcomes between a music group and a control group. In the music group, 91% of newborns (frequency = 91) had a typical result. In comparison, 5% (frequency = 5) required an O2 hood, 3% (frequency = 3) needed a high-flow nasal cannula (HFNC), 1% (frequency = 1) required continuous positive airway pressure (CPAP), and none were admitted to the neonatal intensive care unit (NICU). In the control group, 80% of newborns (frequency = 80) had a normal outcome, 8% (frequency = 8) required O2 hood, 2% (frequency = 2) needed HFNC, 9% (frequency = 9) required CPAP, and 1% (frequency = 1) was admitted to the NICU.

The chi-square value for comparing fetal outcomes between the two groups is 8.99991, indicating some differences in the distribution of outcomes between the groups. The associated p-value is 0.061101, more significant than the conventional significance level of 0.05 but less than 0.10. This suggests a trend towards a difference in fetal outcomes between the music and control groups, but it does not reach the standard level of statistical significance.

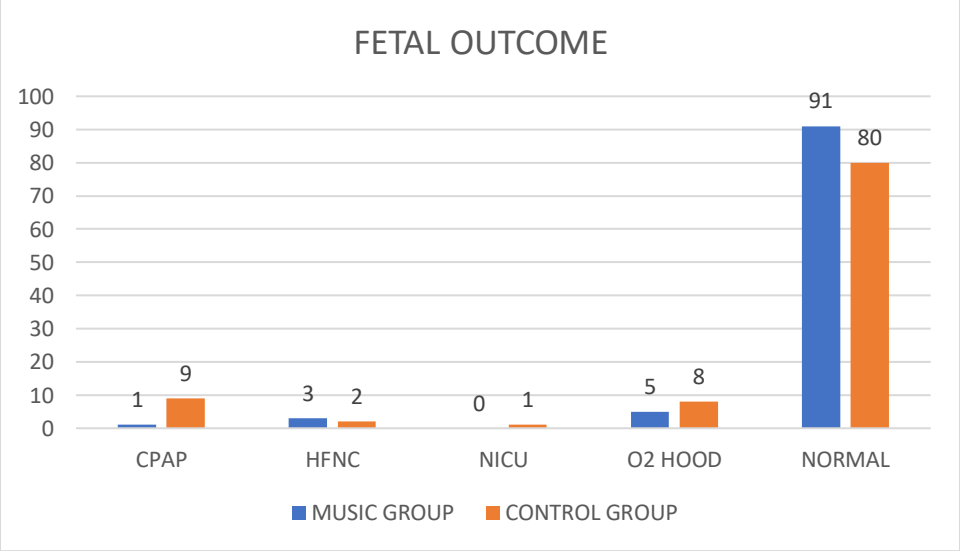
The results indicate no statistically significant difference in fetal outcomes between the music and control groups at the conventional 0.05 level. However, the p-value of 0.061101 suggests a trend towards a difference in outcomes between the groups. The music group appears to have a higher percentage of newborns with expected outcomes (91%) compared to the control group (80%), and a lower rate of newborns requiring CPAP (1% vs. 9%) and O2 hood (5% vs. 8%).

While these differences are not statistically significant at the 0.05 level, they suggest a potential positive impact of music intervention on fetal outcomes. Further research with larger sample sizes or more targeted interventions may help clarify the relationship between music and fetal outcomes. Notably, most newborns in both groups had average outcomes, indicating that the overall fetal outcomes were favourable in this study.

Table 37. Comparison of fetal outcomes between a music group and a control group

FETAL OUTCOME	MUSIC GROUP		CONTROL GROUP	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
CPAP	1	1	9	9
HFNC	3	3	2	2
NICU	0	0	1	1
O2 HOOD	5	5	8	8
NORMAL	91	91	80	80
chi square	8.99991			
p- value	0.061101			

Chart 24. Cluster bar chart of the fetal outcomes between a music group and a control group



DISCUSSION

The prospective interventional study, conducted from September 2022 to May 2024, investigated the effects of music therapy on various maternal and fetal parameters during labour. The study included 200 participants, equally divided into the music and control groups, with similar demographic characteristics and obstetric histories.

The findings revealed no significant differences between the groups in maternal pulse rate, uterine contractions, cervical dilatation, or cervical effacement. However, the control group had higher systolic blood pressure at baseline, while the music group had lower diastolic blood pressure at 20 and 50 minutes.

Regarding fetal parameters, the music group had higher fetal heart rates at baseline and 50 minutes and showed a more concentrated distribution of accelerations. No significant differences were found in liquor characteristics, beat-to-beat variability, or the number of decelerations between the groups.

VAS scores increased significantly over time in both groups, with the control group having higher scores at later time points. The music group had significantly lower serum cortisol levels at 50 minutes, suggesting a potential stress-reducing effect of music therapy.

No significant differences were observed in analgesic administration or Apgar scores between the groups. However, a trend towards better fetal outcomes was noted in the music group, although not statistically significant at the 0.05 level.

In conclusion, the prospective interventional study provides compelling evidence of the potential benefits of music therapy during labour, particularly in reducing maternal stress and promoting relaxation. The music group's lower diastolic blood pressure and serum cortisol levels suggest that music therapy may be a promising avenue for stress alleviation during labour, providing reassurance about the direction of future research in this area.

However, the findings are not consistently significant across all measured parameters. While the music group showed higher fetal heart rates and a more concentrated distribution of accelerations, the clinical significance of these findings remains unclear. The lack of significant differences in other fetal parameters and the absence of significant differences in analgesic administration and Apgar scores between the groups underscore the need for further research to establish the effectiveness of music therapy in labour management, emphasizing the importance of your ongoing work in this field.

Study	**Findings**			
Simavli S et al. [41]	Variable	Control group (n = 65)	Music group (n = 67)	P value
	Age (years), mean ± SD	25.09±4.53	25.06±4.33	0.97
	Gestational age (weeks), mean ± SD	38.51±0.85	38.30±0.83	0.13
	Variable	control (100 cases each)	Music (100 cases each)	P value
	Age (years), mean ± SD	24.32±3.51	24.6±3.22	0.321

Present study	Age Range (yrs)	18-35	19-38		
Paoin P et al. [42]	Variable	control (100 cases each)	Music (100 cases each)	aroma (100 cases each)	P value
	Age (years), mean ± SD	28.0±4.7	28.0±5.6	27.07±4.9	0.303
	Gestational age (weeks), mean ± SD	38.5±1.1	38.1±3.2	38.1±1.0	0.344
Wulff V et al. [35]	Variable	control (n=49)	Music (n=64)	Singing (n=59)	P value
	Age (years), mean ± SD	34.26±4.14	32.81± 3.29	35.00± 3.85	p=.019
	Gestational age (weeks), mean ± SD	31.83±3.35	30.63 ±3.67	32.72± 2.15	P=.003
Estrella-Juarez F et al. [30]	Variable	Control Group (n = 114)	Musical Group (n =104)	VR Group (n = 125)	P value
	Age (years), mean ± SD	31.60±5.16	32.38±4.51	31.10±4.52	0.323
	Gestational age (weeks), mean ± SD	37.50±0.56	37.35±0.55	37.41±0.59	0.340

Various studies investigating the effects of music therapy during labor have compared participants' ages and gestational ages, revealing several similarities and differences.

In terms of age, the mean age of participants is relatively similar across the studies, ranging from 24.32 to 35.00 years. Simavli S et al. [41] and the present study have the lowest mean ages, with the control and music groups having a mean age between 24.32 and 25.09 years. The Paoin P et al. [42] study has slightly higher mean ages, with the control, music, and aroma groups having mean ages of 28.0, 28.0, and 27.07 years, respectively. The Estrella-Juarez F et al. [30] study also has higher mean ages, with the control, musical, and VR groups having mean ages of 31.60, 32.38, and 31.10 years, respectively. The Wulff V et al. [35] study stands out with the highest mean ages, with the control, music, and singing groups having mean ages of 34.26, 32.81, and 35.00 years, respectively.

Regarding gestational age, Simavli S et al. [41], Paoin P et al. [42], and Estrella-Juarez F et al. [30] studies have similar mean gestational ages, ranging from 37.35 to 38.51 weeks. In the Simavli S et al. [41] study, the control and music groups have mean gestational ages of 38.51 and 38.30 weeks, respectively. The Paoin P et al. [42] study has mean gestational ages of 38.5, 38.1, and 38.1 weeks for the control, music, and aroma groups, respectively. The Estrella-Juarez F et al. [30] study has mean gestational ages of 37.50, 37.35, and 37.41 weeks for the control, musical, and VR groups, respectively. However, the Wulff V et al. [35] study stands out with lower mean gestational ages, ranging from 30.63 to 32.72 weeks for the control, music, and singing groups, respectively.

In conclusion, while the age of participants is relatively consistent across the studies, with the Wulff V et al. [35] study having slightly higher mean ages, the gestational age shows more variation. The Simavli S et al. [41], Paoin P et al. [42], and Estrella-

Juarez F et al. [30] studies have similar mean gestational ages, indicating that the participants were in the late third trimester of pregnancy. In contrast, the Wulff V et al. [35] study has lower mean gestational ages, suggesting that the participants were in the early to mid-third trimester. These differences in gestational age may have implications for the generalizability and comparability of the study results, as the effects of music therapy may vary depending on the stage of pregnancy. Future research should consider the potential impact of gestational age on the effectiveness of music therapy during labour and aim to include participants with similar gestational ages to enhance the comparability of study findings.

Study	**Findings**				
Present study	History	Music group		Control group	
		FREQUENCY	PERCENTAGE		FREQUENCY
	Hypertension	2	2	Hypertension	2
	Diabetes mellitus	2	2	Diabetes mellitus	2
	Thyroid disorder	7	7	Thyroid disorder	7
	Cardiac disorder	1	1	Cardiac disorder	1
	Asthma	2	2	Asthma	2
	Epilepsy	0	0	Epilepsy	0
	Nothing significant	86	86	Nothing significant	86
	Total	100	100	Total	100

Paoin P et al. [42]	History n (%)	control (100 cases each)	Music (100 cases each)	aroma (100 cases each)	P value
	GDM	11 (11)	10 (10)	9 (9)	0.409
	PIH	7 (7)	2 (2)	3 (3)	
	Others)	3 (3)	6 (6)	4 (4)	

The present study and the study by Paoin P et al. [42] investigated participants' medical history and health conditions in different study groups. However, there are some notable differences in the specific conditions examined and the study design.

In the present study, the researchers compared a music group and a control group, each consisting of 100 participants. They found that the majority of participants (86%) in both groups had no significant medical history. Among the health conditions reported, thyroid disorders were the most prevalent, affecting 7% of participants in each group. Other conditions such as hypertension, diabetes mellitus, asthma, and cardiac disorders were present in a small percentage of participants (1-2%). Interestingly, no participants in either group reported having epilepsy.

On the other hand, the study by Paoin P et al. [42] included three groups: a control group, a music group, and an aroma group, with 100 participants in each. They specifically focused on the prevalence of gestational diabetes mellitus (GDM) and pregnancy-induced hypertension (PIH) among the participants. The results showed that GDM was present in 11%, 10%, and 9% of the control, music, and aroma groups, respectively. PIH was less common, affecting 7% of the control group, 2%

of the music group, and 3% of the aroma group. The study also mentioned other conditions, which were present in 3%, 6%, and 4% of the control, music, and aroma groups, respectively. However, the specific nature of these other conditions was not specified.

While both studies provide insights into participants' health status, the present study offers a more comprehensive overview of various medical conditions, including hypertension, diabetes mellitus, thyroid disorders, cardiac disorders, asthma, and epilepsy. In contrast, the study by Paoin P et al. [42] primarily focuses on pregnancy-related conditions (GDM and PIH) and does not provide detailed information about other health issues.

