

## The Music Therapy-Assisted Childbirth Program: A Study Evaluation

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**Abstract:** None available.

**Full Text:** Headnote ABSTRACT: This program is geared towards raising a level of concern for the expectant parent about childbirth preparation, and the infant itself as an individual. The Music Therapy-Assisted Childbirth program attempts to facilitate 1) a reduction of stress for the working mother-to-be, in preparation for the birthing process, and 2) a more positive interaction between mother and child in the postnatal period. It emphasizes adequate emotional preparation, patient and infant relaxation/ stimulation through frequency and length of music home practice. The program integrates compatible-researched methods and strategies, and new methodology regarding breathing techniques and music. INTRODUCTION Several issues are of concern to the pregnant mother. For instance, how manageable and satisfactory is the birth of her first child, how about her child development, how well will she cope with childcare tasks, and the newborn infant's crying behavior. Can the controlled use of music possibly enhance the outcome of the determined event of childbirth? Can it be an influential factor in reducing pain and discomfort during the birthing process? And, does prenatal stimulation through carefully chosen types of music have an effect in soothing the crying infant in the postnatal period? OVERVIEW Music has been an integral part of healing around the world since ancient times. Nowadays it is known through research that music has the ability to influence metabolic rate, muscle activity, respiration, attitudes and emotions. With new developments in the areas of psychology, neurology and physiology to name a few, researchers have been able to point out the importance of sensory stimulation in influencing prenatal infant development and the role the parents may play in this regard. VERNY & KELLY (1981) discuss various ways of communication between mother and child, and the effect of the mother's attitude towards the fetus on its health. CARTER-JESSOP (1981) studied prenatal "bonding intervention" on the frequency of postnatal maternal attachment behaviors. Mothers are encouraged to interact with the infant in utero (talking, touching, stroking), and to increase awareness of fetal activity. This interaction helped to prepare mothers to optimize growth and developmental experience of their children throughout childhood, and to weather threats to the relationship, e.g. separation in prematurity, illness, etc. Another influential factor on fetal development is stress during late pregnancy. STOTT (1977) suggests that prolonged stress in the mother can have undesirable effects on the baby. And GOODLIN (1977) reports some success in pacifying the fetus and the newborn infant through music stimulation during the mother's time of distress. Where the event of childbirth is concerned, music programs, in combination with childbirth methods, have been designed in order to facilitate a greater anesthetic response with the application of sound therapy during labor as seen in various studies by CODDING (1982), HANSER (1983), BURN & KORN (1962) and CLARK et al (1981). More active involvement and feelings of euphoria have been reported with the use of music therapy during the birthing process. Furthermore, the type of birth experienced appears to be a major determinant in degree of maternal attachment with the infant (PETERSON & MEHL, 1978). THE PROGRAM From December 1987 to February 1989, the Grace Hospital, obstetrical facility of Vancouver, B.C., provided placement for the Music Therapy-Assisted Childbirth program. This new therapy model used on this project was based primarily on the experimental program conducted by Dr. Williams and associates at the Kansas University Medical Center in 1979 (CLARK et al, 1981). They used a standardized, research-compatible protocol and research-based rationale for pain/ anxiety treatment. And, secondly, it was based on prenatal influence theories and implementation of sensory stimulation activities concerning the unborn and newborn infant. Thus, two major issues concerning the mother in pregnancy: pain management alternatives and child development in the later gestational period were addressed. These two points were combined in an attempt to

provide the expectant parents with a greater understanding for the need of childbirth preparation, and broader scope in the application and benefits of the clinical use of music in late pregnancy and the postpartum period.

