

Review Article

The Effect of Music Therapy on Psychological Signs and Pain in Women with Breast Cancer

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ABSTRACT

Anxiety and depression, the most common psychological reactions are in women with breast cancer that deal with diagnosis, prognosis and treatment options caused in patient. Music caused effective communication in the family and society, feel better, thought deviation and thus reduce stress. The aim of this study was to determine the effects of music therapy on psychological signs in women with cancer of the breast. In this review study, in the range of 2005 to 2015, complete search based on any of the keywords music therapy, anxiety, depression, pain and breast Cancer in a variety of (PubMed, HIB, SID, Irandoc, iranmedex, google scholar, science direct) and sources and scientific literature and library related the issue of match And studied the paper was written. Studies show The positive effects of music therapy on anxiety, depression (psychological signs) in patients with cancer of the breast So that after music therapy significantly reduced anxiety and depression. Due to the simplicity and low cost, this method, can be used as a non-pharmacological methods, non invasive and complement with drug therapy and interventions to promote mental health in these patients.

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Breast cancer is the most frequently occurring cancer among women worldwide. Global statistics show that the annual incidence of the disease is increasing, and this is occurring more rapidly in countries with a low incidence rate of breast cancer (1). but it has the highest survival rates amongst all cancer(2). Unfortunately, in Iran the average age of incidence is lower(3). Anxiety and depression, the most common psychological reactions are in women

with breast cancer that deal with diagnosis, prognosis and treatment Options Caused in patient. On the other hand, tolerance of pain in patients impact on the patient's general quality of life(4). There are the drugs psychological and physiological side effects associated with affecting the daily activities of individuals. The use of these drugs can lead to tolerance and dependence. Willing to use non-pharmacological methods to relieve psychological

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signs is rising. One of these methods is the use of music therapy(5). The American Cancer Society is also committed to research directed at improving care for cancer patients and their families. This area of research focuses on relieving and preventing the suffering of patients by addressing physical, emotional, spiritual, and social concerns that arise with advanced illness. During the last years, a number of studies demonstrated that music listening (and even more so music production) activates a multitude of brain structures involved in cognitive, sensorimotor, and emotional processing(6). Music improves the physical, psychological and cognitive disease and is introduced and used in different sectors, especially in general and psychiatric hospitals and rehabilitation centers as an appropriate and effective nursing intervention(7). Music listening used as audio-relaxation increased oxytocin levels and relaxation (8).

Since then music has not only been recognized as a diversion, but also as a tool to lower pain and psychological signs, two main factors which evidence suggests influence the quality of life in hospitalized patients (4). In fact, Music therapy helps breast cancer survivors regain a range of motion, boost energy, heal and thrive, both physically and physiologically, increase feelings of grace and femininity(9,10,11).

Materials and Methods

The first author conducted the literature search using HIB, SID, Irandoc, iranmedex, google scholar, PubMed, PsycINFO, Web of Science, CINAHL, and World Cat Dissertations databases. A comprehensive list of keywords were used, including music, music therapy, music intervention, psychological signs (anxiety, depression), cancer, neoplasm, and malignancy. For databases allowing a more advanced search, articles were restricted to RCTs. The following inclusion/exclusion criteria were used to select articles: (a) used an RCT design, (b) tested a music intervention, (c) used an adult population (defined as a minimum age of 18 years) with a current cancer diagnosis, (d) assessed a measurable psychological sign (anxiety, depression) and pain outcome, (e) used validated measures, (f) published in English or capable of being translated, and (g) accessible in full text. Validated measures consisted of those that have undergone psychometric evaluation with demonstrated sensitivity and specificity.

