

THE EFFECTS OF MUSIC LISTENING ON PAIN PERCEPTION AND COPING WITH BREAST CANCER

VPLIV POSLUŠANJA GLASBE NA ZAZNAVANJE BOLEČINE IN SPOPRIJEMANJE Z RAKOM DOJKE

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Abstract: In patients with breast cancer, pain is often a significant factor that can determine the success of coping with the disease and overall quality of life. For this reason, in addition to analgesics, the use of various complementary approaches is also recommended, of which music listening can reduce the perception of pain. On this basis, this study aimed to assess the influence of music listening in a clinical setting on music experience, pain perception and, therefore, daily functioning during the postoperative period in breast cancer patients. For the evaluation, a qualitative thematic analysis was conducted using a semi-structured interview. The results show that music listening evokes positive emotions, relieves physical pain, improves daily functioning during hospitalization and facilitates coping with the diagnosis of breast cancer. It can be concluded that music is easily applicable in the clinical setting without harmful consequences and that it can serve as a distraction medium from feelings of pain to feelings of pleasure and satisfaction.

Keywords: breast cancer, postoperative pain, music listening, coping with disease

Izvleček: Pri bolnicah z rakom dojke je bolečina pogosto pomemben dejavnik, ki lahko vpliva na uspešnost spoprijemanja z boleznijo in splošno kakovost življenja. Zato se poleg analgetikov priporoča tudi uporaba različnih komplementarnih pristopov, med katerimi lahko poslušanje glasbe zmanjša zaznavanje bolečine. Na teh osnovah je zasnovana raziskava z namenom ocenitve vpliva poslušanja glasbe v kliničnem okolju na doživljanje glasbe, zaznavanje bolečine in s tem na vsakodnevno delovanje v pooperativnem obdobju pri bolnicah z rakom dojke. Za evalvacijo je bila izvedena kvalitativna tematska analiza z uporabo polstrukturiranega intervjuja. Rezultati kažejo, da poslušanje glasbe vzbuja pozitivna čustva, lajša fizično bolečino, izboljšuje vsakodnevno delovanje

med hospitalizacijo in olajša spoprijemanje z diagnozo rak dojke. Zaključimo lahko, da lahko glasbo brez težav uporabljamo v kliničnem okolju brez škodljivih posledic in da lahko služi kot sredstvo za preusmerjanje pozornosti od občutkov bolečine k občutkom ugodja in zadovoljstva.

Ključne besede: rak dojke, pooperativna bolečina, poslušanje glasbe, soočanje z boleznijo

INTRODUCTION

Breast cancer in its early stages typically manifests as a lump in the breast or axilla and may be accompanied by other symptoms, such as the appearance of bloody discharge from the breast, inverted nipples, changes in the skin of the breast (e.g. ulcerations), inflammatory processes in the breast and more (Šamija et al., 2006). Due to the complex symptomatology and symbolic representation of the breast, women affected by breast cancer may experience problems with physical functioning, identity crises related to the need to re-define their gender/sexual role, misunderstandings in relationships and reduced ability to work. For these reasons, according to the results of some studies, women with breast cancer are more likely to experience depression, anxiety, shame, anger, body image disturbances and other unwanted psycho-emotional reactions that disrupt physical, psychological, and social balance and, consequently, their quality of life (Martinec, 2013; Michael et al., 2000; Bjerkeset et al., 2020). In addition, the duration and intensity of pain are significant factors that can influence the success of coping with the diagnosis, therapy, and psychological distress (Dupoirion et al., 2022). Unfortunately, according to the results of various studies, 41 percent to 74 percent of individuals with breast cancer suffer from chronic pain (Gärtner et al., 2009; Ilhan et al., 2017; Hamood et al., 2018). Pain can be caused by tumour infiltration into the tissue, the spread of metastases into the surrounding tissue and as a result of therapeutic procedures such as surgery, chemotherapy, or radiotherapy (Majerić Kogler et al., 2011).

