

Effect of music therapy combined with cognitive restructuring therapy on emotional distress in a sample of Nigerian married couples

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Abstract

Background: Music therapy combined with cognitive restructuring could provide a mechanism to improve patients' sense of control over emotional distress. This study evaluates the effect of music therapy combined with cognitive restructuring therapy on emotional distress in a sample of Nigerian couples.

Methods: The participants for the study were 280 couples in south-east Nigeria. Perceived emotional distress inventory (PEDI) was used to assess emotional symptoms. Repeated measures with analysis of variance were used to examine the effects of the intervention. Mean rank was also used to document the level of changes in emotional distress across groups. Effect sizes were also reported with partial η^2 .

Results: There were no significant baseline differences in emotional distress level between participants in the music therapy with cognitive restructuring group and waitlisted group. Significant decreases in the level of emotional distress were observed in the music therapy with cognitive restructuring group, but the waitlisted group demonstrated no significant change in their score both at posttreatment and 3 follow-up assessments.

Conclusion: Our findings suggest music therapy with cognitive restructuring therapy is effective for reducing emotional distress of couples. In addition, the positive effect of the music therapy with cognitive restructuring therapy program can persist at follow-up. Therefore, therapists have to continue to examine the beneficial effects of music therapy with cognitive restructuring therapy on emotional distress level of couples both in Nigeria and in other countries.

Abbreviations: ANOVA = analysis of variance, χ^2 = chi-square, CI = confidence interval, $M \pm SD$ = mean and standard deviation, MTCG = music therapy with cognitive restructuring group, n = number of participants, PEDI = perceived emotional distress inventory, WG = waitlist group.

Keywords: cognitive restructuring therapy, emotional distress, music therapy, Nigerian married couples

1. Introduction

Many Nigerian families are dysfunctional due to emotional pains among the couples^[1,2] and it increases with each decade of life.^[3] At present, the increasing rates of domestic disputes among the families are becoming violent and deadly.^[2] Due to the rising

profile of emotional distress among Nigerian couples, many families are facing marital crises.^[4,5] About 53.3% of Nigerian female spouses experience emotional distress linked to sexual dysfunction.^[6] Earlier studies indicated that about 20% of spouses are experiencing acute emotional distress.^[7] In addition, substantial evidence also supported the high level of emotional distress among Nigerian married couples.^[8–14] Among ever-married women, 20% were classified as experiencing emotional distress, and about 52% showed that they experienced physical abuse in their home.^[15] An estimated 70% of all cases of emotional distress among the married women were linked to partner abuse.^[15] The emotional well-being of many patients has been compromised due to dysfunctional marital relationships.^[16,17]

Living with an emotionally distorted partner is associated with emotional distress.^[18–20] The consequences of emotional distress do not only affect the individual but also have severe negative effects on their families.^[21,22] Emotional distress results in reduced quality of parenting,^[23,24] increased risk of emotional and developmental difficulties in the children,^[25] reduced quality of life,^[26] anxiety, mood, and sleep disorders.^[2] Several studies have found that there is a positive relationship between emotional distress and marital dissatisfaction in the general population across gender.^[27–30] Emotional distress has been shown to be a precursor to depression,^[31] and it negatively impacts on children.^[32,33] It, therefore, becomes imperative to develop

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empirically supported interventions for couples to help them manage emotional distress. The present study aimed to explore the effect of music therapy with cognitive restructuring therapy on married couples suffering from emotional distress.

Music therapy could be implemented as a rehabilitative tool for various emotionally distressed outcomes such as depression, mood disturbances, anxiety, nausea, fear, anger, sadness, and pain.^[34,35] Music therapy is the use of therapeutic skill of music and musical elements (structured and audible sounds) by music therapists to support, sustain, and reinstate psychological, physical, emotional, and spiritual wellbeing.^[36] Music therapy can be used as a therapeutic tool to promote wellness, alleviate chronic emotional pain, and express feelings and in helping emotionally disturbed individuals.^[37] Music therapy is a helpful strategy used in alleviating the feelings of patients with life-limiting illnesses.^[38,39] Music therapy is effective for treating persons with emotional distress, anxiety,^[40] and pain.^[41] Listening to improvised music may improve treatment of cognitive symptoms of emotional distress in that it helps individuals with emotional distress to relax their nervous systems, feel comfortable, and pay inattention on stressful events.^[42] On that note one could infer that the presence of a music therapist is needed even when listening to composed or live music is presented.^[42] This is because music can induce strong emotional relief and provides psychotherapeutic support to people with mood disturbances.^[42] Music therapy is capable to influence psychologic state, cognition and emotions, which has an impact on family life.^[34]