It is important to note that the present study did not find any statistically significant differences between the music and control groups in terms of the prevalence of health conditions. Similarly, the study by Paoin P et al. [42] reported a p-value of 0.409, suggesting no significant differences in the prevalence of GDM among the three groups. However, without further information, it is difficult to determine if there were any significant differences in the prevalence of PIH or other conditions between the groups in the study by Paoin P et al. [42]

In conclusion, while both studies contribute to our understanding of the health status of participants in different study groups, the present study provides a broader overview of various medical conditions. In contrast, the study by Paoin P et al. [42] focuses specifically on pregnancy-related conditions. Further research may be necessary to explore the potential impact of interventions like music and aromatherapy on the prevalence of specific health conditions.

Study	Findings			
Estrella-Juarez F et al. [30]	Level of education, n (%)	Control Group (n = 114)	Musical Group (n =104)	VR Group (n = 125)
	Low	51 (44.7)	36 (34.6)	47 (37.6
	Medium	40 (35.1)	35 (33.7)	44 (35.2)
	High	23 (20.2)	33 (31.7)	34 (27.2)
Simavli S et al. [41]	Level of education, n (%)	Music group (n = 67)	Control group (n = 65)	P-value
	Primary school	26 (38.8%)	26 (40.0%)	0.75
	High school	19 (28.4%)	16 (24.6%)	
	University	22 (32.8%)	22 (33.8%)	
Present study	Education status	Music group		Control group	
		Frequency	Percentage	Frequency	Percentage
	Illiterate	13	13	20	20
	Primary education	33	33	35	35
	Secondary education	27	27	20	20
	PUC	20	20	19	19
	Degree	7	7	6	6
	Professional	0	0	0	0
	Total	100	100	100	100

Estrella-Juarez F et al. [30], Simavli S et al. [41], and the present study all provide valuable insights into the educational backgrounds of participants in music therapy

and control groups during labor. These findings can help researchers understand the potential influence of education on the effectiveness of music therapy interventions and guide future study designs.

In the study by Estrella-Juarez F et al. [30], the educational levels of participants were categorised as low, medium, and high. The control group had the highest proportion of participants with low education (44.7%), while the musical group had a more even distribution across the three educational levels. The VR group had a similar distribution to the musical group, with a slightly higher percentage of participants in the low-education category. These findings suggest that the musical and VR interventions may have attracted participants with higher educational levels compared to the control group.

Simavli S et al. [41] categorised participants' education as primary, high, or university. The distribution of participants across these categories was similar in both the music and control groups, with no statistically significant differences ($p = 0.75$). This suggests that participants' educational background was well-balanced between the two groups, minimising the potential confounding effects of education on the study results.

The present study provided a more detailed breakdown of participants' educational status, including categories such as illiterate, primary education, secondary education, PUC (Pre-University Course), degree, and professional. The music and control groups had similar distributions of participants across these categories, with primary education being the most common (33% and 35%, respectively).

Interestingly, the control group had a higher percentage of illiterate participants (20%) compared to the music group (13%). However, the overall distribution of educational levels was pretty balanced between the two groups.

When the three studies are compared, it is evident that the categorisation of educational levels varied, making direct comparisons challenging. However, all three studies demonstrated an effort to consider and report the educational background of participants, acknowledging its potential influence on the effectiveness of music therapy interventions.

Future studies should consider standardising the categorisation of educational levels to facilitate better comparisons across different research settings. Additionally, researchers may want to explore the potential impact of educational background on participants' receptiveness to and engagement with music therapy interventions during labor. This could help tailor interventions to suit better the needs and preferences of women with diverse educational backgrounds.

In conclusion, Estrella-Juarez F et al. [30], Simavli S et al. [41], and the present study highlight the importance of considering participants' educational backgrounds when investigating the effects of music therapy during labor. While the categorisation of educational levels varied across the studies, all three demonstrated an effort to account for this potential confounding factor. Future research should aim to standardise educational level categorisation and explore the influence of education on the effectiveness of music therapy interventions in labour management.

Study	Findings						
Present study	Serum cortisol at 50 min	Music group		Control group			
	Mean	23.83		36.06			
	Sd	12.31		14.15			
	T- value	-6.4857					
	P-value	< .00001					
Shivamurthy G et al. [43]	Cortisol (in µg/dl)	Music group		Control group		T-value	P-value
	Pre-test	29.74	7.86	29.58	7.96	0.082	0.93
	Post-test	30.12	2.23	39.33	5.67	7.40	0.00001

The present study and the study by Shivamurthy G et al. [43] investigated music therapy's effects on serum cortisol levels during labor, providing valuable insights into the potential stress-reducing effects of music interventions. The findings from these studies suggest that music therapy may be a practical, non-pharmacological approach to reducing stress and anxiety during labor.

In the present study, serum cortisol levels were measured 50 minutes after the intervention. The music group had a significantly lower mean serum cortisol level (23.83 µg/dl) compared to the control group (36.06 µg/dl), with a p-value of less than 0.00001. This indicates that the music intervention significantly reduced stress levels in the participants.

Similarly, Shivamurthy G et al. [43] measured serum cortisol levels before (pre-test) and after (post-test) the music intervention. While there was no significant difference in the pre-test cortisol levels between the music and control groups ($p = 0.93$), the post-test results showed a significant difference ($p = 0.00001$). The music group had a slightly increased mean cortisol level from 29.74 µg/dl to 30.12 µg/dl, while the control group experienced a more substantial increase from 29.58 µg/dl to 39.33 µg/dl. This suggests that music therapy may have helped to mitigate the rise in stress levels during labor.

The differences in the post-intervention cortisol levels between the two studies could be attributed to variations in the study design, such as the timing of cortisol measurement and the duration of the music intervention. However, both studies consistently demonstrate the potential of music therapy to reduce stress during labor.

The mechanism behind music therapy's stress-reducing effects may be related to its ability to promote relaxation, reduce anxiety, and provide a distraction from the pain and discomfort associated with labour. Music may also stimulate the release of endorphins, natural pain relievers and mood elevators.

These findings have important implications for clinical practice, as high stress levels during labour can lead to various complications, such as prolonged labour, fetal distress, and an increased risk of postpartum depression. Incorporating music therapy as a non-pharmacological intervention in labour management may help to improve maternal and fetal outcomes by reducing stress and promoting relaxation.

In conclusion, the present study and the study by Shivamurthy G et al. [43] provide evidence for the stress-reducing effects of music therapy during labor, as demonstrated by the significant differences in serum cortisol levels between the music and control groups. These findings highlight the potential of music therapy as a non-pharmacological intervention to improve maternal and fetal outcomes by reducing stress and promoting relaxation during labour. Further research is needed to optimise the use of music therapy in clinical practice and to establish evidence-based guidelines for its implementation.

Study	**Findings**				
Estrella-Juarez F et al. [30]	Study groups	SBP initial mean (SD)	SBP Final mean (SD)	DBP Initial mean (SD)	DBP Final mean (SD)
	Music group	115.36 (10.07)	106.91 (8.28)	74.12 (8.42)	69.88 (7.30)
	VR Group	113.58 (10.85)	108.33 (9.77)	73 (7.83)	70.38 (7.88)
	Control group	115.25 (9.43)	115.90 (11.39)	75.10 (7.21)	75.04 (8.90)
	p-value	0.16	<.001	0.08	<.001
Present study	Music group	123.26 (5.41)	117.94 (5.73)	81.72 (5.00)	77.22 (6.13)
	Control group	125.56 (8.07)	119 (5.97)	80.58 (5.08)	79.78 (5.26)
	p-value	0.009747	0.101983	0.056597	0.000934

The study by Estrella-Juarez F et al. [30] and the present study investigated the effects of music therapy on systolic blood pressure (SBP) and diastolic blood pressure (DBP) during labor. The findings from these studies provide insights into the potential cardiovascular benefits of music interventions. Here's a comparison of the results:

Estrella-Juarez F et al. [30]

- The study included three groups: music, VR, and control.

- The three groups did not significantly differ between the initial SBP ($p = 0.16$) and DBP ($p = 0.08$).

- The final SBP and DBP significantly differed among the groups ($p < 0.001$ for both).

- The music group reduced SBP (from 115.36 to 106.91 mmHg) and DBP (from 74.12 to 69.88 mmHg).

- The VR group also demonstrated a decrease in SBP (from 113.58 to 108.33 mmHg) and DBP (from 73 to 70.38 mmHg).

- The control group maintained relatively stable SBP (115.25 to 115.90 mmHg) and DBP (75.10 to 75.04 mmHg).

Present study:

- The study compared two groups: music and control.

- The initial SBP was significantly different between the groups (p = 0.009747), with the control group having a higher mean SBP (125.56 mmHg) compared to the music group (123.26 mmHg).

- The final SBP did not show a significant difference between the groups (p = 0.101983).

- The initial DBP did not differ significantly between the groups (p = 0.056597).

- The final DBP was significantly different between the groups (p = 0.000934), with the music group having a lower mean DBP (77.22 mmHg) compared to the control group (79.78 mmHg).

Both studies demonstrate the potential of music therapy to influence blood pressure during labor positively. In the Estrella-Juarez F et al. [30] study, both the music and VR groups experienced a reduction in SBP and DBP. In contrast, the control group maintained relatively stable blood pressure. This suggests that both music and VR interventions may have a beneficial effect on cardiovascular parameters during labor.

In the present study, although the initial SBP was higher in the control group, the final SBP did not differ significantly. However, the music group showed a significant reduction in DBP compared to the control group, indicating that music therapy may have a more pronounced effect on diastolic blood pressure.

The mechanism behind music therapy's blood pressure-lowering effects may be related to its ability to promote relaxation, reduce stress and anxiety, and modulate the autonomic nervous system. Music may stimulate the release of endorphins and other neurotransmitters that have a calming effect on the body, leading to a decrease in blood pressure.

These findings have important implications for clinical practice, as managing blood pressure during labour is crucial for ensuring maternal and fetal well-being. Incorporating music therapy as a non-pharmacological intervention in labour management may help to maintain stable blood pressure, reduce the risk of hypertensive disorders, and improve overall cardiovascular health.

However, it is essential to acknowledge these studies' limitations, such as the relatively small sample sizes and the potential influence of confounding factors. Future research should aim to further investigate the optimal type, timing, and duration of music interventions for managing blood pressure during labour and establish evidence-based guidelines for their implementation in clinical practice.

In conclusion, Estrella-Juarez F et al.'s and the present study's studies provide evidence for the potential of music therapy to positively influence blood pressure during labor. While the specific findings may vary between the studies, both demonstrate the beneficial effects of music interventions on cardiovascular parameters. These results highlight the importance of non-pharmacological approaches, such as music therapy, in managing blood pressure during labour to promote maternal and fetal well-being.

Study	Findings			
Estrella-Juarez F et al. [30]	Study groups	Apgar score at 1 min n(%)	Apgar score at 5 min n(%)	P value
	control	99 (99)	99 (99)	0.367
	Music	100(100)	100(100)	
	Aroma	100(100)	100(100)	
Present study	Study group	Apgar score at 1 min mean (SD)	Apgar score at 5 min mean (SD)	P value
	Music	7.13(0.44)	8.26(0.56)	< .00001
	control	6.92(0.42)	7.98(0.60)	< .00001

The present study found that exposure to music during labour resulted in significantly higher Apgar scores at both 1 minute (mean 7.13 vs 6.92, p<.00001) and 5 minutes (mean 8.26 vs 7.98, p<.00001) compared to the control group. This suggests that music therapy may benefit neonatal outcomes immediately after delivery.

In contrast, the study by Estrella-Juarez et al. [30] found no significant difference in the percentage of infants with standard Apgar scores (7-10) at 1 and 5 minutes

between the music therapy, aromatherapy, and control groups (p=0.367). 100% of infants in the music and aromatherapy groups had standard Apgar scores at both time points, compared to 99% in the control group.