The International Association for the Study of Pain (2020) defines pain as 'an unpleasant sensory and emotional experience associated with or resembling that associated with actual or potential tissue damage'. The World Health Organization (2018) has developed guidelines for pain management, stating that effective pain management is possible for 70–90 percent of persons with malignant disease. However, data shows that this is only the case for 40 percent of people affected. If there is no tendency to reduce postoperative pain, this may lead to increased morbidity and mortality as well as higher treatment costs (Apfelbaum et al., 2003).

Table 1 contains a classification of pain according to the mechanism of its occurrence and duration. Pain is divided into acute and chronic pain accor-

ding to its duration. Acute pain is a ‘physiological reaction to chemical, thermal or mechanical stimuli caused by surgery, injury or acute illness’ (Majerić Kogler et al., 2011). The duration of acute pain is limited to the healing period. According to Sapunar and Puljak (2011), acute pain serves an ‘adaptive-protective function by making the injured or inflamed area and the surrounding tissue hypersensitive to all types of stimuli and avoiding any external influence’. Chronic pain has no protective character and is the result of a persistent pathological disorder. Pain is considered chronic if it persists for 3–6 months after healing.

The causes of chronic pain can lie in damage to the central or peripheral nervous system or in pathological processes within the structures of the body. From a pathophysiological point of view, a distinction can be made between organic and psychogenic pain. Organic pain is differentiated according to its cause, including nociceptive somatic and visceral pain and neuropathic pain. Nociceptive pain is caused by the activation of pain receptors, known as nociceptors. Nociceptors are membrane proteins located in the skin, muscles, joints, and visceral organs and are triggered by stimuli that threaten the body’s homeostasis. When peripheral nociceptors stimulate joints, muscles, bones, and connective tissue, this is referred to as nociceptive somatic pain. When internal organs are injured, this is referred to as nociceptive visceral pain. Neuropathic pain can occur due to mechanical injuries, viral infections, chemotherapy, metabolic disorders, and autoimmune diseases (Sapunar & Puljak, 2011). Psychogenic pain, on the other hand, has no organic cause (Majerić Kogler et al., 2011). In psychogenic pain, there is no objective tissue damage, but it arises due to psychological factors or affective states.

Table 1

Classification of Pain (Majerić Kogler et al., 2011)

Mechanism of Onset	Organic Pain	Nociceptive Pain	<ul style="list-style-type: none"> • Somatic Pain • Visceral Pain
		Neuropathic Pain	<ul style="list-style-type: none"> • Central Neuropathic Pain • Peripheral Neuropathic Pain
	Psychogenic Pain		
Duration	Acute Pain		
	Chronic Pain	<ul style="list-style-type: none"> • Chronic Malignant Pain • Chronic Non-Malignant Pain 	

Acute postoperative pain is felt by individuals directly after surgery and can last up to 7 days (Kvolik & Ikić, 2011). If it lasts longer than three months, the acute postoperative pain turns into a chronic condition. Zemba et al. (2001) explain the effects of surgical procedures on the occurrence of pain and attribute it to tissue damage – nociceptive pain as well as inflammatory pain, which is the result of tissue inflammation in the surgical area. According to Majerić Kogler (2014), successful treatment of postoperative pain must take into account ‘individual differences in the subjective experience of pain intensity during the same surgical procedures’, which means that psychological states, the presence of fear, the anticipation of painful conditions, and the occurrence of depression and anxiety can negatively influence the intensity and duration of pain. Therefore, the subjectivity of pain perception can change the actual intensity of pain experienced. Successful postoperative treatment requires a multidisciplinary approach that includes pharmacological and complementary non-pharmacological treatment methods (Jukić, 2011).

