



RESEARCH ARTICLE

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MUSIC AS A SOFT TECHNOLOGY APPLIED IN A GROUP OF PREGNANT WOMEN: NURSING CARE

¹Cristiano José da Silva, ²Emília Soares Chaves Rouberte, ³Márcia Helena Rodrigues Rocha, ⁴Ângela Maria Alves de Souza, ⁵Maria Luiza Rocha Barreto de Carvalho, ⁶Ana Cláudia Rodrigues Ferreira and ⁷Daiany Maria Castro Nogueira

¹Universidade Federal do Ceará. Nursing department. Fortaleza, Ceará - Brazil

²Universidade da Integração Internacional da Lusofonia Afro-Brasileira. Health Science Center. Redenção, Ceará - Brazil

³Hospital e Maternidade Eugênia Pinheiro. Fortaleza, Ceará - Brazil

⁴Prefeitura Municipal de Fortaleza. Family health Strategy. Fortaleza, Ceará - Brazil

⁵Universidade Federal do Ceará. Nursing department. Universidade Federal do Ceará. Fortaleza, Ceará - Brazil

⁶Universidade da Integração Internacional da Lusofonia Afro-Brasileira. Redenção, Ceará - Brazil

⁷Universidade da Integração Internacional da Lusofonia Afro-Brasileira. Scientific Initiation/CNPq. Redenção, Ceará - Brazil

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ABSTRACT

Introduction: The mother is an essential figure in the child's personality. Her relationship with their child begins with the fetus' formation and goes on for all their lives; The pregnancy is understood as a situation of crisis in the woman's life cycle and involves a complex change caused by the baby's advent regarding psychological, biological, biochemical and socio-economical aspects. The objective was to comprehend the pregnant woman's reactions, emotions, feelings and perceptions about maternity, from the use of music. **Method:** Care-research in a Primary Health Care Unit from Fortaleza, with 13 pregnant women at risk of rejecting the bond between mother and child. The following items were applied: forms, resources of filming and recording. Bardin's content analysis was used to analyze and interpret the data. **Results and Discussion:** Identified categories: welfare and relaxation; anxiety; influence in the baby; ambivalence of feelings; mother-baby interaction; rejection; resilience. **Conclusion:** There was a resilience process at accepting the mother-baby bond and getting out from a sadness state to one of joy. The music is pointed out as a practical way, non-pharmacological, with a low cost and easy to use, thus could be employed by nurses during prenatal care, contributing to a more humanized care.

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INTRODUCTION

It is known that the mother is an essential figure in the child's personality. Her relationship with the child begins with the fetus' formation and goes on for all their lives. By becoming a mother, the woman needs to know well her reactions and impulses, to provide the baby with the best development she can offer, above all, during the first year of life (Mielnik, 1993).

*Corresponding author: Cristiano José da Silva,
Universidade Federal do Ceará. Nursing department. Fortaleza, Ceará - Brazil

In the context of mental health, the pregnancy is comprehended as a situation of crisis in the woman's life cycle and involves a complex change caused by the baby's advent regarding psychological, biological, biochemical and socio-economical aspects. Physical and hormonal alterations, responsibilities and fears and many other questions significantly interfere in the psychological context of the pregnant woman (Maldonado, 1976 and Lobato, 2018). Different proposals of reception and care, with an inhuman approach directed in a care model based on the care's physical and fragmented aspects, are not enough to deal with some

