

MUSIC THERAPY AND MENTAL HEALTH IN PREGNANCY

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SUMMARY

Introduction: In a woman's life, pregnancy is a unique experience accompanied by significant physiological, biochemical, and psychological changes that can affect mental health status. Participation in preventive activities during pregnancy has an impact on better emotional state after childbirth.

Discussion: The therapeutic effects of listening to music on the health of mother and child have been proven in numerous studies. Listening to music during pregnancy contributes to a better sense of well - being and less pronounced symptoms of postpartum depression. Scientific evidence confirms the effects of music therapy on the level of stress and anxiety in pregnant women, but also calmer children and better emotional bonding. The application of GIM therapy – music - induced imagination - also provides significant results in strengthening psychological resilience.

Conclusion: Music therapy is a simple, non - pharmacological and safe method that significantly contributes to mental health in pregnancy and after childbirth. The application of music therapy has a scientific potential that offers many ideas for the development of medical - music research.

Key words: mental health – pregnancy - music therapy

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INTRODUCTION

In a woman's life, pregnancy is a unique experience accompanied by significant physiological, biochemical and psychological changes that can affect the state of mental health (Alderdice et al. 2013). One - fifth of pregnant women experience problems with mental health before or after childbirth, and while most of them overcome difficulties for up to a year, some disorders take a chronic form (Austin et al. 2008). All mental disorders significant for the perinatal period are divided into those that occur prenatally, antenatally and postnatally. In everyday clinical practice, psychological problems that occur after childbirth draw much more attention, but many psychopathological manifestations occur primarily during pregnancy (Gluckman et al. 2008). Up to two - thirds of pregnant women show some psychological symptoms, especially in the first and third trimester of pregnancy, in the form of anxiety, irritability, labile mood, and a tendency to depression. Clinically manifest depression is present in up to 10% of pregnant women, especially in the first trimester of pregnancy. The risk is higher in pregnant women who have a history of depression, miscarriages, and marital disagreements and conflicts (Jakovljevic 1998, Cox et al. 1987), conflicts but also in unwanted or unplanned pregnancies, negative reactions of a partner or family to the pregnancy (Leon 1992). Psychoanalytic theories, in the context of depression in pregnancy, also emphasize the importance of the psychological triggering of a previous abortion (Stotland 1998).

During pregnancy, anxiety is most often manifested in the form of panic attacks or specific forms of fear.

Anxiety symptoms occur as a physiological response to stress (Hofberg & Brockington 2000, Cantwell & Cox 2003). Postpartum psychosis is a condition that occurs in women who have just given birth, and it is characterized by the appearance of insanity, delusion of the senses and the idea of injuring either the child or oneself. Postpartum psychosis has a good prognosis if it is recognized early and treatment is started. If left unrecognized, it becomes chronic and causes significant damage to disease progression and possible death (Sakoman 2014). Puerperium is a period in which women are at increased risk for developing serious mental disorders. Participation in preventive activities during pregnancy has been found to have an impact on better emotional status after childbirth (Hotujac 2009).

Music therapy has been confirmed as a safe, affordable and comfortable non -pharmacological method for pregnancy and puerperium (Hollins 2014, Simavli et al. 2014). The potential of music to affect dopamine, serotonin and oxytocin levels can lead to positive emotional reactions that are directly related to the strengthening of psychological state (Dukic 2018).

MUSIC THERAPY

Music therapy can be defined as the use of music in the treatment or reduction of health problems through its beneficial effects or as a set of techniques used by sound for diagnostic, therapeutic and preventive purposes (Rak 2014). Music therapy is often used in states of stress, fatigue, and sleep disturbances. In psychotherapy, music therapy is used in an active way as a combination of

playing instruments, singing, movement, and in a passive way in which music is listened to and discussed. Neuroscientific research has shown that the whole brain is involved in the processing of music and that the functioning of both hemispheres is necessary for the preservation of musical abilities. It is believed that stimulation of the right hemisphere during development encourages better integration between the hemispheres, and increases the capacity for memory and the development of a holistic and more creative approach to problem - solving (Skrbina 2013). The relationship between music and pain is still a broad and open research field with questions about the role of dopamine and the processing of pain while listening to music. It is thought that pain and music encounter in the thalamus and limbic field (Gasenzer & Neugebauer 2014).