Program Goals

1. To encourage a more positive attitude toward motherhood during late pregnancy and the postpartum period
2. To prepare the expectant mother more adequately for childbirth

Objectives

1. To induce relaxation during early labor and reduce pain perception during hard labor (strong contractions)
2. To reduce anxiety during MTAC training, childbirth, including postpartum recovery during approximately first month
3. To increase the husband's support during late pregnancy and labor
4. To provide sensory stimulation for the unborn infant (music and verbalization) during late pregnancy and increase interaction with the newborn infant by the same means during the postnatal period
5. To pacify the newborn through prenatal music during crying periods during approximately the first month after birth
6. To reduce fetal discomfort (excessive movement) for special cases
7. To facilitate childcare tasks such as breastfeeding
8. To facilitate a high level of satisfaction during the experience of childbirth

THE STUDY

Over 140 people including couples and their unborn/newborn infants participated in the project. A quantitative study was set up to evaluate the effectiveness of music therapy (first phase of the project) from the point of view of the childbearing mothers on various aspects of childbirth preparation, the event itself and the postpartum period according to the goals and objectives mentioned above.

21 primigravidas were evaluated, and they were those who met the criteria for inclusion in the data analysis: participation in a regular childbirth preparation course, participation of at least three\* music therapy sessions, husband's presence in the delivery room, and return of questionnaires. The MTAC two-part questionnaire was given to the participants two weeks after birth and one month later approximately. Subgroups of the whole group (21) were analysed depending whether they have answered the related goal/objective questionnaire item.

METHOD

Individualized sessions were structured as follows:

- 1) Interview and discussion of the method;
- 2) Individual musical selections assessment (for relaxation, bonding, breathing, stimulation);
- 3) Experiential and learning activity (music listening, relaxation techniques and suggestion) and prenatal intervention techniques (including music stimulation and talking to the unborn baby) plus directions for the application of techniques in the home setting;
- 4) Breathing/music program (focus on balancing and economizing breathing intake and exhalation at different speeds through rhythm);
- 5) Simulated labor using guided imagery; instructions on the use of music during labor & delivery/ operating room and the postpartum period.

Mothers were given a music practice tape tailored to their needs, were asked to do regular music practice along with other relaxation techniques and to keep record of activities. They were also informed verbally and through handouts of the potential benefits of these activities. The therapist kept record of progress made by the subjects during sessions.

RESULTS AND DISCUSSION

Mother's Attitude Towards Motherhood

14 out of 19 respondents (73.7%) said the program had helped them to adopt a more positive attitude towards motherhood in late pregnancy and postpartum. Results obtained may have come from the mother as having set aside 'quality' time for her infant in order to exercise special tasks such as providing most appropriate soothing music, talking and fantasizing in positive emotional terms about the baby in utero. Some of the comments of the mothers were: "I felt I was doing something constructive for my baby while she was still in utero, and in postpartum I felt as though we were sharing something"; "the program promoted communication which gave me a definite positive attitude during a time where I felt unsure and insecure about my new role as a mother"; "I always had a positive attitude towards motherhood, but I found listening to the tape I was more emotional"; "using the (practice) tape helped me to get closer to the baby". Two mothers found MTAC as no help in this regard. Three others said to have been already fairly and/or very positive. According to Lukesch's study (1975), the mother's attitude had the single greatest effect on how an infant turned out. Caring emotionally for the infant in utero seems to have an impact on its health as seen by Verny & Kelly (1981). Music seems to become a vehicle by which mothers can show affect towards their infants, and this mother's adopted behavior is apparently something the newborn can relate to.

Childbirth Preparation

85.7% of the entire group (18/21 mothers) found the program as having met their expectations in preparing them more adequately for childbirth. Comparisons were given by some