Cognitive restructuring approach may influence the management of emotional distress among Nigerian couples. Cognitive restructuring is a therapeutic technique used to assist individuals to modify stress-inducing assumptions and belief systems. The concern of cognitive restructuring is to help the stress-inflicted couple to replace illogical feelings with more accurate ones. Cognitive restructuring could change patient's maladaptive and irrational beliefs to achieve rational and logical attitude towards family life.^[43] Cognitive restructuring could be an effective method for reducing emotional distress.^[44,45] Researchers^[46] showed that cognitive restructuring has a significant effect on the reduction of emotional distress. Music therapy with cognitive restructuring has been suggested to provide a means of helping people to pay inattention to possible stimuli that causes emotional distress, creating images and carrying a person's thoughts away from the noxious stimuli.^[2] Music therapy with cognitive restructuring could provide a mechanism to improve patients' sense of control over emotional distress. To our knowledge, there is lack of empirical studies which have simultaneously examined the effect of music therapy with cognitive restructuring therapy on emotional distress among couples in Nigeria. Hence, the purpose of the present study was to investigate the effectiveness of music therapy with cognitive restructuring therapy on emotional distress in a sample of Nigerian couples. It was hypothesized that level of emotional distress would be lowered after the music therapy with cognitive restructuring among the treatment group when compared to a waitlisted group.

2. Materials and methods

2.1. Ethical approval

The researchers were granted approval to conduct the research by their Departmental Research Ethics Committee at the University

of Nigeria, Nsukka. The established Ethical Principles and Code of Conduct of American Psychological Association were also held onto by the researchers. The study also complied with the Declaration of Helsinki.

2.2. Design

The study is a pretest–posttest control group design.

2.3. Participants

The participants for the study were 280 married couples in south-east Nigeria. The screening and selection process were based on the inclusion criteria. Those that meet up with inclusion criteria were asked to fill a written consent form for each procedure that was taken.

Table 1 shows that the mean age of the music therapy with cognitive restructuring group was 39.59 ± 2.77 years, and that of the waitlist control group was 40.22 ± 2.21 years ($\chi^2=0.227$, $P=.645$). The music therapy with cognitive restructuring group comprised 53 men (37.9%) and 87 (62.1%) women; the waitlist control group comprised 49 men (35.0%) and 91 (65.0%) women. From the analysis of results, it can be seen that no significant gender difference was observed in the evaluation for the intervention among the participants ($\chi^2=0.247$, $P=.710$). In the music therapy with cognitive restructuring group, 18 participants (13.1%) had a primary school certificate, 24 participants (15.7%) had a secondary school certificate, and 98 (71.5%) had a postsecondary certificate. For the participants in the waitlist control group, 21 participants (15.0%) had a primary school certificate, 22 participants (15.3%) had a secondary school certificate, and 97 (69.3%) had a postsecondary certificate ($\chi^2=0.227$, $P=.893$). Regarding ethnicity, in the music therapy with cognitive restructuring group, 14 (10.1%) were from Hausa, 84 (60.4%) were from Igbo, 17 (12.2%) were from Yoruba, and 25 (17.3%) were from other minor ethnic groups. In the waitlist control group, 12 (8.6%) were from Hausa, 87 (62.1%) were from Igbo, 15 (10.7%) were from Yoruba, and 26 (18.6%) were from other minor ethnic groups ($\chi^2=0.408$, $P=.939$). Of those in the music therapy with cognitive restructuring group, 46 (32.9%) were from rural areas and 94 (63.6%) were from urban areas. Of the participants in the waitlist control group, 51 (36.4%) were from rural areas and 89 (67.1%) were from urban areas ($\chi^2=0.394$, $P=.616$). In the music therapy with cognitive restructuring group, 37 (26.4%) had 1 to 3 children, 63 (46.4%) had 4 to 6 children, and 40 (28.6%) had above 6 children. For the participants in the waitlist control group, 39 (27.9%) had 1 to 3 children, 65 (45.0%) had 4 to 6 children, and 36 (25.7%) had above 6 ($\chi^2=0.294$, $P=.895$).

