Evaluation of the Auditory Effects of the Sound of Quarn e Karim on Labor Pain

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ABSTRACT

Background: Although labor pain has benefits like advancing labor process it can cause serious problems such as protracted delivery, unnatural fetal heart rate pattern, high-risk cesarean and low Apgar score. So alleviating labor pain by playing the sound of Quran can be an important subject in medicine.

Objectives: Labor pain is one of the severe pains that most mothers face in their lifetime. Nowadays different methods are used to alleviate this pain. The present study was carried out with the aim of evaluating the auditory effect of the sound of Quarn e Karim on the labor pain of primiparas.

Materials and Methods: In this clinical trial 90 primiparas referring to the delivery ward of Shiraz’s Zeinabieh Hospital were placed in 3 groups randomly. The first and second group listened to Quran and Tavashih for 20 minutes but the third group did not listen to the sounds. Labor pain intensity, blood pressure and fetal heart rate before and after the intervention were recorded using McGill-Melzack scale and observation reports.

Results: The difference between the three groups was not significant in regards with age, education and cervical dilation rate (P > 0.05). Labor pain intensity in the first group was not significantly different before and after the intervention (P > 0.05) but it increased in Tavashih and the control group (P < 0.001). Mean average pain intensity in the three groups differed significantly (P < 0.001). This variable decreased significantly in Quran group compared to the other two groups (P > 0.05). Mean fetal blood pressure and heart rate did not differ significantly in the three group (P > 0.05).

Conclusions: The findings of the study at hand indicate the auditory effect of the pleasant sound of Quarn e Karim as one of the supplementary methods in alleviating the labor pain of primiparas. Therefore considering faith issues and utilizing spiritual factors in order to alleviate or help tolerate labor pain is recommended.

Implication for health policy/practice/research/medical education:
Playing the sound of Quran verses in treatment centers can help patients in different wards.

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1. Background

The history of pain is as old as the history of man. It is a sense which accompanies men from the first moments of birth to the last moments of life. The most natural phenomenon guarantying the survival of men (giving birth to a child) is accompanied with pain too. Labor pain is the most severe pain majority of women experience in their
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2. Objectives

The present study aims at surveying the auditory effects of the sound of Quran e Karim on the labor pain of primiparas.

3. Materials and Methods

Methods

The study at hand is a quasi-experimental, clinical trial on 90 primiparas referring to the delivery ward of Shiraz’s Zeyna-biehshahr Hospital. The criteria for entry into the study included being a primipara and being in the active phase of pregnancy (minimum 4 cm of dilation). Mothers or fetuses suffering any illnesses or having any midwifery issues were excluded from the study. Also taking any palliative drugs or having any problems in hearing caused a mother to be excluded from the research. The approvals of the qualified women were obtained and they were randomly placed on one of the three groups being studied.

Data was collected through demographic information questionnaires and McGill-Melzack pain index forms (the present pain scale) and in order to assess its reliability face validity method was utilized. At first the researcher described Melzack pain scale for the case being studied (0 = no pain, 1 = little pain, 2 = mild pain, 3 = moderate pain, 4= severe pain and 5= very severe pain) and recorded the pain intensity based on her remarks. Cervical dilation rate and the fetal blood pressure and heart rate were also recorded in the observation forms. Then 30 research cases of the first group listened to Quran Tarteel of Ustad Parhizgar (Hamd and Maryam suras) played by a cassette player through headphones for 20 minutes. It should be mentioned that selection of these two suras was based on the advice of the esteemed members of Supreme Leader’s Office in Shiraz University of Medical Sciences. At the same period Arabic text read in Tarteel (Tavashih) was played for the 30 cases under study in the second group but for the third group or the control group no sound was played. After the end of the intervention in each group the pain intensity and fetal heart rate and blood pressure were measured again. The collected data was analyzed by SPSS software.