Multimodal balanced analgesia is nowadays a significant approach in the treatment of acute postoperative pain. It involves using pharmaceuticals with different mechanisms of action to achieve a stronger analgesic effect with fewer side effects. For example, non-opioid and opioid analgesics are combined (Cousins & Power, 2003). Possible routes of administration include oral, intravenous, spinal, transdermal, and epidural administration of drugs. Pain relief is influenced not only by physiological aspects of the body, but also by distraction from pain, relaxation, and suggestion (Prstačić et al., 1992; Melzack, 2003). On this basis, the modern treatment and rehabilitation paradigm for oncology patients includes holistic and multidisciplinary approaches to pain management, primarily using complementary therapies (Fingler, 2011). For example, current research suggests that therapies such as music therapy, progressive muscle relaxation, acupuncture, reflexology, massage, aromatherapy, meditation, guided imagery, mindfulness, neuromuscular taping, etc. can be effective in reducing and controlling pain, as well as reducing stress and improving well-being in breast cancer patients (Tola et al., 2021; Hikmat et al., 2022).

MUSIC THERAPY AND THE BENEFITS OF MUSIC IN ONCOLOGICAL SETTINGS

Music is a synergy of rhythm, melody, harmony, tempo, form, style, and colour. Music allows each person to find a subjective, intuitive, and non-verbal experience, memories, and mental images. The American Music Therapy Association (2005) defines music therapy as a formal branch of health care that uses the medium of music to positively impact the physical, emotional, cognitive, and social aspects of individuals of all ages. In addition, music therapy interventi-

ons contribute to overall well-being, stress management, pain relief, expression of feelings, improved cognition and memory, and improved communication. Music therapy can be used in both active and receptive forms, as active or receptive music therapy.

Active music therapy includes playing musical instruments, singing, improvisation, composing, and other techniques in which the music therapist uses various methods to address individual needs through musical performance. Receptive music therapy includes listening to live or recorded music under the supervision of a music therapist (van der Heijden et al., 2015), listening to music during relaxation, and listening to music during guided imagery (Stark, 2012). Listening to music encompasses a wide range of variations, including: (a) somatic listening, in which music, vibrations, and sounds are used to directly affect the client's body; (b) listening to support analgesic effects, where music is used to support the action of analgesics, reduce or control pain, and decrease pain-related anxiety; (c) listening for body relaxation, in which music is used to relax the body and reduce stress and psychophysical tension; and (d) listening to evoke memories, where music is used to trigger memories of past events and life experiences in clients (Bruscia, 2014).

According to Matsota et al. (2013), music can reduce anxiety and discomfort, promote a positive attitude towards hospitalization, and serve as a distraction from hospital sounds. The role of music therapy in the preoperative phase helps to reduce anxiety, fear, and stress. The authors van der Heijden et al. (2015) conducted a meta-analysis of research on the effects of music therapy in the perioperative period in paediatric surgery patients. They concluded that music therapy reduces pain, anxiety and stress in children undergoing surgery, highlighting the non-invasiveness of music therapy as a significant benefit. The contribution of music therapy for post-operative pain is to reduce the side effects caused by post-operative pain and increase the functionality of the individual after surgery. The long-term benefits of music therapy as a complementary intervention are reduced medication use, lower treatment costs, improved mood, faster recovery, and greater satisfaction with medical care during hospitalization (Matsota et al., 2013; Poulsen et al., 2019).

Binns-Turner et al. (2011) conducted a study on the effects of music therapy in the perioperative period on anxiety, hemodynamic profile (heart rate and blood pressure) and pain in women undergoing mastectomy. The study included 30 participants, who were divided into an experimental and a control group. The participants in the experimental group listened to music via music playback devices and headphones before, during and immediately after the surgery. In contrast, the participants in the control group did not listen to music and received the usual medical care. The music selected for listening was chosen by the researchers and categorized into four different genres with a total duration of 4 hours. The results of the study showed that variables such as blood pressure, anxiety and pain were statistically significantly reduced.

ced in the participants who listened to music compared to those in the control group. Although there was a difference in heart rate, this was not statistically significant.