participants on what they had learned in regular prenatal classes and the music therapy program, i.e. breathing techniques and effectiveness of methods of relaxation in the home setting. However, individual attention during sessions may possibly be the major factor for such high response. "Increasing the availability of preparation classes . . . could improve birth experiences for many women" (Norr et al, 1977). Pain Management During Childbirth Through Music Therapy A reduction of pain-discomfort during hard labor at an average level for non-complicated, non-medicated types of labor in 75% of subjects included in this category-approximately 20% of whole group-was evaluated. Music therapy also facilitated relaxation during early labor for over 50% of the whole group as reported. Music appeared to be helpful in early labor (home setting) for relaxation, but difficult to evaluate during hard labor (at the hospital) and less effective for the majority of cases probably due to the number of complications encountered. Music seems to become cumbersome to apply as medical factors such as length of labor, complications and difficulties in delivery arise. Besides, a number of subjects neither used music during this time nor employed the suggested or perhaps the most appropriate type for matter of preference. Another reason for this outcome may be attributed to the absence of the music therapist in the delivery room to monitor the therapy (Clark et al, 1981; Hanser, 1983). It is important to mention here that this procedure done during labor by the therapist was seen as non-practical due to time, length of labor, and limited amount of therapists available to carry such task. Mothers generally preferred a minimum number of people during the birthing process at the hospital. Inhibition is to be accounted for in this regard. Specific breathing techniques taught in the program using music selections at various speeds for pacing seemed to have been helpful for coping during strong contractions for almost all categories evaluated (complications), even for those who did not make use of the practice tape. Changes such as instructions given to husbands on how to monitor the music in the delivery room, especially during hard labor, i.e., use of equipment, types of music/breathing techniques most useful for different stages in labor, and sheet guide to simplify procedures are being implemented, (see Appendix A for details.) The music practice tape was played by some of the participants undergoing c/section in the operating room. This brought positive comments from doctors and nurses attending about the type of music and its appropriateness for the occasion. Anxiety During the Mother's Reproductive Cycle Late pregnancy 90% of respondents of entire group found music therapy as an influential factor in reducing anxiety at the high level side of the constructed scale (3.5/5) during MTAC training. One of the two subjects found herself not anxious, and the other reported no effect. Labor and delivery Of the 21 cases, only those who made use of the practice tape were included in this section: vaginal deliveries, inductions, and those who experienced labor and underwent c/section. Those also excluded from the data analysis were scheduled c/sections, and unanswered questionnaires. 14 of 17 mothers evaluated (82.2% of the group) found music therapy as an influential factor in reducing anxiety at an average level (2.7/5 scale) during the event of childbirth. Three subjects reported no effect. This finding may meet this important objective in the childbirth process as seen by Crawford (1968) and other researchers. Postpartum Over half of the respondents (62.5%) of 16 included in the analysis reported a high degree of influence from music therapy to reduce anxiety during approximately the first month after birth. Some of the comments given by the mothers were: "music provided continuity and feeling of companionship"; "very relaxing"; "very useful in terms of relaxation." Anxiety was not a factor (problem) at this specific time for some new mothers. Control of this emotional state was connected with relaxation and calmness. Problems with regard to how the questionnaire was set up to obtain information (type of question) were detected. The question of whether music therapy had had an influence in reducing anxiety included both the hospital and home settings. This may have led to ambiguous answers. Husband Support During Pregnancy and Labor 66.6% of mothers perceived their husbands to be greatly involved (average) as a result of the MTAC program. Three reported their husbands to be already, or completely involved. In this regard, Peterson et al (1977) found that the most predictor variable in determining father attachment to the infant was the father's degree of participation in the birthing process. Music therapy may help to achieve this important goal as well. Communication with the Unborn and Newborn Infant Prenatal Period A moderate amount of