The interaction of music and the psyche presents a phenomenon since ancient times and has been used for healing purposes ever since (Gantenbein 1999). Among various ancient cultures, music was believed to heal the mind and body (Thaut 2015). As early as 550 BC, Pythagoras developed the concept of using music for therapeutic purposes (Sidorenko 2000). During the Middle Ages, the acquired knowledge about music was collected and preserved in monasteries, and the opinion about the connection between music and medicine prevailed. By separating the natural from the social sciences this connection falls into oblivion. With the development of neurology, psychoanalysis and psychiatry, scientists are also interested in the role of music in healing and human behaviour, and this connection is becoming the subject of research. At the beginning of the 20th century, music therapy was developed, and today, music plays an important role in psychotherapy, therapeutic pedagogy and medical care (Gasenzer & Neugebauer 2011). Recent research provides evidence that listening to Mozart's music enhances cognitive abilities in intelligence tests compared to groups that listened to Beethoven or were without music (Suda et al. 2008) and that listening to Schubert's music has positive health effects (Nantais & Schellenberg 1999).

MUSIC THERAPY IN PREGNANCY - EFFECTIVENESS ON THE HEALTH OF MOTHER AND CHILD

The therapeutic effects of listening to music on the health of mother and child have been proven in numerous studies. Hollins in a systematic review (2014) indicates less stress, anxiety, and depression in women who listened to music during pregnancy. Also, the children of these mothers progressed more in weight after birth and were calmer. The author cites the lack of a unique music package as a shortcoming of the reviewed research. Since the evidence unequivocally confirms the effects of music on the health of mothers and children, it was concluded that health professionals should choose

music due to their knowledge and creativity. Simavli et al. in their study (2014) found a significantly lower level of pain and anxiety among respondents in the test group of 80 nulliparous who listened to the music of their choice during childbirth compared to the control group who went through childbirth without listening to music. Measurements were performed on the first and eighth day after delivery using EPDS, and also more satisfaction was found with the delivery experience. Chang et al. (2008) researched the effectiveness of listening to music on mental health during pregnancy. They conducted research in a randomized controlled trial among Taiwanese pregnant women (N=236). The study group (N=116) listened to music for 2 weeks during pregnancy and had significantly fewer symptoms of stress, anxiety, and depression compared to the control group who did not listen to music. The results confirmed the psychological benefits of music therapy and indicated the need to investigate the long - term effects of listening to music.

Systematic review and meta - analysis (1261 respondents) demonstrate the benefits of listening to music in pregnancy to reduce anxiety symptoms, but no effect on general stress symptoms was found. The authors recommended the development of a better methodology in future research (van Willenswaard et al. 2017). They also measured the effectiveness of listening to music on the manifestation of depression and anxiety symptoms on a sample of 222 pregnant women in the study „Prenatal listening to songs composed for pregnancy and symptoms of anxiety and depression: a pilot study“. Pregnant women in the test group (N=111) listened to music for 20 minutes every day for 12 weeks and were asked to keep records of their music. Every two weeks, they were reminded by email that they were listening to music on a CD created by composer Jennie Muskett especially for them. The text and music were used to encourage the listeners to visualize the child they were carrying and develop an emotional bond with their child. After 12 weeks, testing showed reduced symptoms of depression and anxiety compared to the results of the initial pre - intervention test. The authors cited the use of specially designed music as a limitation, as it was not possible to conclude about the general impact of music. Also, online communication has its limitations in terms of quality (Nwebube et al. 2017). The study „Effect of music in labour and newborn“ published in 2010. (Tabarro et al.) proves that exposure of children to early listening to music in mothers has a significant impact on the well - being of the child. Pregnant women listened to music of their choice daily from the 5th month of pregnancy (Japanese folk music and / or classical music). They played the same melodies in the delivery room during labour and delivery itself and then, conducted two interviews with the respondents, the day after delivery and during the puerperium. Qualitative analysis found that the children in the test group were

calmer, slept better, had fewer cramps, and responded to the inclusion of the music to which they were exposed. They were examining children until they fulfilled three months of age. Also, the subjects of the test group showed a more pleasant experience of childbirth compared to the control group. In a longitudinal prospective study, Fancourt and Perkins (2018) found out that listening to music during pregnancy contributes to a better sense of well - being. Also, it contributes to less pronounced symptoms of postpartum depression (395 mothers monitored in the last trimester of pregnancy and six months postpartum).