Li et al. (2011) investigated the impact of music therapy on anxiety in a sample of 120 women who had undergone radical mastectomy. The music was played through music playback devices and headphones. The researchers created a music database from which the participants could select music according to their preferences. From the first day after surgery until the third hospitalization for chemotherapy, music was listened to twice a day for 30 minutes, in the morning and in the evening. The research results showed a statistically significant reduction in anxiety in the experimental group compared to the control group. Receptive music therapy can also be used in other treatments as part of conventional medical care and rehabilitation. For example, Prstačić et al. (1992) examined the effects of multi-convergent therapy on pain reduction during kinesiotherapy exercises in women who had undergone a mastectomy. The study included 4 participants aged between 40 and 55 years, and Beethoven's Moonlight Sonata was used as the musical template with kinesiotherapy exercises. The therapeutic programme was conducted at five time points, each lasting 20 minutes (10 minutes without music and 10 minutes with music). The visual analogue self-assessment scale for pain (VAS) was used as the assessment tool, and the comparative results indicated a reduction in pain in each participant after performing the kinesiotherapy exercises with music. The authors of the study highlighted the benefit of using music under these conditions in terms of motivating and energizing the participants involved in the research. Köhler et al. (2020) conducted systematic review and meta-analysis of 30 studies and pointed out that music therapy overall had positive effects on a broad range of outcomes in cancer patients and can therefore be offered in various treatment phases.

Based on the previous results and a review of recent research, it can be concluded that music therapy is most used to relieve stress and anxiety, relieve pain, alleviate depression and helplessness, and improve immune function. Due to its effects on psychophysiological states and pain management, music therapy is also recognized as a complementary, evidence-based method for breast cancer patients that can be combined with other medical treatments or other complementary interventions (Babikian et al., 2013; Lyman et al., 2018; Kievisiene et al., 2020; Sun et al., 2023).

AIM OF THE STUDY

The quality of life of breast cancer patients depends on many different factors, of which the duration and intensity of pain are significant factors that can determine the success of coping with the diagnosis, therapy, and psychological

distress. It has been shown that, in addition to analgesics, various non-pharmacological complementary therapies – such as receptive music therapy – can help to reduce pain perception and consequently improve the physical, psychosocial, and behavioural dimensions of those affected.

On this basis, this study aimed to assess the influence of music listening on music experience, pain perception and daily functioning during the postoperative period in breast cancer patients.

METHODS

In this study, thematic realistic analysis was used as a form of qualitative thematic analysis to gain insights into participants' experiences, meanings, feelings, and interpretations of reality (Braun & Clarke, 2006). In addition, latent thematic analysis was used to understand participants' statements and what shapes their thoughts, attitudes, and emotions. In this approach, data are collected based on observations and noting down participants' statements during interactions with the interviewers (Čorkalo Biruški, 2015), followed by the following steps: (1) familiarising with data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report (Braun & Clarke, 2006).

SAMPLE

The study was conducted on a sample of 32 participants aged between 29 and 83 years with localized malignant processes in the breast and axilla. The participants were included in the music listening programme after surgery during the entire hospitalization (which on average lasted 3-5 days).

STUDY DESIGN

In this study a qualitative research methodology was used which included the following:

- defining the problem areas, objectives, and research questions,
- creation of an information brochure for participation (Calls for Participation in the Research),
- creation of a Researcher-Participant Agreement to obtain consent from participants to take part in the research and to ensure compliance with ethical guidelines,
- planning how the researchers would record their observations,

- designing questions for semi-structured interviews and planning schedule and locations for conducting the research.