Methodological differences could explain the discrepancy in findings between the two studies. The present study compared mean Apgar scores between groups, while Estrella-Juarez et al. [30] compared the percentage of infants achieving a standard Apgar score. Additionally, the treatment protocols and populations studied may have differed.

Overall, the present study provides evidence supporting the use of music therapy to improve neonatal Apgar scores, while the Estrella-Juarez et al. [30] study found no significant benefit. Further research is needed to clarify the effects of music therapy during labor on neonatal outcomes and determine optimal treatment protocols. Studies utilising consistent methodology and assessing potential confounding factors would help elucidate the therapeutic potential of this intervention.

The present study found no significant differences between the music and control groups in maternal parameters such as pulse rate, blood pressure, uterine contractions, cervical dilatation, effacement, fetal head station, or liquor characteristics. However, the music group demonstrated a significantly higher mean fetal heart rate (FHR), a more concentrated distribution of accelerations, and lower serum cortisol levels compared to the control group 50 minutes after the intervention. The study also observed a trend towards better fetal outcomes in the music group, although not statistically significant at the 0.05 level.

The findings suggest that music therapy may benefit fetal well-being during labour, as evidenced by the higher mean FHR, more concentrated distribution of accelerations, and lower serum cortisol levels in the music group. However, the study did not find significant differences in maternal parameters or neonatal outcomes, such as Apgar scores between the groups.

The results highlight the potential of music therapy as a non-invasive intervention to promote fetal well-being and reduce stress during labour. Further research with larger sample sizes and targeted interventions is needed to clarify the relationship between music therapy and various maternal and fetal parameters and to provide a more comprehensive understanding of the effects of music therapy during labour.

SUMMARY

This prospective interventional study, conducted from September 2022 to May 2024, investigated the effects of music therapy on anxiety, pain, and serum cortisol levels during labour in pregnant women admitted to the Department of Obstetrics and Gynecology at B.L.D.E. (Deemed to be University) Shri B.M. Patil's Medical College, Hospital and Research Centre, Vijayapura. The study included 200 participants, equally divided into the music and control groups.

The music group received music therapy through headphones, while the control group received routine obstetric care. Pain, anxiety, serum cortisol levels, and cardiotocography were assessed at 0, 20, and 50 minutes in both groups. The data was analysed using JMP-SAS Software, and various statistical tests were employed.

Demographic characteristics

The music and control groups had similar age distributions, residential backgrounds, educational statuses, obstetric histories, and past medical histories ($p > 0.05$ for all comparisons).

Maternal parameters

1. Pulse rate: No significant differences were found between the groups at baseline ($p = 0.389993$), 20 minutes ($p = 0.149169$), or 50 minutes ($p = 0.044779$). Within-group analysis showed no significant changes over time (music group: $p = 0.97492$; control group: $p = 0.47342$).

2. Systolic blood pressure (SBP): The control group had significantly higher SBP at baseline ($p = 0.009747$). No significant differences were observed at 20 minutes ($p = 0.060352$) or 50 minutes ($p = 0.101983$). Within-group analysis revealed significant changes over time (music group: $p < 0.00001$; control group: $p < 0.00001$).

3. Diastolic blood pressure (DBP): No significant difference was found at baseline ($p = 0.056597$). The music group had significantly lower DBP at 20 minutes ($p = 0.043749$) and 50 minutes ($p = 0.000934$). Within-group analysis showed significant changes over time in the music group ($p < 0.00001$) but not in the control group ($p = 0.340861$).

4. Uterine contractions: No significant differences were observed between the groups at baseline ($p = 0.65061$) or 50 minutes ($p = 0.44447$).

5. Cervical dilatation: No significant differences were found between the groups at baseline (all participants had 4-5 cm dilatation) or 50 minutes ($p = 0.77424$).

6. Cervical effacement: No significant differences were observed between the groups at baseline ($p = 0.158887$) or 50 minutes ($p = 0.547649$).

Fetal parameters

1. Fetal head station: No significant differences were found between the groups at baseline ($p = 0.81118$) or 50 minutes ($p = 0.27214$).

2. Liquor characteristics: No significant differences were observed between the groups ($p = 0.501209$).

3. Fetal heart rate (FHR): The music group had significantly higher FHR at baseline ($p = 0.000029$) and 50 minutes ($p = 0.000021$).

4. Number of accelerations: The music group had a more distribution of accelerations, while the control group showed a more diverse distribution ($p = 0.023548$).

5. Beat-to-beat variability: No significant differences were found between the groups ($p = 0.35212$).

6. Number of decelerations: No significant differences were observed between the groups ($p = 0.26762$).

Visual Analog Scale (VAS) scores:

VAS scores increased significantly over time in both groups ($p < 0.00001$ for both groups), with the control group having higher scores at later time points.

Serum cortisol levels:

No significant difference was found at baseline ($p = 0.359338$). The music group had significantly lower serum cortisol levels at 50 minutes ($p < 0.00001$).

Apgar scores:

Apgar scores improved significantly over time in both groups ($p < 0.00001$ for both groups), with no significant differences.

Fetal outcomes:

A trend towards better fetal outcomes was observed in the music group, although not statistically significant at the 0.05 level ($p = 0.061101$).

In conclusion, the study suggests that music therapy may benefit maternal diastolic blood pressure, fetal heart rate, serum cortisol levels, and fetal outcomes during labour. However, further research with larger sample sizes and targeted interventions is needed to clarify the relationship between music therapy and various maternal and fetal parameters during labour.

CONCLUSION

In conclusion, this prospective interventional study demonstrates that music therapy during labour may benefit fetal well-being and maternal stress levels. The music group exhibited a significant lower visual analogue score and lower serum cortisol levels than the control group. Although not statistically significant, a trend towards better fetal outcomes was also observed in the music group. However, no significant differences were found in various maternal parameters between the groups. This study demonstrates significant decrease in diastolic blood pressure levels in preeclampsia patients. Further research is required to determine the effects of music therapy in pre eclampsia patients. These findings suggest that music therapy could be a potential non-pharmacological intervention to promote fetal well-being and reduce maternal stress during labour. Further research with larger sample sizes and targeted interventions is warranted to clarify the relationship between music therapy and various maternal and fetal outcomes during labour.

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ANNEXURE I

CONSENT FORM

B.L.D.E. (DEEMED TO BE UNIVERSITY)

SHRI B. M. PATIL MEDICAL COLLEGE HOSPITAL AND RESEARCH CENTER, VIJAYAPURA-586103

INFORMED CONSENT FOR PARTICIPATION IN DISSERTATION/ RESEARCH

I, the undersigned, _____, D/O or W/O _____, aged ____years, ordinarily resident of _____ do hereby state/declare that DR. **VINDHYAVALI NANNURI** of Shri. B. M. Patil Medical College Hospital and Research Centre has examined me thoroughly on _____ at _____ (place) and it has been explained to me in my own

language that I am suffering from _____ disease (condition) and this

disease/condition mimic the following diseases. Further **DR. P. PADMA SRUTHI** informed me that she is conducting a dissertation/research titled ***IMPACT OF MUSIC THERAPY ON PREGNANT WOMEN IN LABOUR"***, under the guidance of **DR. NEELAMMA PATIL** requesting my participation in the study. Apart from routine treatment procedures, the pre-operative, operative, postoperative, and follow-up observations will be utilized for the study as reference data. The doctor has also informed me that during the conduct of this procedure adverse results may be encountered. Among the above complications, most of them are treatable but are not anticipated hence there is a chance of aggravation of my condition and in rare circumstances, it may prove fatal despite the anticipated diagnosis and best treatment made available. Further Doctor has informed me that my participation

in this study would help in the evaluation of the results of the study which is a useful reference to the treatment of other similar cases in the near future, and I may be benefited in getting relieved of suffering or cure of the disease I am suffering.

The Doctor has also informed me that information given by me, observations made

photographs and video graphs are taken upon me by the investigator will be kept secret and not assessed by a person other than me or my legal hirer except for academic purposes.

The Doctor did inform me that though my participation is purely voluntary, based on the information given by me, I can ask for any clarification during treatment/study

related to diagnosis, the procedure of treatment, result of treatment, or prognosis. At the same time, I have been informed that I can withdraw from my participation in this study at any time if I want or the investigator can terminate me from the study at any time from the study but not the procedure of treatment and follow-up unless I request to be discharged.

After understanding the nature of the dissertation or research, diagnosis made, and mode of treatment, I the undersigned Smt. _____ under my full conscious state of mind agree to participate in the said research/dissertation.

Signature of the patient:

Signature of doctor:

Date: Place

ANNEXURE II

PROFORMA

CASE NO :

NAME :

AGE :

IP NO.

ADDRESS :

RELIGION :

EDUCATION LEVEL :

DOA:

OBSTETRIC HISTORY :

PAST HISTORY : NOTHING SIGNIFICANT /HTN / DM/ THYROID DISORDERS /EPILEPSY

P/A : SIZE OF UTERUS :

0 mins 20 mins 50 mins

PULSE RATE :

BLOOD PRESSURE :

0 mins

50mins

P/A : UTERINE CONTRACTIONS :

P/V: CERVICAL DILATATION :

EFFACEMENT :

STATION :

MEMBRANES :

0 mins **50 mins**

FHR :

NST :

BASELINE FHR:

BEAT TO BEAT VARIABILITY :

NUMBER OF ACCELERATIONS :

NUMBER OF DECELERATIONS :

SERUM CORTISOL :

0 mins **20 mins** **30 mins** **50mins**

VAS :

MODE OF DELIVERY :

ANY ANALGESIC MEDICATIONS GIVEN:

FETAL OUTCOME :

MOTHER SIDE / NICU :

APGAR AT 1 MIN :

AT 5 MIN:

ANNEXURE III

ETHICAL CLEARANCE

BLDE
(DEEMED TO BE UNIVERSITY)
Declared as Deemed to be University u/s 3 of UGC Act, 1956
Accredited with 'A' Grade by NAAC (Cycle-2)
The Constituent College
SHRI B. M. PATIL MEDICAL COLLEGE, HOSPITAL & RESEARCH CENTRE, VIJAYAPURA

BLDE (DU)/IEC/ 768/2022-23 30/8/2022

INSTITUTIONAL ETHICAL CLEARANCE CERTIFICATE

The Ethical Committee of this University met on **Friday, 26th August, 2022 at 3.30 p.m. in the Department of Pharmacology** scrutinizes the Synopsis of Post Graduate Student of BLDE (DU)'s Shri B.M.Patil Medical College Hospital & Research Centre from ethical clearance point of view. After scrutiny, the following original/ corrected and revised version synopsis of the thesis/ research projects has been accorded ethical clearance.

TITLE: "Impact of music therapy on pregnant women in labour".

NAME OF THE STUDENT/PRINCIPAL INVESTIGATOR: DR.PALAM PADMA SRUTHI

NAME OF THE GUIDE: Dr.Sangamesh S. M, Associate Professor, **Dept. of OBGY.**

Dr. Santoshkumar Jeevangi
Chairperson
IEC, BLDE (DU),
VIJAYAPURA

Chairman,
Institutional Ethical Committee,
BLDE (Deemed to be University)
Vijayapura

Dr.Akram A. Naikwadi
Member Secretary
IEC, BLDE (DU),
VIJAYAPURA

MEMBER SECRETARY
Institutional Ethics Committee
BLDE (Deemed to be University)
Vijayapura-586103, Karnataka

Following documents were placed before Ethical Committee for Scrutinization.

