The effect of the sound of the ney (reed flute) on women in labour in Bursa, Turkey

Keziban Amanak

Abstract

Objective: To explore the effect of listening to the sound of a ney, or reed flute, on women in labour.

Methods: The randomised single-blind, case-control experimental study was conducted at a State Hospital, Bursa, Turkey, from July 15 to October 15, 2018, and comprised pregnant women who were divided into two equal experimental and control groups A and B respectively. Women in group A were exposed to instrumental ney music played in the modal rhythm of Segah. No intervention was done in group B. Data was analysed using SPSS 20.

Results: Of the 30 women, there were 15(50%) in each of the two groups. Post-intervention, mean dilation and effacement values in group A were significantly greater than group B (p<0.05). Mean duration of labour in group A was significantly lower than group B (p<0.05). Mean pain and anxiety levels of group A were significantly lower than group B (p<0.05).

Conclusion: The sound of the ney was found to have a positive impact on vaginal examination data, the duration of labour, and the pain and anxiety experienced during the process of delivery.

Keywords: Labour, Ney, Pain, Pregnant.

Introduction

The act of childbirth is one of the most significant experiences to affect a woman in her lifetime. The pain experienced in childbirth, although being a physiological phenomenon, can have a negative effect on the health of a mother, her foetus and the newborn.[1,2] The anxiety pregnant women feel during the process of childbirth causes general fatigue and also makes the expectant mother feel the pain more, resulting in a reduced ability to cope.[3,4] Because of this, minimising anxiety and pain during delivery will have the outcome of helping women achieve a healthy and satisfying experience, providing them with a positive perception of childbirth and the opportunity to give birth to a healthy baby.[5] Pregnant women tend to reject taking an analgesic until the last moments before the birth in the belief that this might be harmful to the newborn. At this juncture, the importance of non-pharmacological methods to ease pain becomes pertinent.[6] Among the non-pharmacological methods that can be cited is music, which is known to cushion the pregnant woman against pain stimuli, increasing the release of endorphins and helping her to relax. It is reported in studies that pregnant women experience less anxiety, pain and discomfort in instances where music is used in the process of childbirth.[5,7-11] It is known that orchestral music comprising the sound of instruments such as the harp, piano, flute and ney as well as slow jazz pieces have been used in deliveries. The sound of the ney is said to be the closest instrumental simulation of the human

voice. The ney produces an evocative, mystical and natural tone that leaves a deep impression on people. The ney is a wind instrument that is used in musical therapy; it is made of reed and its invention goes back to centuries ago. The sound of the ney carries a person on a spiritual journey, enhances internal peace and offers comfort to the individual.[12,13] The music of the ney conveys positive spiritual messages and the instrument is considered to be one of the best musical instruments that can be used in labour.[14-16] Despite this, however, literature scan shows hardly any study that has examined the impact of the sound of the ney on the process of childbirth. The current study was planned to explore the effect of listening to the sound of the ney on women in labour.

Subjects and Methods

The randomised single-blind, case-control experimental study was conducted at a State Hospital (BMKPSH), Bursa, Turkey, from July 15 to October 15, 2018.

After approval from the ethics review committee of the Health Science Faculty of Adnan Menderes University, Aydın, Turkey. Using convenience sampling method, prospective subjects were enrolled. The sample size was calculated on the basis of the study's own data and in the light of literature[17] with a targeted power of 95%, α=0.05 and confidence interval of 95%. After taking permission from the Turkish Ministry of Health, and the BMKPSH management, the sample was raised from among primiparae pregnant women aged 20-37 who had no history of miscarriage or abortion, had a single foetus and were at term and in the active phase of labour. Women who