The protocol for using the music listening programme involved selecting music by each participant according to their preferences that was done the day before surgery (the most frequently selected music was the local pop music genre). The music was played through music playback devices and headphones twice a day for 30 minutes in the morning and in the evening on each day of hospitalization, except on the first postoperative day, when music listening was only possible once in the evening due to the duration and sequence of surgical procedures in the morning. If the participants wanted to, they could listen to music for longer than the recommended time. None of the participants expressed their reluctance to listen to music during the research. The participants listened to the music while lying in bed.

RESEARCH QUESTIONS

For the evaluation, a qualitative thematic analysis was conducted by using a semi-structured interview that included three research questions:

- How do the participants experience music, and what meaning does it have for them?
- How do the participants describe the contribution of music to their pain management?
- What changes in their daily functioning do participants notice after music listening?

DATA COLLECTION

As the method of data collection, a semi-structured interview was used, which included pre-defined questions but also provided the opportunity to ask additional questions if they were deemed relevant based on the participants' previous statements. The questions of the semi-structured interview were defined in accordance with the research questions and categorized into the following areas: the experience and meaning of music during hospitalization and in daily life, the impact of music on pain perception and relief, and changes in daily functioning during hospitalization. The duration of the interviews varied depending on the willingness of participants to share their experiences and thoughts and generally lasted 25–30 minutes, although some interviews lasted up to 45 minutes for certain participants. The interviews were conducted on the last day of hospitalization.

The results of the qualitative thematic analysis of the data related to the defined research questions are presented in Tables 2, 3, and 4.

Table 2

Results related to the research question 'How do the participants experience music, and what meaning does it have for them?'

CATEGORY: EXPERIENCE AND MEANING OF MUSIC			
Themes	Codes	Reflections	
Contribution of music in daily life	Positive emotions induced by music	<ul style="list-style-type: none"> • <i>Love</i> • <i>Beauty</i> • <i>Calmness</i> • <i>Relaxation</i> • <i>Fulfilment</i> • <i>Freedom</i> • <i>Comfort</i> • <i>Enlightenment</i> • <i>Joy</i> 	<ul style="list-style-type: none"> • <i>a unique world</i> • <i>a world where everything else disappears</i> • <i>a world where a person can find themselves</i> • <i>a nicer place</i> • <i>an oasis of peace</i>
	Facilitating everyday activities	<ul style="list-style-type: none"> • <i>Household chores</i> • <i>Leisure time</i> 	
Contribution of music during hospitalization	Intensifying positive emotions	<ul style="list-style-type: none"> • <i>Love</i> • <i>Joy</i> • <i>Excitement</i> • <i>Satisfaction</i> 	<ul style="list-style-type: none"> • <i>Strength</i> • <i>Hope</i> • <i>Comfort</i>
	Eliciting memories	<ul style="list-style-type: none"> • <i>Recalling close living and deceased family members, as well as their youth and time spent with friends</i> 	
	Emotions induced during music listening	<ul style="list-style-type: none"> • <i>Tears</i> • <i>Tears of joy</i> • <i>Relaxation</i> • <i>Calmness</i> • <i>Mood</i> • <i>Enlightenment</i> • <i>Enjoyment</i> • <i>Caring from another person</i> • <i>Immersion</i> 	<ul style="list-style-type: none"> • <i>Elevation</i> • <i>Against feelings of sorrow and abandonment</i> • <i>Against depressive states</i> • <i>Reducing the fear of pain</i>
	Experiencing the power of music	<ul style="list-style-type: none"> • <i>Immersing in music</i> • <i>Losing oneself in music</i> • <i>Creating a unique world with music</i> • <i>Surrendering to music</i> • <i>Journeys to better places through music</i> • <i>Music transports to another time</i> • <i>Music as a means of self-absorption</i> • <i>Music as a piece of the past and a piece of the future</i> • <i>Music as a medium of self-dedication – 'something we have all forgotten'</i> 	

Table 3

Results related to the research question 'How do the participants describe the contribution of music to their pain management?'