communication between the mother and infant, through verbalization and music, in the prenatal period (MTAC training) was reported in 17 cases evaluated: 1.94/3 scale = 64.6/100 aug. scale. Maternal-infant interaction in the third trimester may promote maternal attachment with the infant already existent throughout pregnancy (Carter-Jessop, 1981), and may be even enhanced by the inclusion of carefully chosen music selections as sensory stimulation. This investigator postulates in her research that strengthening the attachment process during a sensitive period of development increases the likelihood that subsequent maternal-infant attachment will reach its optimum level (postnatal period). Postnatal Period There was a moderate amount of communication (average) exercised in the 17 cases evaluated during approximately the first month after birth (2.41/3 scale = 80.3/100 aug. scale.) A 15.7% increase in mother interaction (music and verbalization) with the infant from the late prenatal period to the end of one month postpartum approximately was evaluated. Not everyone reported to have increased their communication from the late pregnancy period to one month postpartum approximately. 5 of the group reported a lot of communication in both periods. This 23% of the population were those who expressed a high desire (including husband) to see the effect of sensory stimulation on their child's behavior (postnatal period) and/or those who had previous knowledge of prenatal influences on the unborn child through reading, documentaries, etc. 3 subjects showed a decrease in this type of communication between the two periods. Newborn health problems as reported in 2 of these 3 mothers may have been a factor for this turn out. Infant Crying Behavior Results show the mother's ability to pacify the newborn "quite effectively" through music in over 90% of subjects, (excluding colicky babies). According to Clifford (1985), music played for the first time for the crying newborn do not appear to have much effect. Specific types of music for bonding used during the prenatal period as a way to pacify the newborn infant during the first month postnatal period may be one of the reasons for such outcome. The type of music chosen for this purpose was rated as very beautiful, very relaxing (Mozart flute concertos (slow mov(s)), and some violin baroque music, among others selections). Unexpected and surprising were the remarks and comments of those who volunteered extra information (over half of the whole group of mothers) concerning their newborns' behavior. They reported to have had an 'easy' baby, one that seldom cries, a quiet baby. This, in fact, may be the one of the most important findings of this study due to the implications concerning the development of the newborn (Ferreira, 1962), and maternal depression and its effects on the newborn during mutual interaction (Tronick, 1986). Further studies using experimental and group controls, i.e. mothers under high professional stress level, would be necessary to know whether there is a link between a conditioned emotional response (CER) acquired in late pregnancy by the unborn infant through specific auditory stimulation and level of infant crying behavior as perceived by new mothers. Excessive Fetal Movement During Late Pregnancy 4 out of 9 respondents who suffered this problem found music therapy as an influential factor in reducing discomfort due to excessive fetal movement. The level of influence was: average (3.24/5 scale) for the ones concerned. According to an extensive body of research, stress experienced by the mother during her pregnancy has an effect on the postnatal behavior and development of the offspring. This point appears to have been demonstrated conclusively in animals and appears to have a strong probability of being found with respect to humans (Catano & Catano, 1987). The use of music to pacify the fetus, in this instance, has already been documented by Goodlin (1977). More controls are needed in this interesting area to provide a better music treatment for these special cases. Level of Satisfaction During Childbirth 80% of respondents (20/21 subjects) reported a level of satisfaction in the high range (4.2/5 scale). One mother, of those who reported a low level of satisfaction, underwent severe pressure by coming to realize that her baby was in breech position at the time of labour. Another mother had forceps delivery and underwent a major medical intervention as reported by the husband. The word satisfaction is used here for enjoyment instead. "Pain and enjoyment emerge as two distinct, though related, dimensions of childbirth" (Norr et al, 1977). Despite the two cases mentioned above, the high response obtained reflects somewhat the findings of Norr and associates. Their findings indicate that the impact of medical factors such as length of labor, complications and difficulty of deliveries on pain and