Department of Midwifery, Adnan Menderes University, Aydın, Turkey.
Correspondence: Keziban Amanak. e-mail: keziban.amanak@adu.edu.tr

had contraction abnormalities, pregnancy complications, like placenta previa, preeclampsia, premature rupture of membranes, oligohydramnios and polyhydramnios, abnormal presentation, retarded intrauterine growth, intrauterine foetal death, macrosomic baby, foetal distress, etc., and those with systemic or neurological diseases, and induced pregnant women were excluded. Those included were divided equally by simple randomisation into experimental group A and control group B. The women were numbered in order, with the first pregnant woman being given the number 1 and the rest being numbered consecutively. The women were placed in groups in accordance with the randomisation table provided on the website www.randomizer.org.[18]

After taking informed written consent from the subjects, data was collected using Individual Descriptive Form (IDF), Labour Tracking Form (LTF), Visual Analogue Scale (VAS) and State Trait Anxiety Inventory-State Anxiety Inventory (STAI-SAI).

The IDF contained 7 questions on the age, educational status, employment status of the pregnant woman, the educational status of the spouse, the employment status of the spouse, income status and whether or not the pregnancy had been planned.[5,10,17] The form were filled out using face-to-face interviews.

The LTF had questions on the pregnant woman's vaginal examination, contraction findings, and the duration of labour.[10,17] The researcher assessed the data on the vaginal examination and the contraction findings while the data pertaining to the duration of labour was obtained from the patient files. The form was filled out by the researchers.

VAS was used to assess the degree of the severity of pain experienced during labour. VAS has been used in studies to assess labour pain and has been found to be a reliable and valid instrument.[7,8,9,19,20] The form was filled out on the basis of self-reporting.

STAI-SAI was developed in 1983[21] to determine event-specific and continuous anxiety levels separately. It is a self-evaluation questionnaire that comprises short expressions, and has been adapted into Turkish language.[22] It includes two separate subscales, each having 20 clauses. These subscales are the state anxiety scale (SAS) and the trait anxiety scale (TAS). The SAS was used to determine the level of anxiety the women were experiencing during labour in the current study. Each clause has points ranging 1-4 and the total points reflect the anxiety. For state anxiety, the points of the weighted reverse statements are subtracted from the points of the direct statements and 50 is added.[23,24] The form was filled out on the basis of self-reporting.

After baseline data collection, the pregnant women in group A were exposed to 30 minutes of instrumental ney music played in the modal rhythm of Segah, which is a type of Turkish music that has been used in the treatment of illnesses since early times.[17,25] A small portable compact disc (CD) player was used for the purpose. The same pattern was repeated 3 times, with each round lasted 30 minutes of ney music, followed by 30 minutes of intermission. At the end of each round, VAS was filled out.

In the first five minutes after the pregnant women had listened to the third round of the sound of the ney, LTF, VAS and STAI-SAI were filled out.

No intervention was done in group B in which women were given their routine care. Data for group B was collected at times parallel to when the data was being collected from group A.

The women in each group saw only the care being given to them and had no information about the care being given to the other group. The blinding was done to prevent the women from forming a conditioned positive or negative opinion about the care.

Data was analysed using SPSS 20. Numeric data was expressed as mean ± standard deviation (SD), while the rest was expressed as frequencies and percentages. Inter-group comparison of descriptive features was done with chi-square test, except for age for which t-test was used. Comparisons between the two groups' labour, duration of labour, VAS and STAI-SAI mean values, when normally distributed, were done with the independent samples t-test. Data that did not distribute normally was analysed with Mann-Whitney U test. $P < 0.05$ was considered significant.

Results

Of the 30 women, there were 15(50%) in each of the two groups. There was no significant difference between the groups in terms of demographic and descriptive features (Table-1).

At baseline, vaginal examination findings were similar in both the groups (p>0.05). Post-intervention, dilation and effacement values of group A were significantly greater than group B (p<0.05). Also, the mean foetal station of the babies in the vaginal examination was less than in group B (p=0.061).

Mean number of contractions, their duration and severity in group A were significantly higher than in group B (Table-2).

The effect of the sound of the ney (reed flute) on women . . . .