pregnancy's issues. 4 Such conducts need to be strengthened by the understanding of the psychological process that surrounds the pregnancy/puerperal cycle, many times involved by an emotional overload wrapped in the woman's life phase (Ministério da Saúde, 2006). Despite some barriers, today, it is noticeable that the improvement in the QoL of pregnant women was reinforced with the advent of the Family Health Strategy (FHS). A relevant characteristic of the FHS is the implementation of innovative proposals or technologies that strengthen the relations, reception, bond, actions' completeness and the management of services in the Primary Attention (Souto, 2011). Despite not being too adopted in the soft technologies used by FHS, the music can be considered as a new technology and, regarding the promotion of care, needs to be organized and be both, systematic and creative, because it will ease the expressions of feelings and communication, in addition to enabling the visualization of the client's positive aspects (Bergold, 2009). Regarding the mother/fetus health, one highlights the first perceived hearing experiences still in the uterus when the already developed fetus' ear starts listening to their mother's voice and heartbeat and sensorial information from the outside world; becoming recorded in their subconscious. These sounds perceived in the uterus can influence the neonatal behavior, that continues after the birth and also influence the baby's cognition, stimulating the perception and identification of objects, animals, places, and people, thus favoring the neuro-psychic development (Pocinho, 2011). Studies' results also demonstrated the music as an effective nursing care alternative with effective therapeutic possibilities in the sense of refraining to exercise a specific pharmacological action, be of low-cost and promoting the disease's improvement (Cruz, 2015). This study has the goal to understand the reactions, emotions, feelings, and perceptions of pregnant women concerning the mother/child bond, from the use of music. Some approaches with the use of music in a group of pregnant women were used, as a soft technology of utmost importance in the strengthening of the mother/child dyad (Pocinho, 2011).

MATERIALS AND METHODS

Qualitative study, using the research-care method¹⁰ in a group of pregnant women. The data gathered for this study are a part of a broader research with 14 pregnant women, with risks and vulnerabilities characteristic of rejection to maternity and the mother-child bond, from a Primary health care Unit (PHC) of Fortaleza-Ceará. The data came from one of the held meetings that occurred in February 2016. The research's participants were intentionally chosen to participate in the study for showing one or more conditions of risk and vulnerabilities: absence or abandonment of the partner, despise or abandonment of the family due to the pregnancy, low self-esteem regarding the pregnancy, risk history for depression, being treated for depression, having a background of induced abortion, recent abortion attempt or in a past situation, aggressive behavior in home and being an adolescent. Nicknames were given to the participants to preserve their identities.

Development of the care-research

Approaches to the object of study: The approach to the object of study was made in the context of health education actions provided in one of the meetings with the group of pregnant women proposed by the teams of Family Health Strategy

(FHS) from a PHC. The invitation was made in the prenatal consultation by the professionals with higher education and in their homes by the Community Health Agent. The methodological material's choice aimed to meet the study's purposes, seeking to discuss not only the biological aspects, but also these women's emotional aspects, as well as evaluate the applicability of using music in a group of pregnant women.

Meeting with the participants: The meeting was held in the Center of Human Rights from Lagamar, located in the neighborhood of São João do Tauape in Fortaleza – Ceará.

Establishment of research connections: This stage was vital for the success of this method, because it was the moment of interaction between researcher and researched and where the collection of information that enabled the research and care happened (Neves, 2006). The moment where the establishment of research connection occurred, putting together theory and practice, through the research-care, both in theory (theoretical reference of transition) and practice (performed care actions in the meeting moment), enabled a more intimate relation with the subjects to accomplish interviews and the technology's application where the experiences were made.

The application of soft technology (music therapy) was made in three moments:

Reception: the participants were invited to use blindfolds, while listening to a lullaby to the sounds of nature¹¹ imagining and closely feeling their child's presence since their birth to 12 months of life, in an intimate moment of self-assessment.

Dynamic: with the use of a music box that while active, passed through the pregnant women until the song's end, next, an aleatory pregnant woman was chosen and was asked about a guiding question regarding the music's relation in the mother-child bond. The questions were: What is the importance of music to you? Which benefits music can bring to the mother? Which benefits music can bring to the baby?

Ending: last moment where the participants, with blindfolds, were submitted to listen to a music from the singer and composer Roberto Carlos (Carlos, 2008). "Como é grande o meu amor por você", sung in the voice of Hebe Camargo, in the CD of Father Marcello Rossi, (Carlos, 2008) "Paz Sim, Violência Não". The music was chosen because it addresses, in its lyrics, a strong situation of love, affection, and declaration of feelings.

Distancing between the researcher/caregiver and the researched: For this stage, that demands sensibility from both sides, there was a preparation during the whole methodological trajectory, so that in the end the pregnant women were prepared for the departure and with this, the analysis of all the data gathered could begin and subsequently, the results could be released (Bardin, 2016).