2.4. Procedure

The researchers visited churches, market places, and schools, for identification of the eligible participants. The researchers adopted the perceived emotional distress inventory (PEDI) for the screening of participants.^[47] The inclusion criteria were the presence and severity of emotional distress among potential participants and completion of informed consent form. The recruitment of the participants lasted from July to October, 2015. The researchers administered the PEDI as a pretest before the music therapy with cognitive restructuring intervention ("Time 1") to obtain baseline data. Couples ($n=280$) who expressed a

Table 1
Demographic characteristics of participants.

Characteristic	Music intervention group, n (%)	Waitlist control group, n (%)	χ^2	Sig
Gender				
Male	53 (37.9%)	49 (35.0%)	0.247	0.710
Female	87 (62.1%)	91 (65.0%)		
Age*	39.59 ± 2.77	40.22 ± 2.21	0.345	0.645
Education				
Primary	18 (13.1%)	21 (15.0%)	0.227	0.893
Secondary	24 (15.7%)	22 (15.3%)		
Postsecondary	98 (71.5%)	97 (69.3%)		
Ethnicity				
Hausa	14 (10.1%)	12 (8.6%)	0.408	0.939
Igbo	84 (60.4%)	87 (62.1%)		
Yoruba	17 (12.2%)	15 (10.7%)		
Others	25 (17.3%)	26 (18.6%)		
Location				
Urban	94 (63.6%)	89 (67.1%)	0.394	0.616
Rural	46 (32.9%)	51 (36.4%)		
No of children				
1 to 3	37 (26.4%)	39 (27.9%)	0.294	0.895
4 to 6	63 (46.4%)	65 (45.0%)		
Above 6	40 (28.6%)	36 (25.7%)		

* Mean ± standard deviation.

high level of emotional distress were selected as participants. Participation in the study was voluntary.

The eligible participants were assigned to a music therapy with cognitive restructuring group (140 couples) and a waitlist control group (140 couples) using a simple randomization. This is a method in which the participants picked a card from inside a container. The cards were labeled with “MTCG” (for music therapy with cognitive restructuring group) and the other “WG” for waitlist group. The participants who picked MTCG were assigned into treatment group while those who picked WG were respectively assigned into waitlist group (see Fig. 1).

Informed consent letters were sent to 12 musicians and 12 counselors to serve as research assistants. The musicians were vocalists, drummers, pianists, violinists, and guitarists. Their genres of professional music experiences include blues, opera, rock, theater, pop, classical, and folk music. The counselors were 3 mental health and rehabilitation counselors, 6 family counselors, and 3 cognitive-behavioral counselors. The counselors ensured that the intervention program incorporated cognitive restructuring elements as intended. The researchers, musicians, and counselors supervised all sessions.

The music therapy with cognitive restructuring group met twice a week for 12 weeks consecutively. At end of the treatment, the participants were assessed for posttreatment outcome (Time 2). Three additional time points (3, 6, and 12 months after the final session) were scheduled a week for follow-up meetings. During the follow-up meetings, 90 minutes sessions were held between 11.30 AM and 1.00 PM for a meeting. Before the commencement of the intervention, the researchers assured the participants that their privacy and confidentiality would be protected in line with clinical practice. The researchers highlighted and explained the importance of confidentiality and the rights and as well as responsibilities of participants with regard to divulging privacy and limits of confidentiality of information. The researchers compared the music therapy with cognitive restructuring group to the waitlisted group at only Times 1 and 2. The waitlisted group participants were scheduled

to begin the music therapy with cognitive restructuring therapy immediately after the final follow-up. The researchers collated the data after each assessment from the participants.

2.5. Measures

2.5.1. Perceived emotional distress inventory. This is a 15-item self-report screening scale designed to assess the presence and severity of anxiety, anger, depression, and hopelessness in patients. The PEDI was developed by Moscoso, Lengacher, and Reheiser.^[47] The PEDI is designed on a 4-point scale ranging from 0 to 3: Not at all (0), Sometimes (1), Often (2), Very Much So (3). The PEDI item scoring pattern was based on the global severity index raw scores which is determined by summing the ratings for each individual item.^[37] The total score for the PEDI ranges from 0 to 45 points, that is, higher scores correspond to higher levels of perceived emotional distress. The internal reliability consistency of the PEDI was 0.86 alpha based on the present study sample.