Results and discussions

Studies have shown that the prevalence of psychological signs and pain among breast cancer patients is high, and they are at higher risk of developing severe anxiety, depression and increased

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of the pain (12,13,14). The studies reviewed showed evidence that music therapy can decrease psychological signs and pain levels. All articles that investigated the effect of music therapy on psychological signs and pain levels in breast cancer patients found a significant lowering in psychological signs levels and pain in the patients that received music therapy compared to the control groups. Li et al and Binns-Turner found that there was a significant lowering in pain in the music therapy groups as compared to the control groups in patients with breast cancer (Table 1) (15, 16). Ferrer reported that experimental group had significantly less anxiety than control group post intervention (17). Zhao et al, experimental group showed

significantly less anxiety than control group Post intervention (18) and Burns showed that statistically significant difference in change scores from pre- to post intervention between groups with the experimental group, reporting less anxiety (Table 2) (19). Stordahl showed depression scores decreased from pretesting to post testing for the entire sample (Table3) (20). Kai et al demonstrated that different measure time of the depression scores have significant differences between the two groups ($F=39.13$, $P < 0.001$; $F=82.09$, $P < 0.001$), the post-tests of depression scores are shown in Table 4 and found music therapy has positive effects on improving depression of female patients with breast cancer, and duration of hospital stay after radical

Study	Design	limitation	Experimental		Experimental	
LI et al	RCT	Very limitation	Pretest Visual Analog Scale of Pain	4.43 SD=1.14	Post test Visual Analog Scale of pain	0.76 SD=.43
Binns Turner et.al	RCT	Moderate limitation	Pretest Visual Analog Scale of Pain	11.8 SD=17.6	Post test Visual Analog Scale of Pain	41.5 SD=30.2

Table 1: Music Therapy Group

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mastectomy can be reduced. It is worthy of applying music therapy as an alternative way of nursing intervention in clinical nursing process of caring female patients with breast cancer(21). Zhou showed that there was a significant reduction in anxiety and depression over time alone ($p < .001$) as well as by group ($p < .001$), and there was a significant interaction between group and time ($p = .0009$)(22).

Tsai showed that music interventions can reduce anxiety, depression, pain, and fatigue in patients with cancer with small-to-moderate effect sizes(23). But Zavotsky reported No significant differences in pain or anxiety were seen between groups and study did not show an effect of listening to music during mammography on pain or anxiety(24).

Author(s)	Intervention Methodology	Control Methodology	Anxiety Measures	Main Findings
Ferrer	singing and guitar	Treatment as usual	8 cm Anxiety VAS	less anxiety
Zhao et.al	Western classical, Religious and Yoga	Treatment as usual with headphones	Zung SAS	less anxiety
Burns et.al	Music imagery and relaxation with a music therapist	Treatment as usual	STAI	less anxiety

Table 2: Anxiety

Mean Scores for Depression CES- D						
	Total Sample		MAR		RA	
	n = 20		n = 10		n = 10	
	Mean	SD	Mean	SD	Mean	SD
Pretesting	12.63	13.41	11.26	14.42	14.00	12.94
Pretesting	7.90	8.40	6.60	5.02	9.20	10.96

Table 3: Mean Scores for Depression

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Scores for Depression of the posttests		
Items	Experimental group (n=60)	control group (n=60)
1st posttest	32.20 ±4.73	35.76±5.80
2nd posttest	30.00±4.89	35.50±4.90
3rd posttest	25.67±2.74	32.15±3.86

Table 4: Scores for Depression of the posttests**Conclusion**

Pain, anxiety and depression are common in women that are experiencing breast cancer. Biopsies during diagnosis of breast cancer, and mastectomies and chemotherapy to treat cancer are all painful and stressful events. Breast cancer patients must deal with fear of not being able to care for children, changed body image, rejection, cancer recurrence, medical bills and harm from adjuvant therapies. The articles reviewed in this paper show that music therapy could have the potential to be a cost-effective, safe, non-pharmacologic tool for lowering pain, anxiety and depression in the diagnosis and treatment of breast cancer patients. This systematic review indicates that music interventions may have beneficial effects on anxiety, depression and pain in people with breast cancer. Due to the simplicity and low cost, this method, Can be used as a non-pharmacological methods, non invasive and complement with drug therapy and interventions to promote mental health in these patients.