Music for Pregnancy, Birth, and Early Development

Module Five
Part one
5.1

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A study was conducted in Canada between August 1997 and July 1998.

Eleven pregnant women participated in the study to see what effect music would have on their labor.

They were divided into two groups, a control group (receiving no music) and an experimental group (receiving music).

Each group was accompanied by a coach during labor, instructing them on how to breathe and relax.
The experimental group was visited by Caryl (a music therapist) who asked them questions regarding what type of music they like, how they feel, and other questions regarding pregnancy.

Caryl brought nine different tapes for the pregnant mothers to choose from, including rock and roll, classical, contemporary, vocal, lullabies, soft soothing music or their choice of music.

They were then given recordings of nine hours of that particular music, and were told to listen to it while relaxing or doing household chores.
A study about music and pregnancy

Personal choice music was the most commonly chosen.

They were interviewed after their pregnancy to see if music had made any difference.

The mothers referred to the classical and contemporary music as beneficial compared to others, because they could predict the rhythms.

Some said the pain disappeared, while others said the music helped them to communicate with relatives in the room for support.
A study was conducted at the College of Nursing at Kaosiung Medical University in Taiwan. 236 pregnant women, average age 30 and in their second or third trimester participated in this study. 116 woman were put in the experimental group that would be receiving the music. 120 woman were put in the control group that would be given traditional pain medications. The study was two weeks long. The participants in the experimental group were able to choose what type of music they wanted to listen to.
Another study about music and pregnancy

The choices included lullaby, nature sounds, classical or Chinese music.

The majority of the participants in the experimental group chose lullaby and nature sounds.

They were then given a 30 minute CD, and were asked to listen to it for 30 minutes each day for two weeks.

After the two weeks were done, both of the groups were asked to fill out a scale about how they feel.

The scale measured anxiety, depression and stress levels.
The experimental group decreased their stress level by an average of 2.15 %.
The control group decreased their stress level average by only 0.92 %.
The experimental group had an average decrease in anxiety by 2.13 %.
The control group increased their average anxiety levels by 0.71 %.
The experimental group had a reduction in depression.
The control group only had an average reduction of 0.03 in depression levels.
A study from Israel

- The researchers, from the Meir Hospital in Kfar-Saba, Israel, compared the effects of 30 minutes of no music, recorded music, and live music on 15 premature babies.
- The babies were then monitored for 30 minutes.
- It was found that babies slept significantly more deeply and had a reduced heart rate after hearing the live music. Dr. Shmuel Arnon, who led the research, told BBC News Online: “It could be that the live music is different than recorded music in its timbre, its echo, and other variables that could influence the baby.”
- "I think music should be played in neonatal intensive care units. Babies would benefit from around half an hour's music a day."
Music during pregnancy

- Once babies develop hearing, in the fifth month, music is excellent for aural stimulation and to soothe the baby.
- As many studies have proven, the fetus does react to the music, if it is presented in an organized way.
- Immediately after birth, a baby distinguishes the mother voice and shows preferences for sounds heard while it was still in the womb.
- Music heard while in the womb seems to give babies, after birth, a feeling of confidence and relaxation.
- However, mothers can give their babies the emotional benefits of music even before hearing develops at five months.
Music during pregnancy

- Mothers who set aside time to relax daily by listening to music also help their babies feel calmer and happier.
- Pregnant women and their babies share hormones, so there is a close connection between the emotional well-being of the mother and that of the child she carries.
- Additionally, music played during childbirth can relieve expectant mothers' anxiety, help release endorphins and reduce the amount of anesthesia needed.
A pioneer in the vibroacoustic music field, Olav Skille, suggests that vibroacoustics can have a big part in our human development.

“Research around our prenatal environment has shown us that the uterus is a liquid-filled vessel which constantly is transferring sound vibrations to the whole body surface of the fetus. The amplitude is measured to be 80 dB, and the main frequency level is below 200 Hz. Sound waves traveling in water are approximately 4.5 times longer than waves of the same frequency traveling in air. This means that not only the body surface of the fetus is massaged by the sound vibrations, but the vibrations penetrate the whole body of the fetus, and give a gentle massage to virtually every cell in the body of the unborn child. It is highly improbable that this massage is having no effect whatsoever on the development of the child.” (Skille, 1991.)
A Look at Music in Childbirth *(3)
Music’s role in childbirth

- First stage in Music Therapy is choosing music that will help with pain management and provide music entrainment.

- Next, there needs to be an emphasis on the importance of the relationship between the mother, baby and partner.
Music for pain management

• Choosing the right music is done through some specific practice techniques and monitoring a mother’s emotional and physical responses to those music interventions.

• Music entrainment is a technique that works on helping muscles to relax, and to breathe in a simultaneous manner with the chosen music.

