

Effect of Listening to Holy Qur'an during labor on its Progress, Maternal and Neonatal outcome

El Saida Gouda Nasr¹, Ayat M. Omar², Samya Mohamed Hegazy³

¹Lecturer of Maternal and Neonatal Health Nursing ,Faculty of Nursing , Fayoum University

²Assist.Prof.of Maternal and Neonatal Health Nursing ,Faculty of Nursing, Fayoum University,

³Lecturer of Pediatric Nursing, Faculty of Nursing, Tanta University.

Abstract:

Background: labor pain one of the most intense forms of pain that can be experienced, leads to fear and anxiety can produce muscle tension, with possibly prolong the first and second stage of labor, to avoid pharmacological or invasive methods of pain relief in labor and implement listening to Holy Qur'an during labor. **The aim** of this study is to evaluate effect of listening of holy Qur'an during labor on maternal and neonatal outcome. **Subjects and methods: Design:** This quasi-experimental study was conducted in maternity Unit in El-Nabawy El Mohandes Hospital, Fayoum governorate and in Al-Galaa hospital, Cairo governorate; on 100 full term parturient Muslim women were classified into two groups, intervention (n.50) and control (n.50). The intervention group was listened to Quran recitation by a CD-player through an occlusive headphone. Socio- demographic and obstetric data ,Labor progress and outcome assessment, Visual analog pain severity scale, visual analog scale for anxiety, The Pain Coping Scale were used as research tools. **Results:** study illustrated that the mean duration of first stage of labor ,mean score of anxiety was significantly lower, Meanwhile mean pain coping score, spontaneous vaginal delivery were significantly higher in Quran group. **Conclusion:** Listening to Quran during labor, appears to be an effective in reducing anxiety, magnify ability to cope pain, leading to spontaneous vaginal delivery. **Recommendations:** Quran can enrich the non-pharmacological pain management in labor.

Keywords: Holy Qur'an, Labor, Maternal and Neonatal outcome.

Introduction

Favorable maternal and neonatal outcomes is main goal of community health and midwifery practices all over the world. vaginal birth is a physiological process that is intended than cesarean section (Marshall et al 2011). Labor pain and anxiety; interrupt the autonomic maternal functions and cause catecholamine to be released which leads to premature labor and fetal distress. pain management is one of the key goal to meet human physiological needs (Adams

et al., 2015). Health officials have focused on promoting both painless and less painful natural childbirth methods (Eskandari et al, 2012) .The pharmacological methods of pain relief can affect both mother and fetus, as well as labor. The alternative modalities became popular to resolve these obstacles of pharmacological pain relief treatments, labor pain management should be simple, reliable, and should maintain fetal hemostasis. (Simkin and Bolding2004) . Acupuncture and hypnosis to be beneficial for the management of pain during labor (Smith et al 2011). Also non-

pharmacological methods such as aromatherapy, massage therapy, relaxation techniques and music therapy have been implemented to reduce anxiety (Capogna et al, 2010). Relaxation techniques like massage and breathing exercises can reduce stress and anxiety during labor (Miquelutti et al 2013).

Listening to Quran recitation is quick, convenient, non-invasive, reasonable, does not interfere with the care of routine patients during work, no additional fees to patients particularly in low-and middle-income countries compared to pain relievers. The harmonious sound of the Holy Qur'an is something of a divine music (Khatoni 1997), Which results in the secretion of endorphins by stimulating the brain and activating alpha waves (Almerud and Petersson, 2003). It thus reduce the anxiety level, reduces the negative emotions, creates a sense of calm and strengthens the immune system (Chen and Huang 2008). Hearing Qur'an recitation gives Muslims a soothing reaction of relaxation, concentration, and calm. We will try to test the importance of using inexpensive non-invasive procedures that did not have any side effects during research in managing pain and anxiety among women of Egyptian Muslims. It is also a way of improving midwife's pain relief strategies (Abbas et al, 2016).

Significance of the study

Childbirth is a vital phenomenon for human nature, has an immense impact on women's and family lives. Intensity of pain during childbirth leads to anxiety and fear, which leads to increased hormone levels including epinephrine in the blood. These will further exacerbate the discomfort, and possibly prolong the first and second phases of labor. (Zanty, 2014) clarified DHS 2008, estimated that

27 percent of labor in Egypt was C-sections, the number of C-sections has nearly doubled. Holy Qur'an listening, non-invasive and non-pharmacological method for alleviating pain and anxiety .Few studies have been carried out on this issue, so this study was carried out to explore the effect of Quran on maternal and neonatal outcome.