1936

Table-1: Descriptive features of the pregnant women.

Descriptive features	Experimental group (n=15) Mean ± SD	Control group (n=15) Mean ± SD	X² or t or Z/P
Educational status, n(%)			
Elementary school (years)	12 (80.0)	11 (73.3)	0.436/0.842
High school - university	3 (20.0)	4 (26.7)	
Employment status, n(%)			
Employed	6 (40.0)	7 (46.7)	1.516/0.254
Housewife	9 (60.0)	8 (53.3)	
Educational status of the spouse, n(%)			
Elementary school (years)	11 (73.3)	12 (80.0)	0.415/0.875
High school - university	4 (26.7)	3 (20.0)	
Employment status of the spouse, n(%)			
Employed	14 (93.3)	15 (100.0)	1.412/0.214
Not employed	1 (6.7)	-	
Income status, n(%)			
Low income	3 (20.0)	2 (13.3)	1.549/0.25
Middle income	9 (60.0)	9 (60.0)	6
High income	3 (20.00)	4 (26.7)	
The planning status of pregnancy, n(%)			
Yes	12 (80.0)	13 (86.7)	0.055/0.845
No	3 (20.0)	2(13.3)	
Age, Mean ± SD	25.36±6.21	25.12±5.63	-0.147/0.898

*p<0.05 SD: Standard deviation; *Incomes of the women were classified in light of the results of a study by Turkish Statistical Institute titled "Income and Living Conditions in 2018".[26]

Table-2: Labour information of the pregnant women before and after the intervention.

Findings	Experimental group (n=15) Mean ± SD	Control group (n=15) Mean ± SD	t or Z/P
Before the intervention vaginal examination findings			
Dilatation	4.68±0.66	4.76±0.61	1.161/0.361
Effacement	56.4±8.64	58.1±7.45	1.982/0.289
Head level	-2.66±1.56	-2.89±1.45	1.895/0.112
Before the intervention contraction findings			
Number (number)	5.46±0.84	5.25±0.84	1.754/0.194
Time (second)	48.96±4.01	46.63±3.65	2.623/0.267
Frequency (second)	196.32±46.12	189.63±45.32	1.863/0.173
Severity (kpascal)	36.46±5.86	35.26±3.62	1.967/0.365
After the intervention vaginal examination findings			
Dilatation	7.56±0.82	6.01±0.78	2.012/0.033*
Effacement	79.4±5.68	68.2±7.89	5.987/0.000*
Head level	0.86±0.79	-1.45±0.99	1.865/0.061*
Before the intervention contraction findings			
Number (number)	6.76±0.52	6.12±0.65	2.364/0.024*
Time (second)	58.62±3.82	57.31±2.89	0.236/0.046*
Frequency (second)	123.56±18.36	129.36±17.36	0.167/0.047*
Severity (kpascal)	43.84±4.91	40.95±4.52	2.365/0.000*

*p<0.05 SD: Standard deviation

Mean duration of labour in group A was significantly lower than in group B (Table-3).

No significant difference was found between VAS scores of the groups (p>0.05) at baseline, but post-intervention readings after each round in group A were significantly

Table-3: Duration of labour of the pregnant women.

Duration of labour (minute)	Experimental group (n=15) Mean ± SD	Control group (n=15) Mean ± SD	t or Z/P
Duration	218.59±49.15	241.54±45.65	2.96/0.03*

*p<0.05 SD: Standard deviation

Table-4: Mean visual analogue scale (VAS) scores of the pregnant women.

VAS (mm)	Experimental group (n=15) Mean ± SD	Control group (n=15) Mean ± SD	t or Z/P
Before the intervention	45.53±8.51	46.01±7.42	3.457/0.111
After the first round	47.14±9.01	59.12±9.78	5.061/0.000*
After the second round	55.69±7.12	65.89±10.01	7.897/0.000*
After the third round	65.89±7.63	79.32±11.06	6.365/0.000*

*p<0.05

Table-5: The STAI-SAI mean scores of the pregnant women before and after the intervention.