4. Results

The results of statistical analysis showed that the average age of the cases being studied was 20.7 in the first group, 20.5 in the second group and 20.4 in the third group. Mean cervical dilation rate was 4.7cm in the first group, 5.3cm in the second group and 4.9cm in the third group. One-way analysis of variance on these two variables showed that the difference in age and cervical dilation was not statistically significant among the three groups ($P > 0.05$).

Reviewing the education of the mothers showed that 20% of the cases had primary school training, 26.7% secondary school, 33.3% high school and 20% had an associate degree or higher. Relative frequency distribution of this variable in the second group was respectively as follows 40%, 43.3%, 6.7% and 10%. And in the third group the figures showed 33.3% for secondary school, 46.7% for high school and 20% for associate degree or higher. In order to study the educational level among the three groups K2 test was used. The results of this test indicated that there is no significant difference among the three groups.
Therefore the three groups were alike in terms of age, cervical dilation and education level variables. Since the main goal of this study was to investigate the pain intensity of the cases being studied after the intervention the frequency of pain intensity in the cases under study in each of the groups was compared before and after the intervention. The results of paired t-test indicated that mean pain intensity in the Quran group remained the same after the intervention (compared to the pre-intervention period) ($P = 0.54$) but the mean pain intensity in Tavashih and the control group rose after the intervention (compared to the pre-intervention period) and these changes were statistically significant $P <0.001$ (Table 1). Based on these results it can be said that in the first group listening to the sound of Quran e Karim had a major role in preventing pain from increasing as labor progressed while cases in Tavashih and the control group experienced more pain as time passed.  

Also one-way analysis of variance on the pain intensity before the intervention in the three groups showed that there was no statistically significant difference among the three groups ($P > 0.05$). In other words the three groups were similar in pain intensity before the intervention. This test on pain intensity was carried out after the intervention in the three groups and the results showed a statistical difference among the three groups ($P <0.001$). It should be mentioned that comparing mean change intensity in the range of painless to very severely painful was significant only in moderate pain domain and other domains did now show a significant difference. Comparing mean change intensity of moderate pain in Quran, Tavashih and the control groups ($P <0.001$) indicated that the difference of moderate pain mean intensity in the group listening to Quran (SD=0.88 and $X_0 = -0.1$) was lesser compared to Tavashih group ($X_0 = -0.56$ and SD=0.77) and the control group ($X_0 = -0.9$ and SD=0.66) (Table 2). Consequently the hypothesis of this study i.e. the effect of the sound of Quran in reducing the pain intensity of primiparas was verified.  

In addition to comparing the labor pain intensity, mean systolic and diastolic blood pressure and also the fetal heart rate were also checked statistically. The result ($P >0.05$) was indicative of the lack of a significant difference regarding the three mentioned variables among the three groups (Table 3).  

5. Discussion

Advances of human science in the recent years have led to the integration of modern medicine and alternative medicine and today alternative or supplementary medicine is on its way to have a place in the basics and fundamentals of the existing health care trend of the society. The satisfactory results of the treatment with the sound of Quran in many studies are indicative of its healing effects (9). The enchanting sound of Quran e Karim which is surely the most beautiful song and the most relaxing word in the existence also has proven healing effects in many studies. In the study at hand the labor pain of the cases who listened to the sound of Quran did not increase with the advance of labor stages compared to Tavashih group and the control group and this result can be indicative of the point that the sound of Quran is effective in creating mental peace and controlling pain. Also the difference in mean pain intensity was lower in the first group who had listened to the sound of Quran for 20