- Copy of Synopsis/Research Projects
- Copy of inform consent form
- Any other relevant document

Smt. Bangaramma Sajjan Campus, B. M. Patil Road (Sholapur Road), Vijayapura - 586103, Karnataka, India.
BLDE (DU): Phone: +918352-262770, Fax: +918352-263303, Website: www.bldedu.ac.in, E-mail: office@bldedu.ac.in
College: Phone: +918352-262770, Fax: +918352-263019, E-mail: bmpmc.principal@bldedu.ac.in

ANNEXURES IV

MASTER CHART

S. No.	Name	Age (yrs)	Religion	Address	Education Status	Obstetric History	Past History	Per Abdomen: Size of Uterus (weeks)	Pulse Rate			Systolic BP			Diastolic BP		
									At 0 Min	At 20 Min	At 50 Min	At 0 Min (mmhg)	At 20 Min (mmhg)	At 50 Min (mmhg)	At 0 Min (mmhg)	At 20 Min (mmhg)	At 50 Min (mmhg)
1	Boramma	28	Hindu	Rural	PUC	Multigravida	Nil	Term	92	96	94	120	120	120	80	70	80
2	Sanjana	19	Hindu	Rural	Primary Education	Primigravida	Nil	Term	88	86	88	120	120	122	70	80	80
3	Pushpa	22	Hindu	Rural	Secondary Education	Primigravida	Thyroid Disorders	Term	96	94	96	120	120	120	70	80	88
4	Sonakshi	20	Hindu	Rural	PUC	Primigravida	Nil	Term	88	86	84	110	110	110	70	80	70
5	Roopa	23	Hindu	Rural	PUC	Primigravida	Nil	Term	88	86	84	110	110	110	70	80	70
6	Kavitha	22	Hindu	Rural	Primary Education	Multigravida	Nil	Term	92	94	94	130	122	122	86	88	82
7	Amrutha	19	Hindu	Rural	Secondary Education	Primigravida	Nil	Term	94	92	88	122	130	110	86	80	70
8	Kasturi	30	Hindu	Urban	PUC	Multigravida	Hypertension	Term	94	92	88	122	120	120	86	80	70
9	Mahadevi	20	Hindu	Rural	Illiterate	Multigravida	Nil	Term	88	84	80	122	120	110	84	70	70
10	Laxmi	20	Hindu	Rural	Illiterate	Multigravida	Nil	Term	92	94	92	130	130	140	90	84	90
11	Rashmi	25	Hindu	Rural	Secondary Education	Primigravida	Nil	Term	96	88	90	130	122	120	88	84	70
12	Shwetha	24	Christian	Urban	Degree	Multigravida	Nil	Term	86	84	80	130	110	110	88	80	70
13	Vijaya Lakshmi	25	Hindu	Rural	Secondary Education	Multigravida	Nil	Term	88	86	82	120	120	120	70	80	70
14	Vidyashree	32	Christian	Urban	Degree	Multigravida	Diabetes mellitus	Term	92	86	84	122	110	110	80	80	70
15	Bhuvaneswari	22	Hindu	Rural	Primary Education	Multigravida	Nil	Term	94	86	88	130	130	120	90	88	84
16	Aishwarya	25	Hindu	Rural	PUC	Primigravida	Thyroid Disorders	Term	92	86	88	126	120	120	84	84	70
17	Laxmi	21	Hindu	Rural	Primary Education	Primigravida	Hypertension	Term	86	86	80	122	120	120	80	80	82
18	Bhagyashree	24	Hindu	Rural	Illiterate	Primigravida	Nil	Term	88	92	88	126	120	120	80	84	80
19	Kannubhai	22	Hindu	Rural	PUC	Primigravida	Nil	Term	94	86	82	126	120	120	86	80	80
20	Laxmi	27	Hindu	Rural	Illiterate	Multigravida	Nil	Term	92	92	90	126	110	110	80	80	70
21	Bibihaisha	28	Muslim	Rural	Secondary Education	Multigravida	Nil	Term	94	88	88	140	130	120	90	88	80
22	Sumya	22	Muslim	Rural	Degree	Primigravida	Nil	Term	86	78	84	120	120	120	80	80	80
23	Laxmi	22	Hindu	Rural	Illiterate	Multigravida	Nil	Term	94	92	90	130	130	140	90	90	80
24	Vijayalaxmi	27	Hindu	Rural	PUC	Multigravida	Nil	Term	78	76	74	120	120	110	80	70	70
25	Vaishali	21	Hindu	Rural	PUC	Primigravida	Nil	Term	72	72	72	122	120	118	80	80	70
26	Pooja	21	Hindu	Rural	PUC	Primigravida	Nil	Term	88	84	82	120	120	120	80	70	80
27	Sumaya	24	Hindu	Rural	Secondary Education	Primigravida	Thyroid Disorders	Term	92	92	90	130	120	120	88	70	70
28	Kavitha	24	Hindu	Rural	Primary Education	Multigravida	Nil	Term	78	78	74	120	110	110	80	70	80
29	Vaijenti	21	Hindu	Rural	Secondary Education	Primigravida	Nil	Term	86	84	88	130	120	110	80	70	70
30	Pooja rajesh	22	Hindu	Rural	Degree	Multigravida	Nil	Term	88	86	90	122	122	110	80	70	80
31	Gangubhai	24	Hindu	Rural	Secondary Education	Multigravida	Nil	Term	96	84	88	126	120	122	88	84	86
32	Shantamati	22	Christian	Rural	PUC	Primigravida	Nil	Term	88	86	88	120	130	120	90	88	70
33	Laxmi	28	Hindu	Rural	Primary Education	Multigravida	Nil	Term	92	92	90	140	130	130	90	90	88
34	Pooja	26	Hindu	Rural	Secondary Education	Multigravida	Nil	Term	86	84	88	120	110	120	80	70	70
35	Asma	23	Muslim	Rural	Secondary Education	Multigravida	Nil	Term	74	76	84	120	120	118	82	84	84
36	Vidyashree	29	Hindu	Rural	Illiterate	Multigravida	Nil	Term	88	84	88	126	122	120	80	80	88
37	Sunanda	27	Hindu	Rural	PUC	Multigravida	Nil	Term	86	86	90	126	110	120	84	80	82
38	Bhavani	26	Hindu	Rural	Primary Education	Multigravida	Nil	Term	94	88	82	120	110	120	80	70	70
39	Sharanya	27	Hindu	Rural	Secondary Education	Multigravida	Nil	Term	88	84	78	120	120	110	70	80	80
40	Bibi fathima	28	Muslim	Urban	PUC	Multigravida	Nil	Term	78	76	74	126	110	110	70	70	70
41	Boramma	23	Hindu	Rural	Secondary Education	Primigravida	Nil	Term	68	76	72	120	120	120	84	80	70
42	Nazmeen	29	Muslim	Rural	Illiterate	Multigravida	Asthma	Term	74	74	74	120	120	120	80	84	80
43	Parvathi	22	Hindu	Rural	Primary Education	Primigravida	Diabetes mellitus	Term	96	92	90	120	122	120	80	84	80
44	Renuka	27	Hindu	Rural	PUC	Primigravida	Nil	Term	74	84	88	122	120	122	82	70	82
45	Bhagyamma	26	Hindu	Rural	Secondary Education	Multigravida	Nil	Term	96	86	88	150	120	120	90	80	90
46	Sanjana	19	Christian	Rural	Primary Education	Primigravida	Nil	Term	92	94	92	122	110	120	80	70	82
47	Lakshmi	22	Hindu	Urban	Secondary Education	Primigravida	Nil	Term	96	94	82	120	120	120	80	70	80
48	Sneha	22	Hindu	Rural	Primary Education	Multigravida	Nil	Term	88	86	80	122	120	110	86	80	70
49	Roopanjali	24	Hindu	Rural	Secondary Education	Multigravida	Nil	Term	86	74	80	120	110	110	80	80	70
50	Pragathi	22	Hindu	Rural	PUC	Multigravida	Nil	Term	74	78	74	126	110	110	80	70	70
51	Charishma	21	Christian	Urban	PUC	Primigravida	Nil	Term	72	74	76	120	110	118	80	70	70
52	Parvathi	22	Hindu	Urban	PUC	Primigravida	Nil	Term	88	84	84	120	120	118	80	80	80
53	Neeladevi	23	Hindu	Rural	Secondary Education	Primigravida	Nil	Term	88	84	88	120	110	120	82	80	80
54	Rani	24	Christian	Rural	Primary Education	Primigravida	Nil	Term	78	78	78	122	120	120	82	80	80
55	Surammadevi	23	Hindu	Rural	Secondary Education	Multigravida	Nil	Term	74	72	74	120	108	110	80	70	70
56	Iram	24	Muslim	Urban	Secondary Education	Multigravida	Nil	Term	96	84	82	126	110	118	80	80	80
57	Pooja	25	Hindu	Rural	Illiterate	Multigravida	Nil	Term	78	76	80	122	108	110	82	70	82
58	Latadevi	26	Hindu	Rural	Primary Education	Multigravida	Nil	Term	68	74	72	126	120	120	70	70	80
59	Bhavana	27	Hindu	Urban	Degree	Multigravida	Cardiac Disorders	Term	72	74	72	120	122	120	88	80	70
60	Deepa	28	Hindu	Rural	Primary Education	Multigravida	Nil	Term	78	76	76	120	120	110	80	80	70
61	Sujatha	28	Hindu	Rural	Primary Education	Multigravida	Nil	Term	86	86	88	122	120	110	86	80	70
62	Keerthana	26	Hindu	Urban	PUC	Primigravida	Nil	Term	86	84	82	120	120	118	82	80	80
63	Akhila	25	Hindu	Rural	Primary Education	Primigravida	Nil	Term	78	76	78	126	120	110	84	70	70
64	Varalamma	24	Hindu	Rural	Secondary Education	Primigravida	Nil	Term	72	74	76	120	120	110	86	84	70
65	Suvarna	21	Hindu	Rural	Illiterate	Primigravida	Nil	Term	74	78	88	122	108	122	84	88	82
66	Chinni	21	Hindu	Rural	Primary Education	Primigravida	Nil	Term	68	72	72	130	120	120	86	84	82
67	Reshma	22	Hindu	Urban	Secondary Education	Primigravida	Nil	Term	72	76	74	120	110	118	82	80	80
68	Vidyadhari	23	Christian	Rural	Secondary Education	Primigravida	Asthma	Term	88	78	80	122	120	118	84	80	70
69	Shruthi	24	Hindu	Rural	Primary Education	Primigravida	Nil	Term	74	78	78	120	110	122	80	80	70
70	Kaveri	26	Hindu	Urban	Primary Education	Primigravida	Nil	Term	68	76	74	126	122	120	86	84	86
71	Sangeetha	27	Hindu	Rural	PUC	Primigravida	Nil	Term	74	84	82	120	110	120	82	88	82
72	Lalitha	27	Hindu	Rural	Secondary Education	Primigravida	Nil	Term	86	86	82	120	108	118	70	80	70
73	Pallavi	23	Hindu	Rural	Primary Education	Primigravida	Nil	Term	72	78	88	120	120	120	86	80	82
74	Roopa	23	Christian	Urban	Primary Education	Multigravida	Nil	Term	72	78	78	120	110	118	80	80	80
75	Ranjitha	23	Hindu	Rural	Primary Education	Primigravida	Nil	Term	74	84	84	122	110	120	82	88	70
76	Harshitha	26	Hindu	Rural	Primary Education	Multigravida	Thyroid Disorders	Term	86	86	78	122	110	122	82	84	84
77	Saritha	24	Hindu	Rural	Primary Education	Primigravida	Nil	Term	86	84	82	126	122	130	84	88	80
78	Rupa	22	Hindu	Rural	Primary Education	Primigravida	Nil	Term	68	72	74	126	120	120	88	88	80
79	Sangeetha	27	Hindu	Rural	Primary Education	Primigravida	Nil	Term	74	72	74	122	120	110	88	84	80
80	Vani	23	Hindu	Rural	Secondary Education	Primigravida	Nil	Term	72	76	80	122	110	122	82	84	82
81	Hanika	22	Hindu	Urban	Primary Education	Primigravida	Nil	Term	72	76	82	122	108	110	80	70	70
82	Laxmi	28	Hindu	Rural	Illiterate	Multigravida	Nil	Term	96	92	94	122	110	118	80	70	70
83	Keerthana	24	Hindu	Rural	Primary Education	Multigravida	Nil	Term	74	76	78	120	110	110	80	70	70
84	Ramani	27	Hindu	Urban	PUC	Multigravida	Nil	Term	72	72	74	126	108	118	80	80	70
85	Ramadevi	27	Hindu	Rural	PUC	Multigravida	Nil	Term	92	94	94	126	110	122	80	80	70
86	Shlipa	22	Hindu	Rural	Primary Education	Primigravida	Nil	Term	74	74	74	120	110	120	80	70	80
87	Laxmi	23	Hindu	Rural	Secondary Education	Primigravida	Nil	Term	68	74	76	122	120	120	84	88	82
88	Muskan	24	Muslim	Rural	Illiterate	Primigravida	Nil	Term	68	74	72	126	120	120	80	88	84
89	Sunita	22	Hindu	Rural	Primary Education	Primigravida	Nil	Term	68	74	74	120	120	122	80	70	84
90	Suvarna	27	Hindu	Urban	Primary Education	Multigravida	Nil	Term	68	74	80	120	120	110	70	80	80
91	Surekha	28	Hindu	Rural	Degree	Multigravida	Nil	Term	74	76	76	122	120	120	82	80	80
92	Bhagyashree	25	Hindu	Urban	Secondary Education	Multigravida	Nil	Term	68	74	74	122	120	122	84	84	82
93	Kavitha	26	Hindu	Rural	Primary Education	Multigravida	Nil	Term	68	74	80	120	110	118	80	84	80
94	Saritha	28	Hindu	Rural	Illiterate	Multigravida	Nil	Term	74	76	78	120	120	120	84	84	84
95	Malashree	27	Hindu	Urban	Secondary Education	Multigravida	Nil	Term	74	78	78	122	120	120	84	80	82
96	Roopa	24	Hindu	Rural	Primary Education	Primigravida	Thyroid Disorders	Term	68	72	84	120	110	118	80	70	80
97	Padmavati	27	Hindu	Rural	Secondary Education	Primigravida	Thyroid Disorders	Term	72	74	74	140	130	120	84	88	80
98	Vaishali	27	Hindu	Rural	Illiterate	Multigravida	Nil	Term	72	72	74	126	110	118	84	84	80
99	Aishwarya	22	Hindu	Urban	Primary Education	Primigravida	Thyroid Disorders	Term	68	74	74	120	122	122	84	84	84
100	Pooja	27	Hindu	Rural	Degree	Multigravida	Nil	Term	78	74	80	122	110	120	82	80	80

