



Letter to the Editor

Comment on: “Effect of music therapy on the anxiety levels and pregnancy rate of women undergoing in vitro fertilization-embryo transfer: A randomized controlled trial” Applied Nursing Research, 36, (2017), 19–24 by Yilda Arzu Aba, Dilek Avci, Yilmaz Guzel, Semanur Kumral Ozcelik, and Basak Gurtekin



Dear editor,

I am writing this letter to discuss the evaluation of a critical review of the background, procedure, and study design and statistical method of the article titled “Effect of music therapy on the anxiety levels and pregnancy rate of women undergoing in vitro fertilization-embryo transfer: A randomized controlled trial” authored by *Aba, Avci, Guzel, Ozcelik, and Gurtekin (2017)*.

I started reading the article from the introductory section, but there is no heading introducing the background/literature review. Moreover, the introduction doesn't provide a detailed context about the culture in Turkey and the relationships between partners. Maybe women consider infertility as a sin or punishment, meaning there might be a cultural factor, so it would be nice to view the Turkish women's perspectives on infertility. Also, anxiety should be defined in the literature review as well as what it means in Turkish culture.

The inclusion criteria included women aged between 20 and 25 years, whereby in ‘Table 1’ it is shown that the study's age demographic ranged between 22 and 45 years. Also, the sample size recruited in this study was 186 infertile women, but in the study demographics in ‘Table 1’ under ‘type of infertility,’ there were 11 ‘male infertile’ and 9 ‘male + female’ included in the study. Therefore, the authors should provide more details about the study sample to clarify the picture to the readers regarding whether the sample size was 186 infertile women or whether 186 women were recruited to the study and not all of them were infertile. In the latter case, infertility could have been related to the male partners of some of the women in the study or both partners were infertile, as shown in ‘Table 1.’

Conducting a randomized control trial design might be inappropriate for this study. Instead, a repeated measures design would have been more appropriate because each participant is their own control as the model assesses how a participant responds to all of the treatments. By including a participant block in the analysis, it would be possible to control for factors that cause variability between subjects. In addition, conducting repeated measures is very powerful by controlling for factors that cause variability between subjects. Also, there is a need for fewer subjects to detect the desired effect size and track an effect over time. Therefore, it is better to measure the same subject multiple times rather than different subjects at one point in time for each.

The data was collected by the researchers, but they did not mention how much time each participant spent on average in minutes with the researcher to complete the questionnaire. The researchers provided evidence of reliability and validity to support the STAI measure, although nothing was mentioned other than the fact that they calculated the Cronbach alpha coefficient of the STAI measure in this study; however, it would be nice if they provided its factor analysis.

The authors collected the socio-demographic characteristics of the participants, but ‘age’ was the only characteristic reported. It would be nice to include marital status (single, dating, engaged, married), educational level, and income because this could play a factor impacting women as IVF can be costly. Also, there was no explanation for the routine monitoring and treatment protocols that were applied to the standard therapy group. What kind of routine monitoring or treatment protocols were followed before and after the embryo transfer?

Music therapy was determined to reduce state and trait anxiety levels, but its effect was not significant. Moreover, the authors used an independent samples *t*-test, which is an inappropriate choice for this study. Authors compared pre-test (intervention and control group) and post-test (intervention and control group) independently, hence they did it without taking into consideration the pre-test results. Also, they could do the independent samples *t*-test by calculating the difference between the pre- and post-tests of the music therapy group and also calculate the difference between the pre- and post-tests of the standard therapy group. Subsequently, they could apply the independent samples *t*-test between the difference in the music therapy group ((post-test

Table 1
Demographic characteristic of music and standard therapy groups.

Variables	Music therapy (n:89)		Standard therapy (n:97)		P
	n	%	n	%	
Age					
22–35 years	54	60.7	51	52.6	0.301 ^b
36–45 years	35	39.3	46	47.4	
Duration of infertility					
1–5 years	75	84.3	77	79.4	0.415 ^a
6–10 years	9	10.1	16	16.5	
≥ 11 years	5	5.6	4	4.1	
Type of infertility					
Female	39	43.8	29	29.9	0.082 ^a
Male	11	12.4	24	24.7	
Female + Male	9	10.1	13	13.4	
Unexplained	30	33.7	31	32.0	
Duration of treatment					
1–2 years	62	69.7	65	67.0	0.697 ^a
3–5 years	16	18.0	22	22.7	
6–10 years	11	12.4	10	10.3	
Transferred embryo					
1 embryo	40	44.9	39	40.2	0.554 ^b
2 embryo	49	55.1	58	59.8	

^a Chi-square test.

^b Fisher's exact test.

scores) – (pre-test scores)) and the difference in the standard therapy group ((post-test scores) – (pre-test scores)).

Another statistical test that could have been done is the repeated measure ANOVA by investigating the effect of music therapy on anxiety level and then measuring anxiety level at separate time points (pre-, midway, post-music intervention), which could change the significance of the results.

References

Aba, Y. A., Avcı, D., Guzel, Y., Ozcelik, S. K., & Gurtekin, B. (2017). Effect of music

therapy on the anxiety levels and pregnancy rate of women undergoing in vitro fertilization-embryo transfer: A randomized controlled trial. *Applied Nursing Research*, 36, 19–24. <https://doi.org/10.1016/j.apnr.2017.05.005>.

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