enjoyment are small. Music as a Way to Facilitate Childcare Tasks: Breastfeeding To increase alertness Breastfeeding was not a problem for the majority of cases. Data was difficult to analyse for some of those respondents (9) who found music effective to some extent as they gave ambiguous answers such as "quite helpful"-baby is more relaxed if music is used; or "of little help"-she had trouble with actual mechanics of breastfeeding," etc. Only one subject in the entire group gave a more adequate answer: "somewhat helpful"-he sucks longer and more consistently (in comparison with) TV sounds, i.e. shouting and gun shots. It is known that neonates respond to sound and rhythm through an imprinting of the heartbeat in utero (Salk, 1962). Better understanding of this issue is needed here to properly aid, if it were possible, infants with feeding problems, e.g. best type of music for metabolic and muscular stimulation. For relaxation, comfort and positive feelings Over half of the group 13/21 found prenatal music "quite effective" for this purpose as average (2.8/4 scale). Livingston (1979) sees the value of sensory stimulation for the newborn infant. In her article Principles and practice/Music for the Childbearing Family, she says, "the early postpartum period, so vital in the bonding process, can be relaxed and therefore more rewarding for all family members and nursing personnel. If nurses and other health care workers recognize the importance of integration of the family unit, and if music is used to enhance the process, there should be a strong positive result. Soft music provides a good environment for all activity." Other Information New mothers seemed to enjoy and develop an inclination for listening to the practice tape during postpartum to help them and the newborn to relax. Again, this may be due to the conditioned response acquired in late pregnancy during MTAC training and specially during early labor, and the preference for music selections chosen through an initial assessment. A control group was not included in the study as it was not considered the best designed for this exploratory/developmental study. It is important to mention here that the way the data was collected (delays in sending and returning of questionnaires) may affect conclusion validity to some extent. The implementation of the program gave valuable information concerning techniques of implementing method with patients; methods for selecting music programs; effects of the therapy on stress during the last months of pregnancy, i.e. sleeping patterns and relaxation; and new sound techniques, and changes for future implementation: Micromusic® (see Appendix A). CONCLUSION According to the results obtained through the mothers' subjective perceptions and observations, the Music Therapy-Assisted Childbirth program, as an extension of regular prenatal classes, appears to bring about a more positive outcome in preparation for childbirth, the birthing process, specially during the postpartum period when considering an increase in the level of social support according to the mother's expectations, a reduction of anxiety, the ability of music to relax during early labor, and the high level of satisfaction reported. Pain reduction through music strategies during hard labor seems to work best for relatively short, uncomplicated labors, taking into consideration the mother's motivation and desire (goal) to have a natural childbirth. As an integral part of the program, prenatal stimulation may help launch the new parents into family life with a more positive attitude and possibly a stronger bond between the mother, father and the newborn during the difficult postnatal adaptational period. SUMMARY The Music Therapy-Assisted Childbirth program is designed to provide the expectant parent with a broader understanding and scope of the clinical use of music during late pregnancy, childbirth and postpartum. Three major issues are addressed: 1) relaxation and anxiety reduction during late pregnancy, 2) pain management alternatives during labour for reducing medication, and 3) pre- and postnatal infant stimulation/relaxation through music and verbalization to influence its development. Benefits perceived by mothers are: a reduction of anxiety during the reproductive cycle, a high level of satisfaction in their childbirth experience, and the ability to sooth the infant through prenatal music, among others. Footnote \*only two of the mothers of the entire group (early deliveries) References ACKNOWLEDGMENTS This program was done in cooperation with the Capilano College, Music Dept., and the Grace Hospital, Prenatal Education Dept. Linda Hamblin. Assistant Executive Director, Grace Hospital. Norma Johnson. Head, Prenatal Education; and Prenatal Nursing Staff, Grace Hospital. Liz Moffitt. Music Therapy Instructor. Capilano College. The author acknowledges support in developing the program from Mr. M. McInnes, Executive Director, and Dr. Galbraith,

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REFERENCES

Burt, R., & Korn, G. Audioanalgesia in obstetrics: White sound analgesia during labor. *American Journal of Obstetrics and Gynecology*. 1964. 88, 361-366.

Carter-Jessop, L. Promoting maternal attachment through prenatal intervention. *American Journal of Maternal and Child Rearing*, 6 (2), 107-112. 1981.

Catano, J.W., & Catano, V.M. "The infantile amnesia paradigm: possible effects of stress associated with childbirth." *Pre- and perinatal Psychology: an Introduction*. Verny, T. Human Sciences Press. 1987.

Clark, M.E., McCorkle, R.R., & Williams, S. Music therapy-assisted labor and delivery. *Journal of Music Therapy*, 1981, 88-100.

Clifford, O. The Fetus as a person. *Birth Psychology Bulletin*, 1985 (Fall), Vol. 6(2), 21-26.