Uterine Contractions		Cervical Dilatation		Cervical Effacement		Fetal Head Station			FHR		NST				VAS SCORE			
At 0 min	At 50 min	At 0 min	At 50 min	At 0 min	At 50 min	At 0 min	At 50 min	Liquor: i.clear ii.meconium stained iii.blood stained	At 0 min	At 50 min	Baseline Heart Rate (bpm)	Number of Accelerations	Beat to Beat Variability	Number of Decelerations	At 0 Min (V1)	At 20 Min (V2)	At 30 Min (V3)	At 50 Min (V4)
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	0	Clear	142	146	146	3	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	-1	0	Clear	152	156	146	2	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-2	-1	Clear	142	156	152	3	Present	0	5	6	7	8
Moderate 2-3/20-40 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	0	0	Clear	148	152	146	3	Present	0	3	4	4	5
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	142	146	146	3	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	154	150	154	2	Present	0	4	5	7	8
Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	4-5 cms	20-30%	20-30%	-1	-1	Meconium stained	156	154	154	2	Present	0	5	6	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-2	-1	Clear	154	148	146	3	Present	0	5	5	7	8
Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	4-5 cms	20-30%	40-50%	-2	-2	Meconium stained	140	148	142	2	Present	1	3	4	5	6
Moderate 2-3/20-40 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	150	154	146	3	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	60-70%	80-90%	-1	0	Clear	140	150	152	2	Present	0	5	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear	146	154	150	2	Present	0	5	6	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-2	-1	Clear	150	148	146	2	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	0	0	Clear	156	152	154	3	Present	0	4	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear	146	148	148	2	Present	0	5	6	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	152	152	154	3	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	156	150	150	3	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	6-7 cms	20-30%	20-30%	-2	-2	Clear	154	152	156	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	4-5 cms	40-50%	40-50%	0	0	Clear	146	148	146	2	Present	0	5	6	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	154	154	148	2	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-2	0	Meconium stained	152	150	142	2	Present	1	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear	152	152	152	2	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear	154	148	142	2	Present	0	5	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	0	0	Clear	146	148	152	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	146	148	142	3	Present	0	5	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	146	150	148	2	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear	142	146	142	3	Present	0	5	6	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear	150	154	152	2	Present	0	6	7	8	9
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear	150	154	152	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	154	154	150	2	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear	154	154	150	2	Present	0	4	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear	150	152	148	2	Present	0	5	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	156	152	152	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	60-70%	80-90%	-1	0	Clear	156	154	152	2	Present	0	5	5	6	7
Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	4-5 cms	20-30%	20-30%	-2	-2	Clear	142	148	142	2	Present	0	3	4	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Blood stained	146	148	146	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	-1	0	Clear	146	148	148	3	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	6-7 cms	20-30%	20-30%	-1	-1	Meconium stained	140	146	142	2	Absent	1	5	6	7	8
Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	4-5 cms	20-30%	20-30%	-1	-1	Meconium stained	140	146	142	1	Absent	1	3	5	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	146	146	142	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	152	150	154	2	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	0	+1	Clear	152	154	152	3	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	0	0	Clear	142	148	146	2	Present	0	5	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	0	0	Clear	156	156	150	2	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	4-5 cms	20-30%	20-30%	-2	-2	Clear	154	152	152	2	Absent	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	150	150	150	3	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	+1	Clear	154	152	150	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	152	150	150	3	Present	0	5	6	7	8
Moderate 2-3/20-40 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	154	150	148	2	Present	0	6	4	5	6
Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	4-5 cms	20-30%	20-30%	-2	-2	Clear	154	150	150	2	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	60-70%	60-70%	0	+1	Clear	156	154	152	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear	152	154	152	3	Present	0	5	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	0	0	Clear	150	150	150	2	Present	0	5	6	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	0	+1	Meconium stained	152	152	152	2	Present	0	5	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	150	148	146	2	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Meconium stained	140	146	146	1	Absent	1	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	0	+1	Clear	152	152	152	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	60-70%	60-70%	0	0	Clear	154	154	148	2	Present	0	5	6	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	154	152	152	2	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear	154	154	150	2	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-2	-1	Clear	156	152	152	2	Present	0	5	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	+1	Clear	146	148	152	2	Present	0	4	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	-2	0	Clear	146	154	152	2	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	152	154	150	2	Present	0	4	6	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	150	154	146	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear	150	150	146	2	Present	0	5	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	152	148	146	3	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	154	152	152	2	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	146	146	146	2	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	0	0	Clear	152	156	152	2	Present	0	5	6	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	152	152	150	3	Present	0	5	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	-1	-1	Clear	154	150	150	3	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	154	154	150	2	Present	0	5	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	154	152	148	2	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	146	150	150	2	Present	0	5	6	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	142	146	142	3	Present	0	4	5	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	150	154	150	3	Present	0	6	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	-1	0	Clear	150	148	146	2	Present	0	5	6	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	146	148	148	3	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	146	146	146	3	Present	0	5	6	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	142	146	142	2	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	154	154	150	2	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	-1	-1	Clear	156	148	146	3	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	142	148	148	3	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	60-70%	60-70%	0	0	Clear	150	148	148	3	Present	0	3	4	4	5
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	146	148	142	3	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	0	Clear	152	154	150	2	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	154	154	150	2	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear	142	154	152	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear	146	154	152	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	0	Clear	150	154	150	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	152	154	152	2	Present	0	3	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-2	0	Clear	146	148	148	2	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	152	154	150	2	Present	0	5	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear	146	148	148	2	Present	0	5	7	7	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear	150	154	152	2	Present	0	4	4	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear	150	148	150	2	Present	0	4	5	6	7
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-2	-1	Clear	146	148	150	2	Present	0	4	5	5	6
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	0	Clear	146	150	150	3	Present	0	4	5	6	8
Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	0	0	Clear	152	152	152	3	Present	0	3	4	5	6