STAI-SAI	Experimental group (n=15) Mean ± SD	Control group (n=15) Mean ± SD	t or Z/P
Before the intervention	61.56±8.96	59.99±10.84	5.854/0.121
After the intervention	34.52±5.58	50.06±9.58	6.041/0.000*

*p<0.05 STAI-SAI: State Trait Anxiety Inventory- State Anxiety Inventory.

lower than group B (Table-4).

Mean STAI-SAI scores were similar at baseline, but post-intervention scores of group A were significantly lower than group B (Table-5).

Discussion

The findings of the current study indicate that the sound of the ney can be used to shorten the duration of labour, to reduce anxiety and pain, and to ensure that labour is a satisfying experience for pregnant woman.

The women in experimental and control groups were statistically similar in terms of their descriptive characteristics, indicating homogeneity which provided comparable grounds for post-intervention assessment.

Literature review revealed that many studies have been done on the effects of music on labour[5,7,8,9,11,20] but only one study was encountered in which the specific impact of the sound of the ney on labour has been studied.[19] The findings of this one study[19] regarding the process of labour, including vaginal examination and contraction monitoring data, are consistent with those of the present study.

Post-intervention VAS scores of the pregnant women in the experimental group were significantly lower than those in the control group, which has also been reported earlier.[19]

The duration of labour among the pregnant women in the experimental group in the current study was significantly shorter than in the control group which is consistent with the outcome of the earlier study.[19]

While no statistically significant difference was found between the groups in terms of their mean STAI-SAI scores prior to the intervention, the scores of the experimental group post-intervention were significantly lower than those of the control group. In literature, no study was found that may have examined the effect of the sound of the ney on the level of anxiety experienced during labour. On the other hand, the sound of the ney is said to carry the listener away from the reality of one's life, taking the individual on a spiritual journey, cleansing the spirit of all evil, and offering complete internal peace.[12,13] On the basis of this knowledge, we believe that the sound of the ney during labour will make a positive contribution to the labour experience of women. It is for this reason that there needs to be more advanced randomised studies in this context. Along with the ney, other types of music shall also be explored in randomised studies.

There are some limitations to the current study. It was a single-centre research and its results are not generalisable. Besides, VAS and STAI-SAI were filled out on the basis of self-reporting, and data obtained from these instruments may differ from the observation of the experts.

Conclusion

When women in labour were exposed to the sound of the ney, it produced a positive impact on vaginal examination data, the duration of labour, and the pain and anxiety experienced during the process of delivery. The sound of the ney can be used to make childbirth a satisfying experience for pregnant women.

Disclaimer: None.

Conflict of Interest: None.

Source of Funding: None.

References

1. Berg I, Söderlund T, Vinterskog L. Reliability and validity of the acceptance symptom assessment scale in assessing labour pain. Midwifery 2012; 28: 684–8.

2. Gönenç IM, Terzioğlu F. The effect of massage and acupressure on pregnant women anxiety level. J Ankara Health Sci 2012; 1: 129-43.

3. Alipour Z, Lamyian M, Hajizadeh E, Vafaei MA. The association between antenatal anxiety and fear of childbirth in nulliparous women: A prospective study. Iran J Nurs Midwifery Res 2011; 16:169-73.

4. Hall WA, Hauck YL, Carty EM, Hutton EK, Fenwick J, Stoll K. Child birth fear, anxiety, fatigue and sleep deprivation in pregnant women. J Obstet Gynecol Neonatal Nurs 2009; 38: 567-76.

5. Ersanlı C, Kömürcü N. Effects of musical therapy and labor education at first pregnancy with induction. J Samsun Health Sci 2016; 1: 18-39.