Aim of the study

The aim of this study is to evaluate the effect of listening of holy Qur'an on labor outcome, through:

- 1- Compare labor progress, pain intensity, anxiety, coping of pain, post -partum complications and satisfaction level of studied women of both groups.
- 2- Compare of neonatal outcome in the form of Apgar score at one and five minute & neonatal complications of both groups.

Hypothesis

1. Listening to Quran recitation would improve maternal outcome.
2. Listening to Quran recitation would improve neonatal outcome.
3. Laboring women who listening to Quran exhibits reduction in pain, anxiety level during the labor, coping, as well as exhibit more satisfaction.

Subjects & methods :**Study design**

The present study is a quasi-experimental study ,which comprised an intervention group (women were listened to Quran recitation) and a control group (women did not listen to Quran).

Setting

This study was conducted in maternity Unit in El-Nabawy El Mohandes Hospital, Fayoum governorate and in maternity unit in Al-Galaa Hospital , Cairo Governorate.

Subjects

A sample of 100 parturient Muslim women were invited to

participate in the present study and to complete a written questionnaire and divided into (50 parturient women study group & 50 parturient women control group). Recruited pregnant women according the following

Inclusion and exclusion criteria

Inclusion criteria were as follows: Being in the active labor phase (dilatation of 4 cm) with a gestational age more than 37 weeks. Those healthy free from medical disease and pregnant with single viable fetus . Exclusion criteria: Women excluded from study were; prematurity <37 or post maturity > 42 gestational age ,high risk pregnancy , Fetal mal-presentation and Any complications in first stage either maternal or fetal.

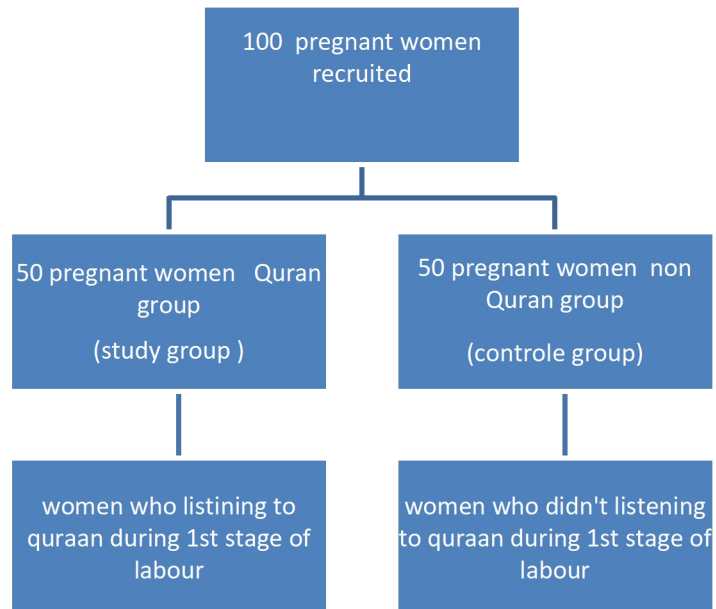


Figure 1 Flow-chart of the participants

Data Collection Tools:

Five tools were used in collecting the data needed for the current research.

Tool 1. Before the beginning of the program at the first stage of labor . , the participants answered a questionnaire about the following variables: age, education, occupation, residence, obstetrics history as; gestational age, parity, gravid, history of abortion and still birth.

Tool II. Labor progress and outcome assessment tool (partograph): This standardized tool was adapted from (WHO 1994), which the researchers used to measure labor progress; labor increase, delivery mode, and labor duration.

Tool III. Visual analog pain severity scale (VAS) . This is a standardized linear scale developed by McCaffery and Pasero (1999) which adopted and used to measure the pain intensity .It is horizontal line 10 cm long and used as subjective measurement of pain severity.. All women at study group and control group were instructed to marked pain level at active phase of labor, using the visual analog scale (VAS) which was scored as follow, (0-3) reflects mild pain, (4-6) shows moderate pain, (7-10) severe pain.