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean Pain Intensity Before the Intervention</th>
<th>Mean Pain Intensity After the Intervention</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quran Group</td>
<td>3.23</td>
<td>3.33</td>
<td>0.54</td>
</tr>
<tr>
<td>Tavashih Group</td>
<td>3.8</td>
<td>4.3</td>
<td>0.001</td>
</tr>
<tr>
<td>The control Group</td>
<td>3.3</td>
<td>4.3</td>
<td>0.001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Groups</th>
<th>Difference in Pain Intensity After the Intervention ($X_0$)</th>
<th>Difference in Pain Intensity After the Intervention (SD)</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quran Group</td>
<td>-0.1</td>
<td>0.88</td>
<td>0.001</td>
</tr>
<tr>
<td>Tavashih Group</td>
<td>-0.56</td>
<td>0.77</td>
<td>0.001</td>
</tr>
<tr>
<td>The control Group</td>
<td>-0.9</td>
<td>0.66</td>
<td>0.001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Groups</th>
<th>The Control Group Mean</th>
<th>The Control Group SD</th>
<th>Tavashih Group Mean</th>
<th>Tavashih Group SD</th>
<th>Quran Group Mean</th>
<th>Quran Group SD</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic blood pressure</td>
<td>116.6</td>
<td>14.7</td>
<td>113.3</td>
<td>7.9</td>
<td>118.3</td>
<td>10.1</td>
<td>0.15</td>
</tr>
<tr>
<td>Diastolic blood pressure</td>
<td>74</td>
<td>10</td>
<td>71.1</td>
<td>6.7</td>
<td>72.1</td>
<td>7.9</td>
<td>0.46</td>
</tr>
<tr>
<td>Fetal heart rate</td>
<td>138.2</td>
<td>5.4</td>
<td>139.8</td>
<td>6.4</td>
<td>138.4</td>
<td>5.3</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Abbreviation: SD, Standard Deviation
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minutes (compared to the other two groups). The comparison of fetal blood pressure and heart rate in the three groups did not show a significant difference.

The findings of a research carried out by Bruce in 2004 (with the aim of examining the effect of the sound treatment on passing pregnancy and labor period) indicated that sound had effects in reducing mothers' anxiety and consequently establishing relaxation to manage labor and labor pain. Mothers under study in this study stated that music had influential effects in reaching relaxation during pregnancy, labor and delivery by deviating the mind and concentration from pain and fear. Also during the stages of following up computer images of the fetal heart rate, internal vaginal examination and the birth of the baby mothers declared more satisfaction and less stress (10). Browning's research in 2000 resulted in similar findings. In Browning's study music was used to prepare mothers for delivery and the management of mothers' pain and anxiety during labor and delivery was considerably better (11). The findings of a meta-analysis on all studies (2002) in the field of non-drug methods of alleviating labor pain in the United States indicated that methods like music therapy have had beneficial effects in alleviating labor and delivery pain but such effects have been short-termed and very transient. That is why using several supplementary methods to enhance the treatment effects is recommended (12).

Tahmashi's research shows the effect of listening to Quran in reducing labor pain but it was reported that this effect was independent of religious beliefs of the cases being studied (13). Another study by Mir Molayi and his colleagues indicated that the sound of Quran e Karim and music could lead to reduced labor pain, mothers' relaxation (at least in the first 4 hours of the active phase) and also a shorter time of delivery. Of course the sound of Quran was more effective than music (14). The effect of listening to Quran has also been studied in other clinical fields such as Ilder Abadi's research which was conducted to determine the effect of the sound of Quran on the anxiety before open heart surgery. The findings of this research indicated that listening to Quran leads to a decrease in the anxiety level of patients (15). Nikbakht's study showed that the sound of Quran reduces the anxiety of heart patients (16).

In conclusion it can be said that the sound of Quran (as one of the supplementary medical methods) and generally all that is related to spirituality can influence the body too. Since pain is a completely mental and multidimensional concept and depends on physical, mental, social and religious factors of the individuals, consideration of the patients' beliefs by the clinical stuff and using spiritual elements like listening to Quran verses can be very effective in promoting the mental health and successful pass from crises like labor.

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Authors’ Contribution

Sedigheh Forouhari: Research guidance; Robab Honarvaran: Collecting and analyzing research data; Razieh Maasoumi: Writing and editing the final paper; Minoo Robati: Sampling guidance and facilitate it; Iraj Hashem Zadeh: Analysis and interpretation guidance of the data.

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