Presentation of the data and analysis of what has been learned: The data's qualitative analysis was initiated after the transcription of the information in the forms applied to the pregnant women and the experience's observation, captured in the archives of audio and video. These transcriptions were organized and interpreted in categories (Bardin, 2016). The form's registers were organized and presented in charts for the

pregnant women's characterization. The guiding axis of the speeches registered in the recordings, to obtain the data collected by the soft technology, were analyzed and confronted with Bardin's Content Analysis (Bardin, 2016).

Ethical aspects: The research was submitted to the committee of ethics in research from Universidade Federal do Ceará, receiving a favorable report under number 1.403.785.

RESULTS AND DISCUSSION

An intentional group of 13 pregnant women with vulnerabilities regarding maternity and mother/child bond took part in this study. The sociodemographic and gestational characteristics are pointed out in chart 1.

Chart 1. Sociodemographic information from the participants. Fortaleza – Ceará, 2016

Variables	N	%
Age group	Less than 18 years old	02 15
	18 to 25 years old	07 54
	26 to 35 years old	03 23
	35 to 40 years old	01 8
Marital status	Single	04 31
	Married	04 31
	Stable Union	05 38
Education level	Functional illiterate	01 8
	Incomplete primary school	03 23
	Complete primary school	02 15
	Incomplete secondary school	03 23
	Complete secondary school	03 23
Family income	Complete college education	01 8
	Less than 1 minimum wage	02 15
	1 minimum wage	07 54
Race/ethnicity	2 minimum wage	04 31
	Brown	08 62
	White	03 23
Profession/occupation	Black	02 15
	Housewife	11 85
	Student	02 15
	Catholic	04 31
Religion	Evangelical	06 46
	Candomble	01 8
	Mormon	01 8
Currently living with its companion	Atheist	01 8
	Yes	09 69
Use any kind of drug	No	04 31
	Yes	03 23
Under treatment against a disease	No	10 77
	Yes	02 15
Total	11 85	13 100

Source: Made by the author. Data expressed in the form of absolute and percentual frequency.

The prevalent age group was 15 to 25 years old (54%). More than half of the participants were married or had a stable union (69%), one participant was illiterate (8%), only three participants (23%) concluded secondary education. Most of them lived with a family income of one minimum wage (54%). They were all dependents from their husbands or parents, 03 participants made use of drugs (23%). Two participants (15%) were under treatment against chronic disease. Among the risks and vulnerabilities regarding the use of drugs, two researched pregnant women (14.3%) were users of marijuana and one used tobacco. About the use of drugs during pregnancy, data from the Ministry of Health affirms that its use is directly related to the violence against pregnant women. As usual the violence is more exercised by the companions (Ministério da Saúde, 2013). After the speeches' analysis, some categories

arose: wellbeing and relaxation; anxiety; influence in the baby; ambivalence of feelings; rejection; resilience.

Wellbeing and relaxation

In the speech of most pregnant women, it was mentioned the music as a relaxing factor that promoted calmness and peace.

Only calmness. I really thought of how it would be to take care of my baby that way... how it would be good (Joana)

It really calms you, both lyrics and melody. Despite them talking and supporting, but it is a comfortable moment and I remembered the sensation of my child in my arms, but I also remembered about my other children. (Aurora)

The relevance of the music is that it removes my stress. And I listen to more music when I am stressed (Carol)

I think that it really, when you are like, stressed, with a bad humor, you listen to a music, I think that [...] perfect! (Joana)

In obstetrics, a study demonstrated that the fetus responds to musical stimulation and the human voice with the increase in the heartbeat and movements, in significantly higher levels, and other studies concluded that sessions of passive music therapy (in other words, the listening of selected music) favorably influence in the sensation of comfort, and also decrease the level of stress and anxiety during childbirth (Vianna, 2011). In neonatology, some studies revealed that listening to music may reduce the stress of parents and premature newborn children in the intensive care unit; it may reduce the fall of oxygen saturation during the aspiration of the endotracheal tube and accelerate the recovery of saturation rates after the procedure; in addition to this, it may improve the newborn child's physiological parameters, reduce the weight loss and decrease the time of hospitalization in the intensive care unit and also increase the non-nutritional suction in premature babies (Vianna, 2011).