2.6. Intervention

2.6.1. Music therapy with cognitive restructuring therapy manual.

The intervention manual addressed the couples' emotional distress using therapeutic approaches of music therapy and cognitive restructuring techniques. The researchers educated participants on rhythmic features of music and therapeutic impacts of cognitive reframing. The researchers used the music techniques namely singing which improves articulation, rhythm, breath control, and reduce anxiety and fear. Instruments were played and the researchers also engaged in rhythmic-based activities.^[36] The rhythmic-based activities facilitated and improved the motor areas of the brain and regulated autonomic processes such as breathing and heart rate, and maintaining motivation or activity level. In addition, the intervention manual contained lyric discussion and songwriting to help the individual participant to deal with marriage-related painful memories, trauma, abuse, and express feelings and thoughts that are

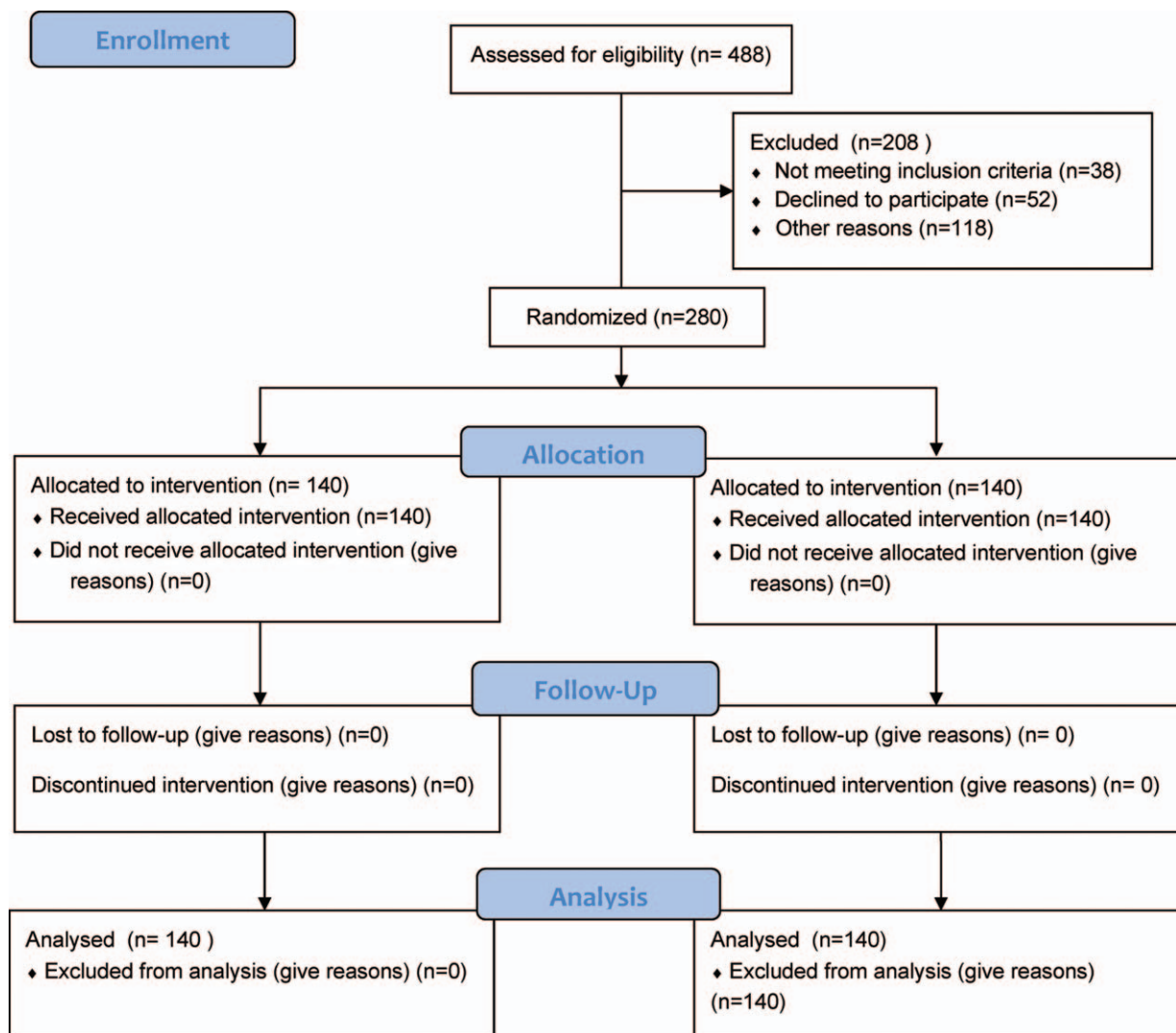


Figure 1. Consort flow diagram for participants' allocation.

normally socially unacceptable. Participants were also assisted to improve cognitive skills such as attention and memory. The participants were given assignments to practice cognitive restructuring techniques at home. In other words, at the end of each meeting, individual participants had homework assignments to complete and ensure that they brought feedback to the researchers regarding assignments completion.