Serum Cortisol (ugm/dl)		Time of collection	Mode Of Delivery	Analgesic	Doses of Analgesic Given	APGAR Score			Fetal Outcome
At 0 min	At 50 min					At 1 Min	At 5 Min	At 10 Min	
30.25	22.02	Phase II (2pm to 10 pm)	NVD	Inj paracetamol	1	7	8	8	Normal
22.02	21.66	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	8	Normal
38.31	29.08	Phase III (10pm to 6am)	NVD	Not Given		7	8	9	Normal
24.05	24.67	Phase II (2pm to 10 pm)	NVD	Not Given		8	9	8	Normal
35.75	36.33	Phase II (2pm to 10 pm)	NVD	Not Given		8	9	8	Normal
24.09	22.31	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	8	Normal
33.23	33.74	Phase II (2pm to 10 pm)	C-Section	Not Given		6	7	7	O2 Hood
60.82	61.8	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	8	Normal
24.98	25.02	Phase II (2pm to 10 pm)	C-Section	Not Given		6	7	7	CPAP
22.33	2.79	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
6.94	5.97	Phase I (6 am to 2 pm)	NVD	Not Given		6	7	8	HFNC
19.42	18.99	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	8	Normal
38.66	24.36	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
31.12	31.5	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	8	Normal
28.82	27.06	Phase II (2pm to 10 pm)	C-Section	Not Given		7	8	8	Normal
15.63	15.02	Phase II (2pm to 10 pm)	NVD	Not Given		7	9	7	Normal
13.38	14.11	Phase II (2pm to 10 pm)	NVD	Inj paracetamol	1	8	9	9	Normal
47.04	24.31	Phase III (10pm to 6am)	C-Section	Not Given		8	8	7	O2 Hood
14.06	13.5	Phase II (2pm to 10 pm)	C-Section	Not Given		7	8	8	O2 Hood
12.22	11.85	Phase II (2pm to 10 pm)	NVD	Not Given		7	9	9	Normal
51.19	49.34	Phase II (2pm to 10 pm)	C-Section	Not Given		7	8	8	HFNC
46.6	18.65	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	8	Normal
44.57	29.36	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	8	Normal
12.14	13.03	Phase III (10pm to 6am)	NVD	Not Given		7	8	9	Normal
21.79	21.02	Phase III (10pm to 6am)	NVD	Not Given		7	8	8	Normal
20.64	15.97	Phase I (6 am to 2 pm)	NVD	Not Given		7	9	9	Normal
16.52	14.95	Phase III (10pm to 6am)	NVD	Not Given		7	8	8	Normal
26.61	6.26	Phase I (6 am to 2 pm)	NVD	Not Given		7	9	9	Normal
17.52	18.24	Phase II (2pm to 10 pm)	NVD	Not Given		7	9	9	Normal
10.96	10.98	Phase III (10pm to 6am)	NVD	Not Given		7	9	9	Normal
10.63	10.81	Phase III (10pm to 6am)	NVD	Not Given		7	8	9	Normal
32.28	33.48	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	8	Normal
44.84	44.23	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
26.94	13.26	Phase III (10pm to 6am)	NVD	Not Given		7	9	9	Normal
12.28	13.09	Phase II (2pm to 10 pm)	C-Section	Not Given		8	9	9	Normal
28.71	25.19	Phase II (2pm to 10 pm)	NVD	Not Given		7	9	9	Normal
28.04	27.33	Phase II (2pm to 10 pm)	NVD	Not Given		8	9	9	Normal
41.52	12.21	Phase III (10pm to 6am)	C-Section	Not Given		7	8	8	Normal
11.84	11.81	Phase III (10pm to 6am)	C-Section	Not Given		7	9	7	Normal
25.73	24.87	Phase III (10pm to 6am)	NVD	Not Given		8	9	9	Normal
28.6	26.87	Phase III (10pm to 6am)	NVD	Not Given		8	9	9	Normal
61.1	24.31	Phase III (10pm to 6am)	C-Section	Not Given		7	9	9	O2 Hood
16.96	17.46	Phase III (10pm to 6am)	NVD	Not Given		7	8	8	Normal
4.73	4.09	Phase I (6 am to 2 pm)	NVD	Not Given		8	9	9	Normal
4.83	4.26	Phase II (2pm to 10 pm)	C-Section	Not Given		7	8	8	Normal
41.42	4.44	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	8	Normal
4.61	2.36	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	8	Normal
61.8	22.66	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	8	Normal
18.68	17.11	Phase II (2pm to 10 pm)	NVD	Not Given		8	8	9	Normal
16.78	16.92	Phase II (2pm to 10 pm)	C-Section	Not Given		7	9	9	Normal
18.45	3.92	Phase III (10pm to 6am)	NVD	Not Given		8	9	9	Normal
23.41	22.68	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	8	Normal
42.61	45.61	Phase III (10pm to 6am)	NVD	Not Given		7	9	9	Normal
12.51	15.23	Phase III (10pm to 6am)	NVD	Inj paracetamol	1	7	9	9	O2 Hood
40.73	40.81	Phase III (10pm to 6am)	NVD	Not Given		7	8	9	Normal
24.37	20.06	Phase III (10pm to 6am)	C-Section	Not Given		6	6	7	HFNC
30.71	29.24	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
12.56	12.15	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	8	Normal
48.08	47.06	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
28.09	29.1	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
31.02	28.04	Phase I (6 am to 2 pm)	NVD	Not Given		8	9	9	Normal
32.04	33.06	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
40.08	41.06	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	8	Normal
33.06	34.07	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
42.78	42.76	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
51.08	52.09	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
34.07	36.08	Phase II (2pm to 10 pm)	NVD	Not Given		7	9	9	Normal
29.38	26.68	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
36.07	29.09	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
37.08	39.01	Phase II (2pm to 10 pm)	NVD	Not Given		8	9	9	Normal
32.08	33.06	Phase II (2pm to 10 pm)	NVD	Not Given		8	9	9	Normal
32.04	34.06	Phase I (6 am to 2 pm)	NVD	Not Given		8	9	9	Normal
31.08	35.07	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	8	Normal
26.08	26.07	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
26.07	27.06	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
48.08	59.09	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	8	Normal
29.06	36.2	Phase I (6 am to 2 pm)	NVD	Not Given		7	9	9	Normal
28.07	33.04	Phase I (6 am to 2 pm)	NVD	Not Given		8	9	9	Normal
23.06	36.04	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
24.08	26.1	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
25.08	26.01	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
27.07	28.08	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
29.9	30.01	Phase II (2pm to 10 pm)	NVD	Not Given		8	9	9	Normal
28.29	29.82	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
27.18	28.49	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
30.01	32.06	Phase I (6 am to 2 pm)	NVD	Not Given		7	8	9	Normal
4.59	4.62	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
15.4	15.64	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
19.88	20.23	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
19.95	20.3	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
21.79	21.55	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
15.02	14.68	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
12.57	12.02	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
25.24	25.35	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
18.36	23.48	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
10.23	10.68	Phase II (2pm to 10 pm)	NVD	Not Given		7	9	9	Normal
8.1	8.14	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
12.03	12.26	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
13.94	14.96	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal
11.36	10.73	Phase II (2pm to 10 pm)	NVD	Not Given		7	8	9	Normal

S. No.	Name	Age (yrs)	Religion	Address	Education Status	Obstetric History	Past History	Per Abdomen: Size of Uterus (weeks)
1	Bhagamma anand	26	Hindu	Rural	Secondary Education	Multigravida	Nil	Term
2	Priti chavan	23	Hindu	Rural	Secondary Education	Multigravida	Thyroid Disorders	Term
3	Suramma devi	25	Hindu	Rural	Primary Education	Multigravida	Nil	Term
4	Hasina	33	Muslim	Urban	PUC	Multigravida	Nil	Term
5	Anjum	27	Muslim	Urban	Degree	Primigravida	Hypertension	Term
6	Pavithra	22	Hindu	Rural	PUC	Multigravida	Nil	Term
7	Sonali mane	23	Christian	Rural	PUC	Multigravida	Nil	Term
8	Nandini	28	Hindu	Rural	Primary Education	Multigravida	Nil	Term
9	Bhagyashree	29	Hindu	Rural	Illiterate	Multigravida	Thyroid Disorders	Term
10	Akshatha	18	Hindu	Rural	Primary Education	Primigravida	Hypertension	Term
11	Muskan	22	Muslim	Urban	PUC	Primigravida	Nil	Term
12	Bhagiradhi	24	Hindu	Rural	Secondary Education	Multigravida	Nil	Term
13	Karishma	20	Muslim	Rural	PUC	Primigravida	Hypertension	Term
14	Priti	20	Hindu	Rural	Primary Education	Primigravida	Nil	Term
15	Iramma	20	Hindu	Rural	PUC	Primigravida	Nil	Term
16	Pooja biradar	20	Hindu	Rural	Primary Education	Primigravida	Nil	Term
17	Reshma chavan	18	Hindu	Rural	Secondary Education	Multigravida	Nil	Term
18	Kavita	27	Hindu	Rural	Primary Education	Multigravida	Nil	Term
19	Bhagyashree	21	Hindu	Rural	Degree	Primigravida	Nil	Term
20	Afreen	22	Muslim	Rural	Secondary Education	Primigravida	Nil	Term
21	Tanushree	21	Christian	Rural	PUC	Primigravida	Nil	Term
22	Savitha	23	Hindu	Rural	Secondary Education	Primigravida	Thyroid Disorders	Term
23	Priyanka	26	Hindu	Rural	Illiterate	Multigravida	Nil	Term
24	Farzana	29	Muslim	Urban	Degree	Multigravida	Nil	Term
25	Shabana	22	Muslim	Rural	PUC	Primigravida	Thyroid Disorders	Term
26	Padma birappa	29	Hindu	Rural	Primary Education	Multigravida	Nil	Term
27	Pragathi	20	Hindu	Rural	Primary Education	Primigravida	Thyroid Disorders	Term
28	Roopa	23	Hindu	Rural	Primary Education	Multigravida	Thyroid Disorders	Term
29	Bhavani	22	Hindu	Rural	Illiterate	Multigravida	Nil	Term
30	Shajadabi	21	Muslim	Rural	Primary Education	Primigravida	Epilepsy	Term
31	Kasturi	21	Hindu	Rural	Primary Education	Primigravida	Thyroid Disorders	Term
32	Vidya pattar	25	Hindu	Rural	Illiterate	Multigravida	Nil	Term
33	Ratnabhai	32	Hindu	Rural	Primary Education	Primigravida	Nil	Term
34	Anusuya	22	Hindu	Rural	Primary Education	Primigravida	Nil	Term
35	Nirmala	30	Hindu	Rural	Illiterate	Primigravida	Nil	Term
36	Bhagiradhi	23	Hindu	Rural	PUC	Primigravida	Nil	Term
37	Shruti	21	Hindu	Rural	Secondary Education	Multigravida	Nil	Term
38	Laxmi	20	Hindu	Rural	PUC	Primigravida	Nil	Term
39	Netra	25	Hindu	Rural	PUC	Multigravida	Epilepsy	Term
40	Anita	35	Hindu	Rural	Secondary Education	Multigravida	Nil	Term
41	Sneha	23	Hindu	Rural	Secondary Education	Primigravida	Nil	Term
42	Kaveri	20	Hindu	Rural	PUC	Primigravida	Nil	Term
43	Kusuma	23	Hindu	Rural	Secondary Education	Multigravida	Nil	Term
44	Ambhika	27	Hindu	Rural	PUC	Multigravida	Nil	Term
45	Sangeetha	23	Hindu	Rural	PUC	Multigravida	Nil	Term
46	Indubhai	33	Hindu	Rural	Illiterate	Multigravida	Thyroid Disorders	Term
47	Farinbegum	29	Muslim	Rural	Secondary Education	Multigravida	Nil	Term
48	Kanchana	28	Hindu	Rural	Primary Education	Multigravida	Nil	Term
49	Aishwarya	22	Hindu	Rural	Primary Education	Primigravida	Nil	Term
50	Aishwarya avinash	22	Hindu	Urban	Degree	Primigravida	Nil	Term
51	Bellemma	29	Hindu	Rural	Illiterate	Multigravida	Nil	Term
52	Danamma	25	Hindu	Rural	Primary Education	Primigravida	Thyroid Disorders	Term
53	Akshatha	25	Hindu	Rural	Degree	Primigravida	Thyroid Disorders	Term
54	Jayashree	25	Hindu	Rural	Primary Education	Multigravida	Nil	Term
55	Laxmi	22	Hindu	Rural	Secondary Education	Multigravida	Nil	Term
56	Suvarna	22	Hindu	Rural	Illiterate	Multigravida	Nil	Term
57	Rukkayya	22	Hindu	Rural	Illiterate	Primigravida	Thyroid Disorders	Term
58	Arati	21	Hindu	Rural	Secondary Education	Multigravida	Nil	Term
59	Sneha	20	Hindu	Rural	Illiterate	Primigravida	Nil	Term
60	Sana	21	Hindu	Rural	Primary Education	Multigravida	Nil	Term
61	Pushpa	24	Hindu	Rural	Illiterate	Multigravida	Nil	Term
62	Shabana	22	Muslim	Rural	PUC	Primigravida	Nil	Term
63	Kusuma	24	Hindu	Rural	Secondary Education	Primigravida	Nil	Term
64	Shajadabi	21	Muslim	Rural	Primary Education	Primigravida	Nil	Term
65	Rekha	22	Hindu	Rural	Secondary Education	Primigravida	Nil	Term
66	Rukmini	23	Christian	Urban	PUC	Primigravida	Nil	Term
67	Kasturi	21	Hindu	Rural	Primary Education	Primigravida	Nil	Term
68	Anusuya	22	Hindu	Rural	Primary Education	Primigravida	Nil	Term
69	Kiranmai	31	Hindu	Rural	Secondary Education	Multigravida	Nil	Term
70	Fathima	31	Muslim	Rural	PUC	Multigravida	Nil	Term
71	Rekha	24	Hindu	Rural	Secondary Education	Primigravida	Nil	Term
72	Roja	27	Hindu	Rural	Primary Education	Multigravida	Nil	Term
73	Goramma	26	Hindu	Rural	Primary Education	Multigravida	Nil	Term
74	Vennela	26	Christian	Urban	Primary Education	Primigravida	Nil	Term
75	Amala	22	Hindu	Urban	PUC	Multigravida	Nil	Term
76	Geeta	24	Hindu	Rural	Secondary Education	Multigravida	Thyroid Disorders	Term
77	Mallamma	32	Hindu	Urban	PUC	Primigravida	Nil	Term
78	Hymavati	26	Hindu	Rural	Primary Education	Multigravida	Thyroid Disorders	Term
79	Ranjitha	28	Hindu	Rural	Primary Education	Multigravida	Nil	Term
80	Mani	24	Hindu	Rural	Degree	Primigravida	Nil	Term
81	Vani	22	Hindu	Rural	Illiterate	Primigravida	Nil	Term
82	Bhavya	24	Hindu	Rural	Illiterate	Multigravida	Nil	Term
83	Bindusri	23	Hindu	Urban	Primary Education	Multigravida	Nil	Term
84	Roja	24	Hindu	Rural	Illiterate	Primigravida	Nil	Term
85	Dhatri	24	Hindu	Rural	Primary Education	Multigravida	Nil	Term
86	Fathima	28	Muslim	Rural	Secondary Education	Primigravida	Nil	Term
87	Komali	22	Hindu	Rural	Illiterate	Multigravida	Thyroid Disorders	Term
88	Aleya	21	Muslim	Rural	Illiterate	Primigravida	Nil	Term
89	Kavya	26	Hindu	Rural	Illiterate	Multigravida	Thyroid Disorders	Term
90	Muskan	22	Muslim	Rural	Primary Education	Primigravida	Nil	Term
91	Reshma	25	Hindu	Rural	Illiterate	Primigravida	Nil	Term
92	Prema	28	Hindu	Rural	Primary Education	Primigravida	Nil	Term
93	Likitha	28	Hindu	Rural	Illiterate	Multigravida	Nil	Term
94	Amreen	22	Muslim	Rural	Secondary Education	Primigravida	Nil	Term
95	Vihitha	27	Hindu	Rural	Primary Education	Primigravida	Nil	Term
96	Kanyakumari	22	Hindu	Rural	Primary Education	Primigravida	Nil	Term
97	Laxmirathod	26	Hindu	Rural	Primary Education	Multigravida	Nil	Term
98	Vidya	24	Hindu	Rural	Primary Education	Multigravida	Nil	Term
99	Mallamma	27	Hindu	Rural	Primary Education	Primigravida	Thyroid Disorders	Term
100	Anita	21	Hindu	Rural	Illiterate	Multigravida	Nil	Term