Anxiety: The decrease in the anxiety level was noteworthy in this, study. However, the addition of imagining the son since their birth until the first year of life was a determining factor to unleash anxiety in some pregnant women.

My first son... and by just imagining the pain... (Fernanda)

For me [...] I imagined, I had just arrived [...] I had just arrived from the ultrasound and I saw him moving, like this and [...] everything came together. I thought about him in my arms. (Carol)

It was good! It gave me a little bit of anxiety. To remember about her and imagine from up to one year [...] too anxious to have her in my arms (Ester)

The mother's intense and persistent stress during pregnancy may reduce the baby's brain size, affecting his IQ; it makes him more aggressive, hard to comfort thus significantly influencing him in determined motor and cognitive skills (Medina, 2013). Other studies documented the potential risk of higher permanent problems for children in the uterus exposed to excessive stress, anxiety, and depression via their mother. Van Den Bergh (Van Den Bergh, 1990), demonstrated that stressed pregnant women have a higher probability of generating hyperactive babies, with motricity problems and

attention deficit in comparison with calm mothers (Van Den Bergh, 1990).

Influence in the baby: Among the findings, one participant said that the music relieved the child in her womb, another one, reported to frequently listen to music for the same reason.

I was happy and she [music] calmed him down. He was agitated [...] (Emily)

The lullaby, I listen to it at home. I have one of those little CD's [...] It is really good to soothe the baby. (Dalila)

However, another participant said that the music made the child agitate herself, as one can perceive in the participant's speech:

The first music got him agitated. I felt him moving a lot due to the sound, the noise it was making. (Brenda)

Reactions from the baby in the womb were significant in both situations when the mother is listening to music in higher volume and lower volume. Fernanda's report refers to the baby's reactions concerning the sound's width:

For me, I do not know! Because when I hear loud music, he gets agitated. He keeps moving to all sides! I do not know if he likes it or not. When I listen to quiet music, he stays very quiet. I do not know...

Dalila complements Fernanda's speech with the following narrative:

When I listen to Racionais, she moves a lot. But when I listen to evangelical songs, he stays quiet! But I sing... she was supposed to move, I sing for her to know my voice.

Emotions and feelings experienced by the mother reflects in the baby's reactions; Therefore, he swirls, rolls, kick and moves when stimulated by the agitation of the mother or the environment and tends to calm down when the mother is tranquil or sleeping (Catafesta, 2007).

Ambivalence of feelings

The feeling of ambivalence as typical of pregnancy, described in the participants' response in the conflict between "the desire to be a mother" and "the worries that occur with the baby's advent". The mothers that receive support from the environment where they are inserted found a necessary holding to provide their children's needs related to the mother-child bond. To understand the subjectivity of the generated being and provide a significative answer to its basic needs, is something essential to strengthen the bonds and to stimulate an adequate environment that assimilates the mother-baby dyad.²⁰ The lyrics' influence as an ambivalent factor was mentioned in some speeches, Joana highlights this influence and that, in the current moment, to overcome the rejection crisis, is listening to evangelical songs.

Depending on what you are listening. The lyrics [...] Because it could go the other way and you get more depressed depending on the music's lyrics [...] Right now, I am only listening to evangelical songs.

The ambiguity between calmness and agitation proportioned by music brought the questions and reflections of Laura, especially regarding the benefits and hazards that it can cause to the baby:

It depends on the moment; it may soothe or agitate the baby. (Laura)

Mother-baby interaction: Aspects of interconnection of feelings between mother and baby were well put in the words of Aurora and Mariana, highlighting an intimate communication that the mother possesses with her baby; sharing experienced feelings to her child still in the womb and transmitting a calling for a reflection that stimulates the process of change in the mother's *psyche*; to be more resilient. Regarding this context, Aurora describes:

The question of everything that we feel, the baby feels too (...) If we are happy, if we are calm... The baby will feel it and will respond to it. If we are sad, stressed... He will also feel that.

Following the same logical reasoning, Mariana describes:

It brings more peace, thus removes the stress, right? Because I was reading that if you feel angry, stress [...] The baby will feel it too! Even if you read a book during pregnancy, when the baby is older, he will like that book you read.