2.7. Statistical and data analysis

This is a pretest–posttest control group design study. Repeated measures analysis of variance (ANOVA) was used to document the effect of the music therapy combined with cognitive restructuring therapy. Mean rank was also used to document the changes in emotional distress across the groups. Effect sizes were also reported with partial η^2 . To report differences in participant demographic variables, we made use of Chi-square (χ^2) statistic. Screening for missing values and violation of assumptions was done by the researchers. All statistical analyses were completed using SPSS 22 (IBM Corp, Armonk, NY).

3. Results

The results in Table 2 show the study outcomes for the participants in the music therapy with cognitive restructuring group compared to the waitlisted group over 4 periods. At Time 1, based on the PEDI, the 1-way ANOVA test indicated that there were no baseline differences in emotional distress level between participants in the music therapy with cognitive restructuring group and waitlisted group, $F(1, 279)=1.416$, $P=.235$, $\eta_p^2=0.005$. The repeated measures ANOVA revealed a significant treatment by time interaction effect, $F(1, 279)=3198.43$, $P=.000$, $\eta_p^2=0.920$. Follow-up tests (Time 3) revealed significant reductions in levels of emotional distress, $F(1, 279)=3486.159$, $P=.000$, $\eta_p^2=0.962$, for the music therapy with cognitive restructuring group. Follow-up tests (Time 4) also revealed significant reductions in levels of emotional distress, $F(1, 279)=2622.658$, $P=.000$, $\eta_p^2=0.650$, for the music therapy with cognitive restructuring group.

As can be seen in Figure 2, significant reductions in levels of emotional distress were observed at both postintervention and follow-ups in those participants exposed to the music therapy

Table 2
Statistical analysis showing the music therapy combined with cognitive restructuring therapy intervention treatment effect on emotional distress by group.

Measure	Assessment	Group	N	M ± SD	Mean rank	95% CI	η_p^2
PEDI	Pretest	Treatment	140	41.64 ± 2.26	144.59	41.26–42.01	0.005
		Waitlist control	140	41.27 ± 2.83	136.41	40.80–41.74	
	Posttest	Treatment	140	17.65 ± 4.02	70.83	16.97–18.32	
		Waitlist control	140	41.34 ± 2.91	210.17	40.86–41.83	
	Follow-up 1	Treatment	140	16.41 ± 3.29	70.50	15.87–16.96	
	Follow-up 2	Treatment	140	17.38 ± 4.02	70.50	16.70–18.05	

CI=confidence interval, M±SD=mean and standard deviation, n=number of participants, PEDI=perceived emotional distress inventory.

with cognitive restructuring group compared with those in the waitlisted group.

4. Discussion

The main objective of this study was to investigate the effect of music therapy with cognitive restructuring therapy on emotional distress in a sample of Nigerian couples. Our findings showed that there were no baseline differences in emotional distress level between participants in the music therapy with cognitive restructuring group and the waitlisted group. We also found a significant treatment by time interaction effect for severity of emotional distress. We found significant decreases in level of emotional distress for the music therapy with cognitive restructuring group, but the waitlisted group demonstrated no significant change in their score over the same period. The follow-up tests revealed further that there was significant reductions in levels of emotional distress for the music therapy with cognitive restructuring group but participants in the waitlisted group

showed no such significant improvements. The findings of the present study are consistent with Svansdottir^[48] who showed that music therapy is a remedial approach that reduces emotional distress symptoms like activity disturbances, aggressiveness, and anxiety among patients. Previous research indicated that music therapy alters automatic thoughts and emotional distress.^[35] In consonance with our findings, music therapy was confirmed to be a therapeutic tool in helping individuals with emotional pains.^[37] Previous research supported that music therapy is a helping strategy that improves healthy emotional state and alleviating the feeling of patients with life-limiting illnesses.^[38] Other clinical research studies have found treatment effect of music therapy for persons with emotional distress symptoms such as anxiety.^[40] It was noted that music therapy has strong positive significance on emotions and memories family life.^[34]

Cognitive-restructuring reduces the distress, pains, and emotional instability.^[45] Generally, the music therapy combined with cognitive restructuring therapy may be helpful for clinicians, family counselors, and music therapists who work with different