Codding, P. An exploration of the uses of music in the birthing process. Unpublished master's thesis, Florida State University. 1982.

Crawford, M.I. Physiological and behavioural cues to disturbances in childbirth (Doctoral dissertation, 1968). *Dissertation Abstracts International*, 1969, 29, 2504B-2505B (University Microfilms No. 69-661)

Diserens, Charles M. The influence of music on behavior. Princeton University Press. Reprint. 1926.

Fere, Charles. *Le travail et le plaisir*, Chap XII, pp. 127-159. 1904.

Ferreira, A.J. (1960). The pregnant woman's emotional attitude and its affection on the newborn. *American Journal of Orthopsychiatry*, 30, 553-561.

Goodlin, R.C. *Care of the Foetus*. Masson Publishing Co., New York, 1977.

Hanser, S., Larson, S.C., & O'Connell, A.S. The effect of Music on relaxation of expectant mothers during labor. *Journal of Music Therapy*. 1983. 50-58.

Livingston, J.C. Music for the childbearing family. *Journal of Obstetrical and Gynecological Nursing*. Nov/Dec 1979.

Lukesch, M., Maternal Attitudes. "Psychologie Faktoren den Schwangerschaft,," dissertation, University of Salzburg, 1975.

Noor, K.L., Block, C.R., Charles, A., Meyering, S., & Meyers, E. Explaining pain and enjoyment in childbirth. *Journal of Health and Social Behavior*, 1977, 18, 260-275.

Peterson, G.H., Mehl L.E.: Some determinants of paternal attachment. Presented at the 6th World Congress of Psychiatry. Honolulu, Hawaii, Aug. 28-Sept. 3, 1977.

Peterson, G.H., Mehl, L.E.: Some determinants of maternal attachment. *American Journal of Psychiatry*. 135 (10), 1168-1173. 1978.

Salk, L. Mother's heartbeat as an imprinting stimulus. *Transactions of the New York Academy of Science*, 24, 753. 1962.

Stott, D.H., *New Society*, 19, 1977.

Tronick, E.Z., Field, T., "The transmission of maternal disturbance to the infant." *Maternal depression and infant disturbance*. *New Directions for Child Development*. Jossey-Bass Inc., Publishers. 1987.

Verny, T. & Kelly, J. *The secret life of the unborn child*. Dell Publishing Co. New York, 1981.

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Appendix APPENDIX A. Various adjustments and new techniques were put into practice after the seventh month. These included:

- Development of the Micromusic® tape containing two sections: Sleep Induction and Sound Stimulation. Testing of different combinations of sound frequencies on subjects gave way to the development of tape. Certain combinations of frequencies tended to relax while others stimulate. Two specific combinations of frequencies seemed to have had immediate and distinctive effects in oxygen consumption rate (slow-fast) in over 80% of people tested. This work was based on the findings of Charles Fere (1904). see Desirens for translation.
- Stress assessment and sleep evaluation
- Provision of the white noise tape (as pain reduction alternative)
- Formulation of a weekly practice-sheet plan and calendar as a way of structuring and incorporating daily practice of techniques
- Reduction of number of selections for relaxation in the practice tape, and inclusion of fast music, e.g., Albinoni symphonias and concertos chosen by the couple, for hard labour.
- Music monitoring instructions for labor and delivery (sheet).
- Review of the MATC questionnaires. These changes have shown so far an improvement in:
  - 1) daily practice as verbally reported by mothers in late pregnancy during MTAC training;
  - 2) the quality of sleep perceived: amount of hours needed, and the ability to fall asleep for cases undergoing moderate to severe professional stress. Micromusic® tape audition at bedtime and daytime was administered;
  - 3) the way description from participants has been drawn for a more accurate evaluation of the program (Questionnaires). Some of the questions were related to whether there was an intensification of certain

maternal feelings in relationship to her unborn infant, the perception of events during the postpartum period, degree of the mother's satisfaction on her newborn infant concerning crying behavior and alertness, and amount of crying (fussiness) experienced.

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