• Music has the potential to resonate with the listener’s feelings and promote a state of liveliness or serenity. Certain sounds, in specific sequence, can help bring the listener from one mental state to another.

• This in turn helps break the pain, tension, and fear cycle associated with labor pain.
Establishing the importance of relationship

• Music is used to help a mother connect emotionally with her baby and her partner, while learning to trust her own physical responses to the birthing process.
Music Therapy Assisted Childbirth Program*

- Uses a Board Certified Music Therapist (MT-BC).
- Consists of a series of therapy sessions done in the last trimester of pregnancy.
- The music therapist provides instruction in imagery and relaxation techniques, movement training, and singing various lullabies.

Together they first select a specially chosen music program to calm, comfort, block pain and focus on rhythmic breathing.

- Mothers are taught how to use music to support their physical and emotional needs throughout the stages of labor and delivery.

  (Mary DiCamillo, Ed.D, MT-BC)
Foundations for Sound Birthing
Seven stages in sound birthing

- Biological
- Psychological
- Environmental
- Sociological
- Emotional
- Developmental
- Physical

Mary DiCamillo, Ed.D., MT-BC,
Biological

• Music can change biology by helping a laboring mother to have stable breathing, lower blood pressure and respiration, and block pain responses.

Psychological

• Music enhances the ability to use coping skills and childbirth techniques during labor.
• Music can change a person’s mood and can be measured through the brain’s neuro-chemicals.
Environmental

• Music blocks out the un-necessary sound in the birth environment.

• Music provides a “sound blanket” which fills the space and wraps the mother in sounds of comfort and safety.

Sociological

• Music evokes social support from others and help holds the birthing team together.
**Emotional**

- Music is used to affirm moods and feelings that the laboring mother is experiencing.
- Music is organized in such a way that it can provide vicarious structure to provide emotional security.

**Developmental**

- Music supports the process of becoming a mother and helps work through a mother’s fears, to relax and let the process happen.
Spiritual

- Music can enhance and support the spiritual process of the laboring mother, and may evoke a peak or transpersonal experience.
Effectiveness of music during labor

• Research found that music serves multiple functions in the natural childbirth process, including focusing attention, distracting from pain, stimulating pleasure responses, focusing breathing, and as a conditioned stimulus for relaxation.

(Clark, McCorkle, Williams, 1981)
Effectiveness of music during labor

- A recent study of 14 couples who participated in a Music Therapy Assisted Childbirth program found that music therapy was very beneficial during both the labor and delivery process.

- In a study of 15 couples, it was found that the use of pain medication during labor was minimal, without a significant difference in pain, when using Music, compared to couples who did not.
Effectiveness of music during labor

- In the same study, the use of music during labor and delivery was most effective in supporting synchronous breathing, remaining calm, focusing, and in managing pain.

  (Dicamillo, 1999)

- Women who did the techniques at home and were familiar with their music, felt in control and had more positive birth experiences. 64% of those women felt in control during most of their labor and delivery.
Music in child development
Over the years music has had a remarkable effect on human beings. This section will briefly explore some of the unique ways that music has positively impacted babies.
Sick babies and soothing tunes

- Scenario: 40 babies separated into three groups.
  -- Hospitalized with music.
  -- Hospitalized without music.
  -- Healthy at home without music.
- Music included:
  -- Gentle singing
  -- Holding them

- Result of hospitalized babies:
  -- Babies that received music did not have an increase in irritability and crying.
  -- Babies that had no music saw an increase in irritability and crying and could not cope well during their hospitalization.
A recent study has shown that at nine months of age, babies are able to discern whether a song is happy or sad. The babies could distinctly pick out Beethoven’s *Ode to Joy* as a happy song in contrast to sad songs that had been played.

When the tempo and rhythm were faster, and it was in a major key, they noted it was a happy song. When the songs were in a minor key, and the tempo and rhythm was slower, they noted it was a sad song.

BYU Psychology Professor Flom says, “This period of learning about emotion in sounds is a natural step before learning to talk.”
PAL system changing the lives of preemies

- PAL (Pacifier Activated Lullaby) is a sensor that is connected to a pacifier, hooked up to speakers and a control box with a CD in it. As the baby sucks it triggers the music to play.

- Positive effects:
  The PAL machine reports the pressure of the suck, how many times the baby needs to suck to make the music play, pacing, and endurance.

  With the help of PAL, the preemies are calmer, drink twice as much and are able to leave the hospital two week earlier than the other babies.
Songs for babies

Music for Babies
http://www.advancedbrain.com/music-for-babies/

The Mozart Effect: Music for Babies

Cancione para mi bebe
http://www.youtube.com/watch?v=hRMPgO41IEI&NR=1

Building babies brains: the role of music
http://www.educationoasis.com/resources/Articles/building_babys_brain.htm
Selected Resources