Pulse Rate			Systolic BP			Diastolic BP			Uterine Contractions		Cervical Dilatation		Cervical Effacement		Fetal Head Station		
At 0 Min	At 20 Min	At 50 Min	At 0 Min (mmhg)	At 20 Min (mmhg)	At 50 Min (mmhg)	At 0 Min (mmhg)	At 20 Min (mmhg)	At 50 Min (mmhg)	At 0 min	At 50 min	At 0 min	At 50 min	At 0 min	At 50 min	At 0 min	At 50 min	Liquor
96	94	94	130	120	120	84	80	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
92	88	88	130	122	122	88	80	86	Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	6-7 cms	20-30%	20-30%	-2	0	Clear
86	84	82	126	120	110	82	70	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear
92	92	90	120	110	118	80	70	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear
94	86	88	130	130	140	90	90	90	Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	4-5 cms	20-30%	20-30%	-1	0	Meconium stained
96	84	82	120	112	122	80	88	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
88	84	78	120	110	122	80	70	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
78	74	76	120	108	120	80	70	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
94	94	90	120	120	120	70	80	80	Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	4-5 cms	20-30%	20-30%	-2	-2	Clear
86	86	90	140	130	130	90	92	90	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
96	92	82	130	120	120	80	80	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
86	84	88	130	120	122	90	80	70	Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	4-5 cms	20-30%	20-30%	-1	-1	Clear
92	92	92	150	140	130	100	96	90	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
78	76	80	140	122	120	80	88	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
78	74	70	122	110	110	80	80	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
86	78	82	126	120	122	80	80	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
86	88	74	120	120	122	82	84	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
78	76	76	146	140	140	70	96	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	4-5 cms	40-50%	40-50%	-1	-1	Clear
76	74	70	140	140	130	80	96	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	0	+1	Clear
88	84	88	120	110	110	70	70	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	0	0	Clear
76	76	98	140	140	118	82	96	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	0	+1	Clear
76	78	80	126	108	120	80	96	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
88	88	88	122	122	110	82	96	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	-1	Clear
76	76	74	120	110	118	82	80	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
88	84	94	120	108	118	70	70	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear
88	78	80	120	110	110	80	70	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
76	96	84	122	110	118	80	70	80	Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	4-5 cms	20-30%	20-30%	-1	-1	Meconium stained
86	96	88	126	120	122	80	80	84	Moderate 2-3/20-40 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear
88	96	84	120	108	110	80	70	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
76	78	76	120	110	110	70	70	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
76	70	70	120	108	118	70	96	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	0	0	Clear
76	74	74	140	120	120	80	96	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	0	0	Meconium stained
78	74	74	122	108	120	70	96	80	Mild 1-2/10-20 sec/10'	Mild 1-2/10-20 sec/10'	4-5 cms	4-5 cms	20-30%	20-30%	-2	-2	Clear
78	88	84	120	110	130	70	70	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	-1	0	Clear
78	78	76	146	110	118	82	80	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear
76	74	76	130	130	120	88	80	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
72	74	74	126	108	110	80	70	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	0	0	Clear
76	74	74	126	122	110	80	80	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
72	70	70	126	122	118	84	88	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	+1	Clear
88	88	82	120	140	120	80	80	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear
76	74	70	120	120	110	80	80	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	60-70%	60-70%	-2	-1	Clear
96	86	82	120	110	120	80	96	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
76	76	74	122	120	118	82	80	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	0	0	Clear
86	76	80	126	110	122	82	80	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	0	0	Clear
94	92	90	126	108	120	80	96	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
86	86	84	130	122	130	84	80	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
88	86	82	126	120	122	86	88	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
86	84	84	122	120	110	82	80	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-2	0	Clear
78	76	76	120	108	120	82	70	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	0	0	Clear
76	70	74	122	108	110	80	70	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	+1	Clear
94	92	94	130	110	110	82	70	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-2	0	Clear
78	76	76	146	110	110	80	70	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear
76	74	74	120	110	118	80	80	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	0	Clear
72	74	70	126	120	120	80	80	88	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	0	0	Clear
78	78	84	140	110	118	82	84	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear
72	70	70	122	122	122	70	80	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
86	86	88	122	110	110	80	80	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	+1	Clear
76	76	74	146	110	110	70	96	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-2	-1	Clear
76	76	74	126	120	120	80	80	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	20-30%	0	0	Clear
88	84	88	120	120	120	80	70	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
78	74	78	120	110	118	70	84	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
72	74	74	122	108	118	84	96	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	60-70%	60-70%	0	0	Clear
88	78	80	146	120	120	80	88	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
86	84	84	122	110	118	82	70	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	+1	Clear
76	86	82	120	110	110	70	80	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
72	74	76	122	120	120	80	80	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	-1	Clear
72	78	76	120	120	110	84	80	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
88	86	84	122	110	130	84	88	90	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	+1	Clear
88	86	84	126	110	120	80	80	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
72	78	78	120	108	110	82	70	70	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear
96	94	84	120	108	122	80	70	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
72	76	80	120	110	122	82	84	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear
78	76	70	122	110	122	80	80	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	-2	-1	Clear
78	74	74	120	110	120	80	70	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	-2	-1	Clear
76	76	78	122	110	120	80	80	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
72	74	74	120	108	120	80	80	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
72	74	80	120	110	122	84	80	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
86	88	80	120	110	122	80	80	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
88	86	82	120	110	122	88	80	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
88	86	82	120	110	122	80	80	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
72	70	74	122	120	120	80	80	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
72	70	70	120	110	110	84	70	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
86	86	88	120	120	122	82	88	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
76	78	80	120	110	118	82	80	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
72	74	76	120	122	122	80	84	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	+1	Clear
72	78	80	120	108	120	82	70	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	60-70%	-1	0	Clear
72	74	76	140	120	120	80	80	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	+1	Meconium stained
78	78	80	122	110	120	82	84	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
76	74	76	146	108	110	84	70	82	Moderate 2-3/20-40 sec/10'	Strong 3-4/40-45 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
88	86	88	120	120	122	84	84	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
86	84	84	122	110	118	88	80	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-1	0	Clear
78	76	78	130	120	122	84	80	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
78	78	80	120	110	118	84	88	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-2	-1	Meconium stained
86	86	84	120	122	118	84	88	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	40-50%	-2	-1	Clear
72	70	76	140	110	120	84	84	80	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-2	0	Clear
88	86	88	120	120	120	80	80	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-2	0	Clear
78	84	80	122	108	120	70	96	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	40-50%	40-50%	-1	-1	Clear
88	84	82	122	120	120	82	80	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	20-30%	-2	-1	Clear
86	84	82	120	120	122	84	80	84	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	0	Clear
72	70	80	122	108	122	80	80	82	Mild 1-2/10-20 sec/10'	Moderate 2-3/20-40 sec/10'	4-5 cms	6-7 cms	20-30%	60-70%	-1	+1	Clear