Significant results in strengthening psychological resilience are also provided by the application of GIM therapy – music - induced imagination where the client, listening to classical music in a state of deep relaxation, visualizes images from the past so that he can better understand everyday life (Bruscia & Grocke 2002). It is a model of music therapy developed by Dr. Helen Bonny in the 60s and 70s of the last century. The application of this method has led to a better understanding of the interaction between music, imagination and mood (Grocke 2014). By analyzing the evidence from the systematic review, Mc Kinney & Honig (2017) conclude that the GIM method has the potential to be used to improve mental health. A recent study on young women of reproductive age contributes to it. Dib et al. (2020) confirm that musically induced imagination contributes significantly more to relaxation and lower stress levels compared to other techniques used in research (soothing lighting, listening to other types of music, and silence). As early as the 1980s (Geden et al. 1989), GIM therapy was found to affect pregnant women 's blood pressure values, but there were no mental health measurements.

CONCLUSION

Without mental health, there is no complete health and a sense of the natural joy of life that gives meaning to existence (Sakoman 2014). During pregnancy, in addition to somatic changes, significant changes in psychological and social functioning occur, thus giving it the characteristics of an extremely strong psychological event (Oates 2006).

In the mid - 1980s, listening to music during pregnancy and childbirth was mentioned in midwifery care, as well as the effects on women, children, partners and employees themselves (Clark et al. 1981). In addition to listening to music, the effectiveness of maternal singing during pregnancy on the later development of maternal / child emotional bonding has been proven (Carolan et al. 2012). The application of music therapy has a scientific potential that offers a multitude of ideas for the development of medical-musical research (Gasenzer & Neugebauer 2014). GIM therapy is a proven method for achieving mental well - being, but also an insufficiently

researched scientific field when it comes to acting on the mental health of pregnant women, and represents a challenge that can become one of the tools for understanding one's being.

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References

1. Alderice F, McNeill J & Lynn F: *A systematic review of systematic reviews of intervention to improve maternal mental health and well – being*. *Midwifery* 2013; 29:389-99
2. Austin MP, Priest SR & Sullivan EA: *Antenatal psychosocial assessment for reducing perinatal mental health morbidity*. *Cochrane Database Syst Rev* 2008
3. Bruscia K & Grocke D: *Guided Imagery and music: The Bonny method and beyond*. Barcelona: Barcelona Publishers, 2002
4. Cantwell R & Cox JL: *Psychiatric disorders in pregnancy and the puerperium*. *Curr Obstet Gynaecol* 2003; 16:14-20
5. Carolan M, Barry M, Gamble M. et al.: *The Limerick Lullaby project: an intervention to relieve prenatal stress*. *Midwifery* 2012; 28:173–180
6. Clark ME, McCorkle RR & Williams SB: *Music therapy – assisted labor and delivery*. *J Music Ther* 1981; 18:88-100
7. Corbijn van Willenswaard K, Lynn F, McNeill J, McQueen K, Dennis CL, Lobel M. et al.: *Music interventions to reduce stress and anxiety in pregnancy: a systematic review and meta – analysis*. *BMC Psychiatry* 2017; 17:271
8. Cox JL, Holden JM & Sagovsky R: *Detection of postnatal depression: Development of the 10 – item Edinburgh Postnatal Depression Scale*. *Brit J Psy* 1987; 150:782-6
9. Dib S, Wells JCK & Fewtrell M: *A within subject comparison of different relaxation therapies in eliciting psychological and psychological change in young women*. *Peer J* 2020; 8:e9217
10. Dukic H: *Music, brain plasticity and the resilience: the Pillars of new receptive therapy*. *Psychiatria Danubina* 2018; Vol 30, Suppl 3:141-147
11. Fancourt D & Perkins R: *Could listening to music during pregnancy be protective against postnatal depression and poor wellbeing post birth? Longitudinal associations from a preliminary prospective cohort study*. *BMJ Open* 2018; 8:e021251
12. Gantenbein UL: *Healing of harmony: music therapy as historical cultural phenomenon*. *Praxis (Bern)* 1994; 1999; 88:956-64
13. Gasenzer ER & Neugebauer EA: *The relations between music and medicine in history and present*. *Dtsch Med Wochenschr* 2011; 136:2644-51