6. Taşçı E, Ümran S. Nonpharmacological approach hint ended for labor pain. Genel Tıp Derg 2007; 17: 181- 6.

7. Hosseini SE, Bagheri M, Honarparvaran N. Investigating the effect of music on labour pain and progress in the active stage of first labour. Eur Rev Med Pharmacol Sci 2013; 17: 1479-87.

8. Karkal E, Kharde S, Dhumale H. Effectiveness of music therapy in reducing pain and anxiety among primigravid women during active phase of first stage of labour. Int J Nurs Educ 2017; 9: 57-60.

9. Liu YH, Chang MY, Chen CH. Effects of music therapy on labour pain and anxiety in Taiwanese first-time mothers. J Clin Nurs 2010; 19: 1065-72.

10. Ozturk CH, Saruhan A. Studying the effect of ice-massage applied to hands of pregnant women to reduce the perceived labour pains. J Nurs Res Develop 2008; 1: 18–37.

11. Simavli S, Gumus I, Kaygusuz I, Yildirim M, Usluogullari B, Kafali H. Effect of music on labour pain relief, anxiety level and postpartum analgesic requirement: A randomized controlled clinical trial. Gynecol Obstet Invest 2014; 78: 244-50.

12. Çetinkaya Y. Philosophy of Music in Mawlawi Thought: Love, Music, and the Nay in the Masnavi. Insan ve Toplum 2011;1:57-85.

13. Tosun M, Erdoğdu Ş. The importance of symbols in Masnavi translations: The international indulgence invitation in the examples of "ney" and "come". Journal of Academic Inquiries 2013; 8: 347-62.

14. Erkek ZY, Pasinlioğlu T. Complementary treatment methods used for labor pain. J Anatolia Nursing Health Sci 2016; 19: 71-7.

15. Karabulutlu Ö. Non farmacoloġıcal methods used in contraception of pain. Caucasian J Sci 2014; 1: 43 – 50.

16. Sayyar Ş. Traditional Treatment Methods. Cumhuriyet University Institute of Social Sciences; 2014.

17. Avcıbay B. The effects of relaxation technics on anxiety levels of pregnant who is in labor. Master Thesis. Adana, Turkey: Cukurova University, Institute of Health Sciences Department of Midwifery; 2009.

18. randomizer.org [Internet]. Research Randomizer; c2019 [cited 2019 Jan 16]. Available from: http: www.randomizer.org

19. Çatalgöl Ş. Effects of ney sound during labor at first pregnancy with induction. Master Thesis. Izmir, Turkey: Ege University, Institute of Health Sciences; 2013.

20. Dehcheshmeh FS, Rafiei H. Complementary and alternative therapies to relieve labor pain: A comparative study between music therapy and Hoku point ice massage. Complement Ther Clin Pract 2015; 21: 229-32.

21. Spielberger CD. Manual for the State-TraitAnxiety Inventory STAI (form Y) (" self-evaluationquestionnaire"); 1983.

22. Öner N, Le Compte A. Discontinuous State / Trait Anxiety Inventory Manual Hand Book. 1st ed. İstanbul: Boğaziçi University Publication; 1983, pp: 1-26.

23. Kesim S, Unalan D, Esen C, Oztürk A. The relationship between periodontal disease severity and state-trait anxiety level. J Pak Med Assoc 2012; 62: 1304-08.

24. Ulker K, Kıvrak Y. The Effect of information about gynecological examination on the anxiety level of women applying to gynecology clinics: A prospective, randomized, controlled study. Iran Red Crescent Med J 2016; 18: e23864.

25. Durmuş O. The effects of the Turkish music on the human spirit music therapy. [Online] [Cited 2018 Sep 15]. Available from: URL: http://estudamdergi.ogu.edu.tr/index.php/musiki/issue/viewFile/10/69.

26. Turkish Statistical Institute. Income and living conditions survey results, 2018 [Online] [cites 2019 Sep 27]. Avaliable from: URL: http://www.tuik.gov.tr/PreHaberBultenleri.do?id=30755.