



## Effects of music therapy on depression compared with psychotherapy

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### ABSTRACT

This paper reports a study testing the effects of music on depression and compares them with the effects of psychotherapy. There are mainly three conventional treatments for depression: psychotherapy, pharmaceutical treatments, and electroconvulsive therapy. Because conventional treatment has proven to be poorly successful, new means of treatment must be found that might improve depression when used together with other therapies. A randomized controlled clinical trial was performed with a convenience sample of 79 patients aged 25–60 years with low- and medium-grade depression. The Zung Depression Scale was employed for selection purposes. Patients were randomly assigned to the music-therapy group (classical and baroque music) ( $n=41$ ), or the psychotherapy group based on conductive-behavioral therapy ( $n=38$ ). The music therapy was applied for 50 min a day, every day, for eight weeks. At the end, the music-therapy group had less depressive symptoms than the psychotherapy group, and this was proven to be statistically significant with the Friedman test. We propose that patients with low- and medium-grade depression can use music to enhance the effects of psychological support.

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### Introduction

In this changing world, increasingly severe changes are occurring in the frequency and types of stressors which, combined with certain personal vulnerabilities, are causing a general rise in depressive symptoms. Depression is a chronic disorder that can affect anyone of any age. Some risk factors are, family history of depression, female gender, childhood abuse or neglect, stressful life events, and chronic illness, which, if appearing, in childhood and adolescence, represent a risk for recurrent depressive disorders in adulthood (Hankin, 2006). There are three main effective treatments for depression: drug treatment, psychotherapy, and electroconvulsive therapy (Fountoulakis, Grunze, Panagiotis, & Kaprinis, 2008). The common triggers of depressive episodes include the following: divorce or separation from a romantic relationship, serious financial problems, physical disease, problems at

home, being laid off, marital problems or problems in an affective relationship, conflicts or difficulties at work, and negative events involving a close person, such as a relative or a close friend. Pharmaceutical treatments for depression, using either tricyclic antidepressants or selective serotonin reuptake inhibitors (Ferguson et al., 2005), make no difference in the odds ratio of suicide attempts. Music, on the other hand has been found to be effective for several disorders, like the management of acute pain (Koch, Kain, Ayoub, & Rosenbaum, 1998), cancer pain (Zimmerman, Pozehi, Duncan, & Schmitz, 1989), and labor pain (Phunmdoung & Good, 2003). This beneficial effect has been in part explained by the response to music and the physiological connectivity of the mesolimbic system, which provokes pleasurable experiences (Menon & Levitin, 2005).

Music therapy is the planned use of music to achieve therapeutic outcomes. In mental health services, music therapy is regularly offered through group and individual programs following a process of referral and assessment (Odell-Miller, 1995). Several studies describe the effect of music on mental states; for example, Mozart's Sonata for two pianos in D major K. 448 has been largely associated with the ‘Mozart effect’ condition, which has proven to enhance brain capacity by activating several signal pathways (Jaušovec,

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**Table 1**  
Demographic characteristics of the subjects included in this study.

Variable	Group assignment					
	MT (n = 41)			PT (n = 38)		
Gender	Men	Women	Total	Men	Women	Total
Age (years)	8	33	41	6	32	38
25–35	2	12	14	0	12	12
36–45	3	12	15	1	9	10
46–60	3	9	12	5	11	16
Educational level						
<Bachelor's	3	6	9	1	10	11
Bachelor's	1	4	5	1	9	10
2–4 years in professional	4	17	21	4	13	17
>4 years in professional	2	4	6			
Marital status						
Married	3	18	21	5	20	25
Separated	0	0	0	0	4	4
Widow	1	2	3	0	2	2
Common-law marriage	5	6	11	0	4	4
Other (single)		5	5	1	2	3
Annual income (\$, Mexican pesos)						
<60,000.00		6	6	6	8	14
60,000.00–100,000.00	9	23	32	6	15	21
>100,000.00		3	3	1	1	2

MT, music therapy; PT, psychotherapy.

Jaušovec, & Gerlic, 2006). Bach's Italian Concertos have demonstrated their effectiveness in recovering memory in adults with neurodegenerative disorders (Williamon & Valentine, 2002), and Corelli's Clavier Sonatas have been employed to enhance neuronal development in premature babies (Aikman, Nolte, & Dorfling, 1997). In the same way, music could have beneficial effects on some other neurological disorders like depression.

Few research studies have assessed the effects of music therapy on depression. No adverse effects for music therapy have been reported so far, whereas music therapy can indeed exert a positive effect on mental health (Edwards, 2006). In one study, adolescent women, randomly assigned to either massage or music therapy treatment, were noted to have a reduction in right frontal electroencephalography (EEG) scores after only 20 min of music listening while behavior and self-evaluations of mood states remained unchanged (Field et al., 1998). Moreover, music therapy was used over a two-week period with patients with major depressive disorders. Depressive scores for the music-listening group were significantly reduced, as were their sub-scores of depression in comparison with controls (Hsu & Lai, 2004). People with chronic non-malignant pain exposed to music showed more power and less pain, depression, and disability than the control groups (Siedliecki & Good, 2006). We compared the effects of music therapy and psychotherapy in a group of subjects with low and medium levels of depression from the city of Huajuapán de León, Oaxaca, Mexico. Our study is based on the fact that music can stimulate and activate signal pathways, which can, in turn, modulate chemical mediators; thus, facilitating recovery from depression or diminishing its symptoms.

## Subjects and methods

Patients (n = 79) selected for the study were from a clinic-hospital belonging to the ISSSTE (for its initials in Spanish: Institute of Social Security and Services for Government employees) in Huajuapán de León, Oaxaca, Mexico. Approval for the study was obtained from the Institutional Review Boards for the Master's in Sciences Program of the School of Medicine and Surgery of the UABJO (Benito Juárez Autonomous University of Oaxaca), Oaxaca, Mexico. The study was also approved by the Ethics Committee of

the corresponding health care institution. During the initial interviews, potential recruits were given an oral description of the study and, if interested in participating, they were given a copy of the consent form to review together with the researcher, and had the opportunity to ask questions. A signed consent form was obtained from all participants, whether they agreed or not to participate in the study; the data-collection instruments did not contain any identifying data; and all results of this study are reported as supplemental information.

An expert in psychology, with more than 10 years of experience in the diagnosis of psychological disorders, identified all patients to select only those with low and medium levels of depression. Patients were included only if they were not on any drug therapy or were not suffering from any other neurological pathologies or disturbances that could pose a problem for treatment. Two randomized groups were established: the music-therapy (MT, n = 41) group and the psychotherapy (PT, n = 38) group. Data from both groups are summarized in Table 1. Sociodemographic aspects, as well as the history and intensity of current and past depressive disorders, were evaluated during the interviews.

## Psychological interview

The initial selection was performed by applying the Zung Self-rated Depression Scale. We carefully monitored all patients to detect any discomfort, stress, or unrest, and provided all necessary attention and support. Every week, patients were evaluated using the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The Beck Inventory is self-rating and was used in this study to evaluate the intensity of depressive symptoms based on patient perception. We also made a final evaluation using the Hamilton Depression Scale (Williams, 1988). The Hamilton Scale was used in this study to quantitatively evaluate the depressive symptoms. The Zung Scale and Beck Inventory were self-rating, and a member of the research team applied the Hamilton Scale.

The improvement criteria in the Beck Depression Inventory were measured by the total scores reported: 0–13 minimal depression, 14–19 mild depression, 20–28 moderate depression, and 29–63 severe depression. MT patients showed changes in their final scores that suggested improvement. Higher total scores indicate

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