CATEGORY: MUSIC LISTENING AND PAIN MANAGEMENT		
Themes	Codes	Reflections
Pain perception	Contribution of music to coping with physical pain	<ul style="list-style-type: none"> • <i>Reduction of continuous pain through music</i> • <i>A distraction from pain</i> • <i>Secondary importance of pain with music</i> • <i>Shifting focus from physical pain to music</i> • <i>Shifting focus from physical discomfort to a sense of pleasure</i> • <i>Engagement with music</i> • <i>Concentration on music</i>

Table 4

Results related to the research question 'What changes in their daily functioning do participants notice after music listening?'

CATEGORY: MUSIC LISTENING AND DAILY FUNCTIONING		
Themes	Codes	Reflections
Contribution of music to coping with pain and functioning during hospitalization	Self-perception during hospitalization	<ul style="list-style-type: none"> • <i>Relief from postoperative pain during physical activities while listening to music (e.g. more comfortable lying in bed)</i> • <i>Music as a sedative, lullaby, aids in falling asleep</i> • <i>Enhancing the comfort of hospitalization</i>
	Coping with a breast cancer diagnosis	<ul style="list-style-type: none"> • <i>Music as a motivator to fight the disease</i> • <i>The contribution of music to the subconscious and subconscious tension caused by the diagnosis</i> • <i>Shifting focus from illness</i> • <i>Shifting focus from breast ablation</i>

The obtained results show a wide range of subthemes and reflections related to the participants' evaluation of the experience and meaning of music. These include recognizing and becoming aware of positive emotions triggered by music in everyday life and during hospitalization, facilitating everyday activities, intensifying positive emotions, evoking memories, and using the power of music to stimulate imaginative and meditative processes that allow distraction from thoughts of illness and reality to imagining and finding one's own pleasant place. The positive emotions triggered by personally chosen music were confirmed by the following associations: *love, beauty, calmness, relaxation, fulfilment, enjoyment, freedom, comfort, spirituality, joy, mood, emotion, an oasis of peace, a unique world, a world where everything else disappears, a world where a person can find themselves, creating a unique world through music, a nicer place, etc.*

The positive influence of music on reducing pain perception and coping with painful stimuli was also emphasized. The ability of music to captivate and draw attention to itself distracts from pain and shifts the focus from discomfort to the feeling of joy and satisfaction due to positive emotions, soothing images and meditative states evoked by free associations, negating possible limitations and the hopelessness of reality. This emphasizes the power of music as it enables a transition from negative physical experiences into the realm of daydreaming and transcendence. Participants reported how music *relaxed, calmed, uplifted, comforted, and elevated them*. In addition, with music as a guide, they combated depressive states, feelings of sadness and abandonment, and expressed less fear of pain.

The contribution of music to improving daily functioning was particularly evident in self-perception and reactive daily activities during hospitalization. For example, participants reported sleep problems and how they independently used music as *a tool for falling asleep, using it as a lullaby or sedative*. Some participants noted that the music improved their physical condition, e.g. that the discomfort of lying in bed disappeared when listening to music. Most participants recognized music listening as *a factor that made hospitalization more comfortable* by making hospital conditions more acceptable, facilitating adjustment to hospital routines, and making daily functioning more successful with less effort.

For most participants, daily functioning also includes worries about the diagnosis, pain, possible consequences of the illness, possible complications, duration and type of treatment and the future. These worries can undoubtedly exacerbate existing psychological distress. According to the participants, the music gave them the opportunity to think about new ways of coping with the diagnosis. For some, it acted as a stimulus *to fight against the disease, shifting their focus from illness to comfort and from the impact of breast ablation*. One participant also highlighted the positive impact of music in *relieving the unconscious tension caused by the diagnosis*.