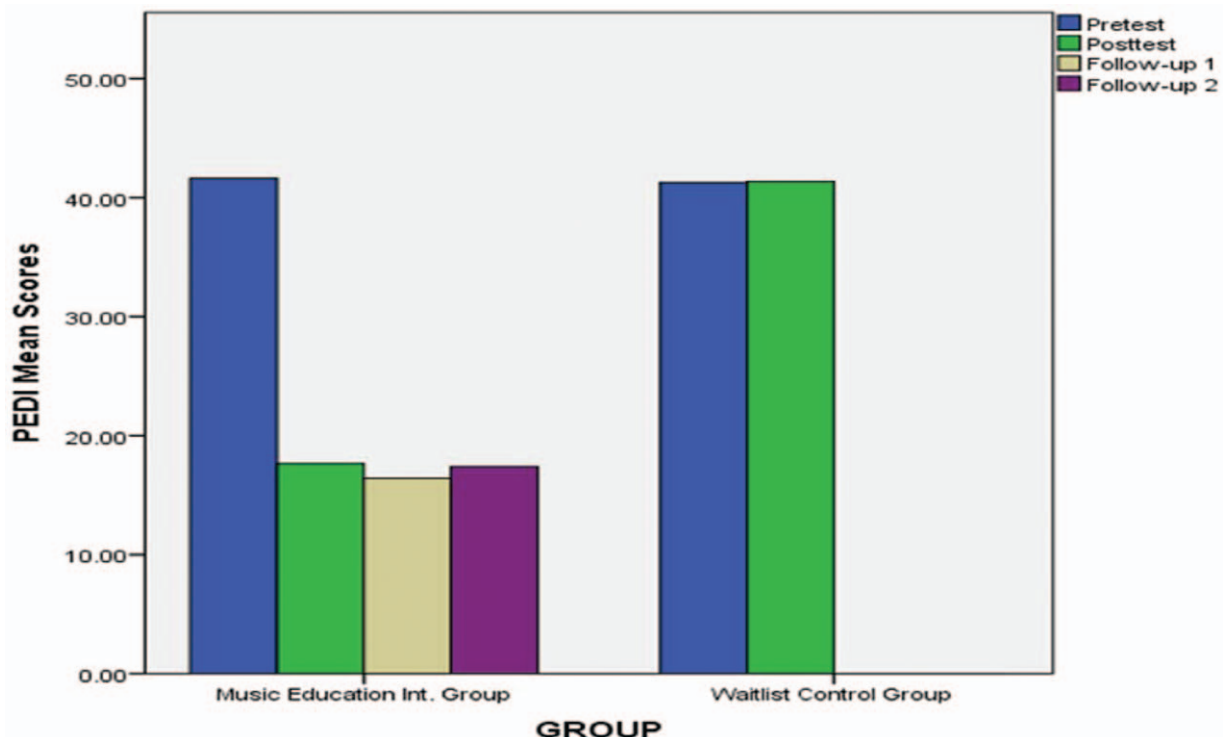


Figure 2. Emotional distress across the time points. PEDI = perceived emotional distress inventory.

category of couples in identifying and altering their unhealthy ideas, enhancing psychologic functioning, and increasing their ability to effectively manage family stress and dysfunctions. Thus, music therapy with cognitive restructuring therapy can be seen as an effective family health therapy program for managing emotional distress and warrants further application. Given that the cognitive restructuring therapy has been used and a positive effect was recorded,^[49] the researchers feel that further application of music therapy with cognitive restructuring intervention to improve the psychological health and well-being of couples is warranted both in Nigeria and in other countries.

Like other studies, the present study had some limitations. Study sample was 280 which is large enough for this study. Moreover, the power estimation proved that it was sufficient for researchers to truly observe the effect. The participants in this study were limited to couples in south-east Nigerians born and married in Nigeria. Considering a good number Nigerian couples who are residing in Diaspora, the researchers would encourage future studies to focus on Nigerian population in Diaspora. The use of only quantitative data in this study also limits its contribution to the extant literature. Therefore future studies should look into qualitative data.

5. Conclusion

In conclusion, the music therapy with cognitive restructuring therapy can be used to assist married couples to cope with emotional distress. Music therapy with cognitive restructuring therapy significantly reduced the level of emotional distress in those participants exposed to the treatment intervention in comparison to a waitlisted group. In addition, the positive effect of the music therapy with cognitive restructuring therapy persisted at follow-up periods. Therefore, therapists are urged to continue to examine the beneficial effects of music therapy with cognitive restructuring therapy on emotional distress level of couples both in Nigeria and in other countries.

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