14. Gasenzer ER & Neugebauer EA: *The phenomenon of pain in the history of music – observations of neurobiological mechanisms of pain and its expressions in western music.* *Dtsch Med Wochenschr* 2014; 139:2642-50
15. Geden EA, Lower M, Beattie S & Beck N: *Effects of music and imagery on physiologic and self – report of analogued labor pain.* *Nurs Res* 1989; 38:37-41
16. Gluckman PD, Hanson MA, Cooper C & Thornburg KL: *Effect of in utero and early – life conditions on adult health and disease.* *N Engl J Med* 2008; 359:61-73
17. Hofberg K & Brockington I: *Tokophobia: an unreasoning dread of childbirth. A series of 26 cases.* *Br J Psychiatry* 2000; 176:83-5
18. Hollins Martin CJ: *A narrative literature review of the therapeutic effects of music upon childbearing women and neonates.* *Complement Ther Clin Pract* 2014; 20:262-7
19. Hotujac LJ: *Postpartum psychiatric illness.* In: Kuvačić I, Kurjak A, Đelmiš J. et al. *Porodništvo.* Zagreb: Medicinska naklada, 2009
20. Jakovljevic M: *Depression - recognition and treatment in primary care.* *Pro Mente.* Zagreb, 1998; 7-27
21. Leon IG: *The psychoanalytic conceptualization of perinatal loss: a multidimensional model.* *Am J Psychiatry* 1992; 149:1461-72
22. Mc Kinney CH & Honig TJ: *Health outcomes of a Series of Bonny Method of Guided Imagery and Music Sessions: A Systematic Reviews.* *J Music Ther* 2017; 54:1.34
23. Nantais KM & Schellenberg EG: *The Mozart effect: an artifact of preference.* *Psychol Sci* 1999; 10:370–373
24. Nwebube C, Glover V & Stewart L: *Prenatal listening to songs composed for pregnancy and symptoms of anxiety and depression: a pilot study.* *BMC Complement Altern Med* 2017; 17:256
25. Oates M: *Perinatal psychiatric syndromes: Clinical features.* *Psychiatry* 2006; 2:4-8
26. Rak D: *Art and creative therapy.* In: *Psychotherapeutic rights.* Zagreb: Medicinska naklada 2014
27. Sakoman S: *The concept of mental health care; the place and role of psychology and psychologists.* Available at: http://www.istrazime.com/wp-content/uploads/2014/10/psihologija_in_protection_of_mental_healthmanual.pdf.
28. Sidorenko VN: *Clinical application of Medical Resonance Therapy Musicin high – risk pregnancies.* *Integr Physiol Behav Sci* 2000; 35:199-207
29. Simavli S, Kaygusuz I, Gumus I, Usluogullari B, Yildirim M & Kafali H: *Effect of music therapy during vaginal delivery on postpartum pain relief and mental health.* *J Affect Disord* 2014; 156:194-9
30. Stotland NL: *Abortion: social context, psychodynamic implications.* *Am J Psychiatry* 1998; 155:964-7
31. Suda M, Morimoto K, Obata A. et al.: *Cortical responses to Mozart's sonata enhance spatialreasoning ability.* *Neurol Res* 2008; 30:885-888
32. Škrbina D: *Art therapy and creativity.* Zagreb: Veble commerce. 2013
33. Tabarro CS, De Campos LB, Galli NO, Novo NF & Pereira VM: *Effect of the music in labor and newborn.* *Rev Esc Enferm USP* 2010; 44:445-52
34. Thaut MH: *Music as therapy in early history.* *Prog Brain Res* 2015; 217:143-58

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