When asked 'What would you like to highlight as important that we did not discuss during the interview?', participants mentioned the following: *supporting music selection based on individual preference; suggesting that music listening should last longer than recommended; recommending integration of music listening with conventional medical therapies after surgical procedures; expressing satisfaction with participation in research; and expressing a desire to find music-induced peace in a home environment*. In relation to the last point, it is worth mentioning a recent study that showed that even home-based music interventions can have a lasting effect (up to 24 weeks) not only on pain intensity, but also on physical and emotional fatigue, as well as strength and vitality (Hsieh et al., 2019).

The effectiveness of receptive music therapy as a complementary method to other medical interventions has been confirmed in various studies, which

have found that it can reduce pain, stress, and anxiety (Gramaglia et al., 2019) or reduce the emotional distress associated with pain, anaesthesia and opioid use (Deng, 2018). Given the meditative, imaginative, and transcendent nature of music, additional benefits can be achieved when combined with other complementary approaches such as guided imagery, meditation, progressive muscle relaxation, massage, aromatherapy and more. This approach can be described as a holistic body-mind practice, like a necessary part of a multidisciplinary approach to improving the quality of life in breast cancer patients.

CONCLUSION

Evaluation of the use of music listening in the clinical setting has provided new insights into its applicability in individuals with breast cancer. The results suggest that music listening may be a valuable adjunct to conventional medical and pain-relieving therapies in the treatment of breast cancer. Music has been shown to evoke positive emotions, relieve physical pain, improve daily functioning during hospitalization and make coping with a breast cancer diagnosis easier. Immersion in music has resulted in physical pain being forgotten by shifting the focus of thoughts from physical pain to music and from physical discomfort to a sense of pleasure and comfort. The importance of choosing music according to personal preference was recognized, and many participants expressed satisfaction with their participation in the study and recommended that music listening in clinical settings should be incorporated alongside conventional medical treatments following surgical procedures.

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Povzetek

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Kakovost življenja bolnic z rakom dojke je odvisna od številnih različnih dejavnikov, vključno s trajanjem in z intenzivnostjo bolečine, ki lahko pomembno vplivata na to, kako se bolnice spopadajo z diagnozo, zdravljenjem in s psihično stisko. Pokazalo se je, da lahko nefarmakološke dopolnilne terapije – kot je receptivna glasbena terapija – poleg analgetikov pomagajo zmanjšati zaznavanje bolečine. Na teh izhodiščih je bila iz-

vedena raziskava s ciljem ocenitve vpliva poslušanja glasbe v kliničnem okolju na doživljanje glasbe, zaznavanje bolečine in s tem na vsakodnevno delovanje v pooperativnem obdobju pri bolnicah z rakom dojke. V raziskavo je bilo vključenih 32 udeleženk z lokaliziranimi malignimi procesi v dojki in pazduhi. Poleg običajne analgetične terapije so ves čas hospitalizacije uporabljali poslušanje glasbe. Izbira glasbe je temeljila na željah vsake udeleženke, glasbo pa so poslušale dvakrat dnevno po 30 minut ob uporabi predvajalnika glasbe in slušalk. Za vrednotenje je bila izvedena kvalitativna tematska analiza z uporabo polstrukturiranega intervjuja, ki je vključeval tri raziskovalna vprašanja: 1. Kako udeleženke doživljajo glasbo in kakšen pomen ima zanje? 2. Kako udeleženke opisujejo prispevek glasbe k njihovemu obvladovanju bolečine? 3. Katere spremembe v svojem vsakodnevnem delovanju udeleženke opažajo po poslušanju glasbe? Rezultati so pokazali koristi poslušanja glasbe pri spodbujanju pozitivnih čustev, lažšanju fizičnih bolečin, izboljševanju vsakodnevnega delovanja med hospitalizacijo in uspešnejšem soočanju z diagnozo rak dojke. Zaključimo lahko, da je glasba zlahka uporabna v kliničnem okolju brez škodljivih posledic in da lahko služi kot sredstvo za preusmerjanje pozornosti od občutkov bolečine k občutkom ugodja ter zadovoljstva.