FHR		NST				Visual Analogue Scale				Serum Cortisol (ugm/dl)						APGAR Score			
At 0 min	At 50 min	Baseline Heart Rate (bpm)	Number of Accelerations	Beat to Beat Variability	Number of Decelerations	At 0 Min (V1)	At 20 Min (V2)	At 30 Min (V3)	At 50 Min (V4)	At 0 min	At 50 min	Time of collection	Mode Of Delivery	Analgesic	Doses of Analgesic Given	At 1 Min	At 5 Min	At 10 Min	Fetal Outcome
152	154	152	2	Present	0	3	5	7	9	10.95	34.31	Phase I (6 am to 2 pm)	NVD	Inj paracetamol	1	7	8	9	Normal
156	152	152	2	Present	0	4	5	8	9	17.97	20.98	Phase II (2pm to 10 pm)	NVD	Inj paracetamol	2	8	9	9	Normal
156	152	154	2	Present	0	5	6	8	9	23.66	37.96	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
150	150	150	3	Present	0	3	4	5	8	23.61	36.4	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
140	146	142	1	Absent	1	4	6	8	9	48.29	51	Phase II (2pm to 10 pm)	NVD	Not given		6	7	7	O2 Hood
152	152	150	2	Present	0	5	7	8	9	32.3	36.78	Phase I (6 am to 2 pm)	NVD	Not given		7	8	8	Normal
154	148	152	3	Present	0	4	5	7	8	9.93	40.22	Phase I (6 am to 2 pm)	NVD	Inj paracetamol	1	7	8	8	O2 Hood
154	140	142	2	Present	0	5	6	8	9	22.79	37.31	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
110	100	110	1	Absent	1	3	5	8	9	3.93	6.93	Phase I (6 am to 2 pm)	NVD	Not given		7	8	8	CPAP
152	148	148	2	Present	0	4	5	7	9	25.24	31.25	Phase II (2pm to 10 pm)	NVD	Not given	2	7	8	9	Normal
154	154	148	2	Present	0	5	5	8	8	34.38	41.23	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	O2 Hood
142	154	152	1	Absent	1	3	5	8	9	28.54	30.39	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	HFNC
150	150	146	2	Present	0	4	6	8	9	14.57	28.02	Phase II (2pm to 10 pm)	NVD	Not given		8	9	9	Normal
152	154	156	3	Present	0	4	5	7	9	61.8	61.8	Phase II (2pm to 10 pm)	NVD	Inj tramadol	2	7	8	9	Normal
152	154	150	3	Present	0	4	6	7	8	51.98	51.47	Phase III (10 pm to 6am)	NVD	Not given		7	8	8	CPAP
152	152	150	2	Present	0	5	6	8	9	25.75	24.04	Phase II (2pm to 10 pm)	NVD	Not given		7	9	9	Normal
150	150	154	2	Present	0	5	6	8	9	20.29	27.31	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	O2 Hood
142	148	146	3	Present	1	4	7	7	9	20.98	20.96	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
142	148	148	3	Present	0	3	4	7	9	59.7	10.13	Phase II (2pm to 10 pm)	NVD	Inj paracetamol	2	7	8	8	Normal
142	140	130	1	Present	0	5	6	7	9	11.11	59.28	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	nicu
140	140	142	2	Present	0	4	5	7	8	61.8	10.48	Phase III (10 pm to 6am)	NVD	Not given		7	9	9	Normal
154	140	130	1	Present	0	4	6	7	9	19.08	21.08	Phase I (6 am to 2 pm)	NVD	Not given		7	8	8	Normal
154	150	148	3	Present	0	4	5	6	7	17.86	33.37	Phase II (2pm to 10 pm)	NVD	Not given		7	9	9	CPAP
146	148	148	2	Present	0	4	5	8	9	17.04	28.28	Phase II (2pm to 10 pm)	NVD	Not given		7	9	9	Normal
146	140	142	3	Present	0	5	5	7	9	5.79	9.07	Phase I (6 am to 2 pm)	NVD	Not given		5	6	6	HFNC
146	148	146	2	Present	0	5	6	7	9	26.74	40.8	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
140	110	110	0	Absent	1	3	4	5	8	19.7	20.65	Phase III (10 pm to 6am)	NVD	Not given		6	6	7	CPAP
142	140	142	3	Present	0	4	5	7	9	13.66	24.9	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
152	154	152	3	Present	0	3	4	6	9	22.53	24.16	Phase II (2pm to 10 pm)	NVD	Not given		5	6	6	CPAP
142	150	142	3	Present	0	4	5	7	8	17.63	57.79	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
142	148	146	1	Present	0	4	5	8	9	50.19	51.79	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
152	140	130	1	Absent	0	3	4	7	8	21.78	49.4	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
146	150	110	1	Absent	0	3	5	8	9	13.62	17.19	Phase I (6 am to 2 pm)	NVD	Not given		7	7	8	Normal
130	146	130	1	Present	0	4	5	6	7	61.8	61.8	Phase II (2pm to 10 pm)	NVD	Inj paracetamol	1	5	6	6	CPAP
140	148	150	3	Present	0	5	6	9	9	4.14	17.02	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
142	148	148	3	Present	1	4	5	7	8	51.01	52.03	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
146	148	148	2	Present	0	4	6	8	9	12.82	35.28	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
154	152	154	2	Present	0	5	7	8	9	21.29	25.53	Phase I (6 am to 2 pm)	NVD	Not given		6	7	7	O2 Hood
110	110	120	3	Present	0	5	7	8	9	21.54	39.19	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
140	148	146	3	Present	0	3	5	7	8	61.8	61.8	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
150	148	146	2	Present	0	5	6	8	9	26.07	31.45	Phase III (10 pm to 6am)	NVD	Not given		7	8	8	Normal
140	146	142	3	Present	0	4	5	6	8	16.93	46.81	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
150	146	150	2	Present	0	3	4	6	9	15.11	46.8	Phase III (10 pm to 6am)	NVD	Not given		7	9	9	Normal
140	146	148	2	Present	0	3	5	5	8	5.45	61.8	Phase I (6 am to 2 pm)	NVD	Not given		7	9	9	Normal
142	150	150	3	Present	0	3	4	7	9	29.78	53.44	Phase I (6 am to 2 pm)	NVD	Not given		7	8	8	O2 Hood
152	154	152	2	Present	0	4	5	6	9	19.78	41.52	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
146	148	146	2	Present	0	5	6	7	9	17.25	25.13	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
140	146	146	2	Present	0	5	6	6	9	22.14	25.33	Phase III (10 pm to 6am)	NVD	Not given		6	6	7	CPAP
140	148	148	3	Present	0	3	4	5	8	17.61	45.02	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
140	140	142	2	Present	0	5	6	7	8	40.69	43.85	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
142	140	142	2	Present	0	4	5	7	9	18.31	57.08	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
156	150	152	2	Present	0	5	6	8	9	19.23	52.15	Phase II (2pm to 10 pm)	NVD	Not given		7	9	9	Normal
142	148	150	2	Present	0	5	7	8	9	18.08	52.64	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
140	140	146	3	Present	0	5	5	6	8	61.8	61.8	Phase I (6 am to 2 pm)	NVD	Not given		7	9	9	Normal
152	154	148	3	Present	0	4	5	7	9	16.34	17.07	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
152	150	152	3	Present	0	3	6	6	9	18.36	21.08	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
146	154	156	3	Present	0	3	6	7	9	21.08	22.86	Phase II (2pm to 10 pm)	NVD	Not given		7	9	9	Normal
150	152	150	3	Present	0	3	5	7	9	15.41	40.88	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	Normal
140	140	142	2	Present	0	4	6	8	9	26.18	45.87	Phase I (6 am to 2 pm)	NVD	Not given		7	9	9	Normal
150	148	146	2	Present	0	5	7	8	9	1.87	1.78	Phase I (6 am to 2 pm)	NVD	Not given		7	8	8	CPAP
146	148	146	2	Present	0	4	6	7	9	29.9	26.08	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
146	146	146	2	Present	0	3	6	8	9	31.02	39.04	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
152	154	148	3	Present	0	4	5	8	9	32.01	38.04	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
146	154	152	3	Present	0	3	4	7	9	32.04	39.24	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
146	148	150	2	Present	0	4	5	6	9	23.04	29.1	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
154	154	152	2	Present	0	5	6	8	9	24.08	35.06	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
142	148	148	2	Present	0	4	6	8	9	34.07	42.08	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
152	152	150	2	Present	0	3	6	6	7	30.08	29.18	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
140	148	148	4	Present	0	4	5	8	9	26.07	34.08	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
146	150	146	3	Present	0	5	7	8	9	28.08	36.06	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
152	152	150	2	Present	0	4	6	7	9	36.09	37.24	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
154	154	152	2	Present	0	3	6	8	9	29.06	42.07	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
146	140	146	3	Present	0	4	5	7	9	46.08	58.08	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
150	150	150	3	Present	0	5	6	8	9	28.09	36.1	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
152	148	146	3	Present	0	3	7	7	9	58.09	59.1	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
152	150	152	3	Present	0	4	6	8	9	32.02	38.06	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
140	146	142	3	Present	0	4	5	6	9	28.09	35.07	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
152	150	150	3	Present	0	4	6	7	8	29.06	39.09	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
150	148	146	3	Present	0	3	5	7	9	22.06	27.07	Phase I (6 am to 2 pm)	NVD	Not given		7	8	9	Normal
140	146	142	2	Present	0	3	5	6	8	52.16	53.14	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
142	148	142	2	Present	0	4	7	7	9	29.69	35.07	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
142	148	148	2	Present	0	4	6	8	9	28.13	39.09	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
142	148	148	4	Present	0	4	5	7	9	42.07	49.14	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
140	154	146	3	Present	0	5	7	8	9	31.26	38.37	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
146	148	148	2	Present	0	3	6	6	8	24.11	31.07	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
150	150	152	2	Present	0	4	6	8	9	29.06	37.08	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
142	146	130	2	Present	1	4	6	8	9	22.46	29.09	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	O2 Hood
142	146	120	2	Present	1	3	4	7	9	35.67	42.09	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
154	152	152	2	Present	0	5	6	7	9	25.04	29.69	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
142	150	148	2	Present	1	6	7	8	8	36.67	45.27	Phase II (2pm to 10 pm)	NVD	Not given		7	7	8	CPAP
146	150	154	2	Present	0	3	5	7	9	38.57	47.07	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
152	150	150	2	Present	0	3	4	5	6	20.11	28.07	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
146	150	120	1	Absent	0	4	6	7	9	19.96	28.49	Phase II (2pm to 10 pm)	NVD	Not given		7	8	8	O2 Hood
140	148	146	2	Present	0	4	5	6	7	27.67	34.04	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
152	150	148	2	Present	0	4	6	7	9	28.88	35.97	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
142	140	148	2	Present	0	3	6	7	8	22.54	10.32	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
142	148	142	2	Present	0	3	5	7	9	16.34	27.88	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
154	156	154	2	Present	0	3	5	7	9	10.76	11.42	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
146	148	148	2	Present	0	4	5	6	9	8.52	8.07	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal
142	140	142	3	Present	0	4	6	8	9	61.8	61.8	Phase II (2pm to 10 pm)	NVD	Not given		7	8	9	Normal

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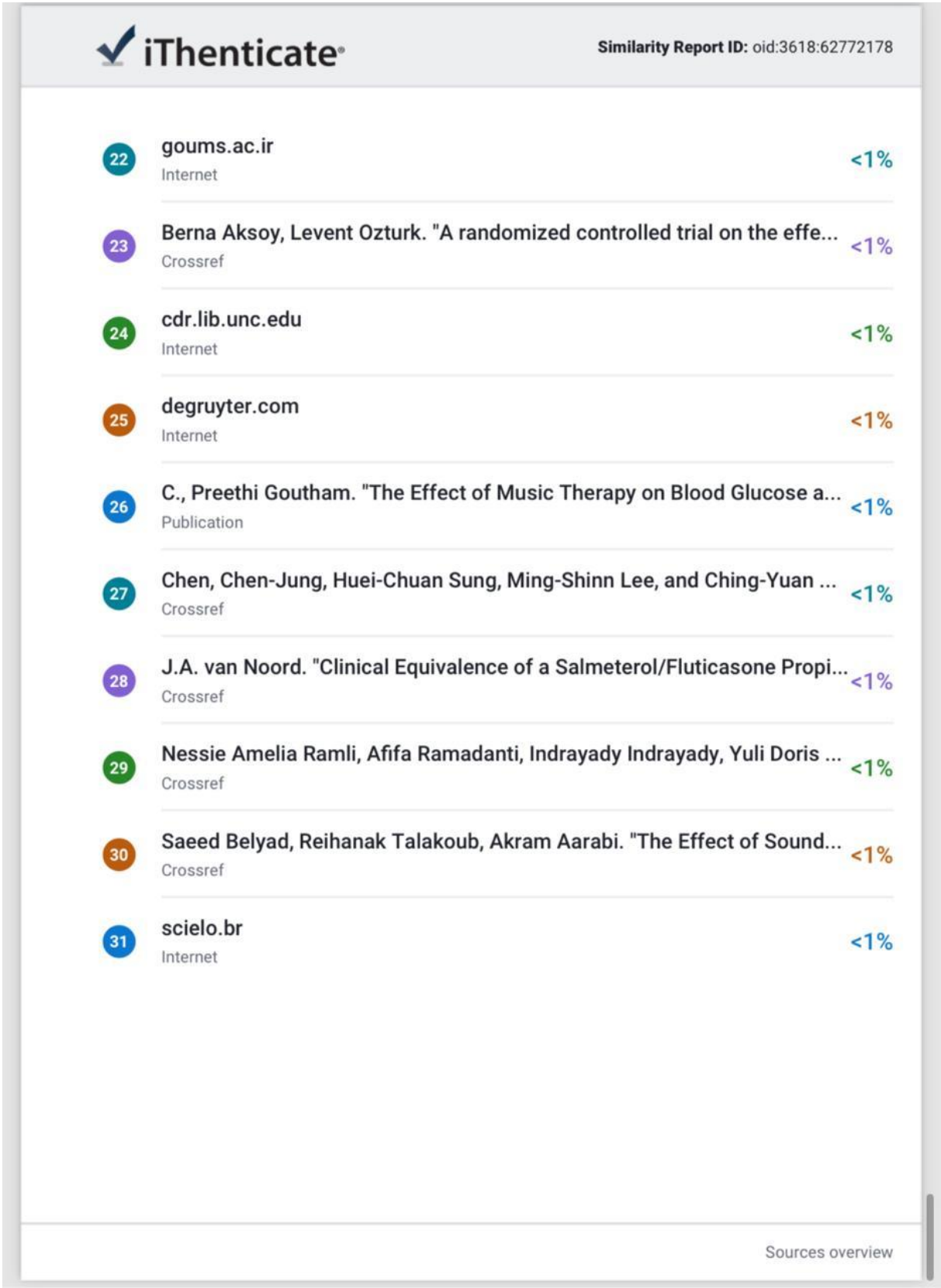

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