Physiological events studied by neuroscience since the conception and birth of a child, highlights environmental factors that inter-relates and have a strong interference in the brain's development since the beginning of the embryonic life, acting in the baby's DNA up to the personality's formation, interfering in the conduct, predilection, talent, and other subjective factors, leaving permanent impressions in our *psyche* (Verny, 2014).

Rejection

During the last moment with the application of the last song (Carlos, 1967), "Como é grande o meu amor por você", five participants felt uncomfortable at listening to it.

Regarding this choice, it is worth to highlight the words of Mariana, when asked about if the music disturbed her: "Too much! I almost felt that thin pain."

The fact that the baby moves and causes pain, during the moment when the music was played, was the main motive of discomfort described by some pregnant women. The relation between the baby moving and the fact that this is causing pain, was not referenced in other approaches with music, following Mariana's narrative:

Me! At first, it soothed, right? The baby's song has calmed him down [lullaby], but with that second one, it made him agitated. He started to move. And it is, it is an experience that I had already been through.

It is worth to highlight that eleven participants of this research completely rejected their pregnancy, one attended the study's conditions due to the suffering of violence and rejection from the companion, two other were rejected by their mothers, from these two, one was an adolescent that was under a treatment for depression (with suicide attempts) and the other had a

history of abortion. In addition to this, they probably did not receive love and affection from their mothers during their childhood. Maybe the music's lyrics, which refer to an intense declaration of love, has caused discomfort to the ones that had no affection in their childhood; or do not accept that role model. That calling to completely accept their child (proposed in the music's lyrics) and the mother-child bond affected them, thus it created a certain kind of unconscious resistance or rejection at that moment. Ideally, every child must be a cherished son (Verny, 2014). One highlights that the premise of a mother that abandoned her child, may have been the one who suffered abandonment in some part of her life, deserves a continuous reflection.

Resilience

Some reports captured during the meeting had situations of resilience provided by music as an acceptance proposal for the participants. Getting out of a sadness context to one of joy was a relevant factor described in the narratives of Ester and Alice.

Also, joy. Joy! Because sadness is bad for the child, right? So, if I will feel joy while listening to that music, it will definitely be good for the child. (Ester)

Joy, peace, right? To give these things to the child, because everything that we feel, the child also feels, right? So, I cannot feel sadness. I must feel joy. (Alice)

At the end of the activities a ritual of positive connotation was proposed (Barreto, 2008). A question related to the group was made: Was there any negative aspect in the meeting? Significant answers regarding resilience were obtained accordingly with Joana's narrative: "Nothing bad, Thank God! All of my thoughts have changed." Regarding another question about what are the good things they got from the meeting, five participants reported that the last music marked this moment. From this total, the divergence of ideas from two pregnant women deserves attention, in previous narratives they reported to have a bad feeling when hearing the same music, and in the final moment, they complimented that music. Among other factors, it was highlighted the capability for love and understand as an extremely resilient mechanism.

Only the love, right? It is [...] the more time we spend here, the more we love our children, and [...] also the understanding. (Carol)

The need to implement a listening space for questions related to the mother-child bond, integrating the use of music in the group meetings, instigate a few solid foundations regarding the exercise of the mother-child bond, thus strengthening the triad mother-child-world and, subsequently, the promotion of the baby's mental health. When the group was questioned about the satisfaction regarding the use of technology with music, six participants were very pleased (46%), five were satisfied (38%), one was neutral (8%) and one, dissatisfied (8%).

Conclusion

This study showed how the music influences the emotional state of pregnant women, showing itself as a strategy to use in the health practices to improve the quality in the care and the relation mother-baby-world as early as possible. The research becomes relevant for highlighting a practical way, non-

pharmacological, of low cost and easy to use, which may be done by nurses during the prenatal and added to the consultations, it is possible to give a more humanized care. It is needed to study music in a broader context, applying it in groups of pregnant women as a valid and extremely relevant proposal. One highlights, even though music is used in the care of patients since Hippocrates, still in the current days, remains as something new and even discredited by many. Such fact is demonstrated by the limitations of national and actual publications available about the matter. Therefore, one suggests the development of national studies, both qualitative and quantitative, which proves, the benefits of music to pregnant women, their child and everyone that is part of its environment. Research made without funding.

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