Tool IV visual analog scale for anxiety (VASA) : Used to evaluate the level of anxiety that laboring women experience. which was scored as following(0) no anxiety, (1-3) reflects mild anxiety, (4-6) moderate anxiety, (7-10) severe anxiety. (Aitken, 1969).

Tool V The Pain Coping Scale: This measure was created to assess the ability of women to cope labor pain on a scale from 5-10 (cooped more easily) to 0-4 (not completely cooped), where the researcher measures the behavior of the

woman by being able to calm and relax between the contractions or during the contraction of this score adapted from (Wong and Whaley 1986).

After labor the researchers asked participants about their opinion regard labor experience.

Validity and reliability of the tools:

The researchers assured validity of the tools content by showing them to 3 specialists in Obstetric and Gynecological nursing. They didn't require any amendments to any of the items. Reliability coefficient; of the tools was assessed by Cronbach's alpha test in SPSS V.20. They show good level of reliability as follow: Visual analog pain severity scale ($\alpha= 0.9$), visual analog scale for anxiety ($\alpha = 0.95$), The Pain Coping Scale ($\alpha =0.92$), and indicates very high reliability.

Pilot study

A pilot study was conducted on 10 % (10 laboring women) of total sample to assess feasibility, shape validity and applicability, reliability of tools. as well as guess the needed time for data collection. These women were excluded from the main study sample.

Field work:

To achieve the study aim, the researchers used a number of phases: interview , assessment , implementation, and evaluation. These phases were implemented from the beginning of October 2018 till the end of December 2018 for about three months. The researchers visited the designated hospital three days/week.

1. Interview phase

During this phase the researchers started the interviews by welcoming the

participating women, and then explained the study aim and obtain an oral consent for participation.

2. Assessment phase :

During this phase, the researchers interviewed the participant's women to collect the socio-demographic data and obstetric data by using tool I.

3. Implementation phase :

Each woman was met individually after screened for the inclusion criteria then designated to either study or control group:

1. **Study group (Quran group) :** enrolled women were listened to Quran recitation by a CD-player through an occlusive headphone (Alrahman verse recited by Abdolbaset) , during the first stage of delivery, the Alrahman verse recited by Abdolbaset was played twice; first time during 4-6 dilatation and second time during 7-10 dilatation, each time for 30 minutes, using a Walkman and headphone. Woman was requested to close her eyes while listening to reduce any visual interference. The researcher was present in the room to minimize the environmental interfering factors.
2. **Control group (Non-Quran group):** in which all the above mentioned actions were also performed for the control group, except playing the Quran sound as all women did not listen to Quran.

Phase III: Evaluation: The researchers follow and evaluated the labor progress (cervical dilation, fetal head descent, duration of first, second stage of labor and labor mode) of women in both groups every hour by using the partograph

(tool II). As well as using tool III and IV during first stage to assess the level of pain and anxiety. Finally at the fourth stage of labor the researchers used (tool V) to assess participant pain coping and opinion regard labor experience.

Finally: Assess neonatal outcome ; viability immediate after labor, Apgar score at first and five minute after labor, present of neonatal complications.

Ethical consideration

This study was approved by ethics committee that affiliated to the Faculty of Nursing, Fayoum University. In addition; permissions were obtained from the authorities, of the Fayoum University and Al gala hospital directorate to obtain approval for conducting the study at obstetric department. In addition, permissions were obtained from the authorities, of the healthcare under study. The researchers explained the aims and nature of the study, to the participants. Furthermore, they were informed about , participation and probability of study withdrawal at any time, they were also ensured of the confidentiality of their personal information. In addition, oral informed consent was obtained from each participant.

Statistical analysis

All data were collected, tabulated and statistically analyzed using SPSS 20.0 for windows (SPSS Inc., Chicago, IL, USA 2011). Quantitative data were expressed as the mean \pm SD & median (range), and qualitative data were expressed as absolute frequencies (number) & relative frequencies (percentage). Independent samples Student's t-test was used to compare between two groups of normally distributed variables. While Independent samples Mann –Whitney u-test was used to compare between two groups of not

normally distributed variables. Percent of categorical variables were compared using Chi-square test or Fisher's exact test when appropriate. All tests were two sided. P-value < 0.05 was considered statistically significant (S), and p-value \geq 0.05 was considered statistically insignificant (NS).

Results:

Table 1. Revealed that there is no statistical significant difference between both groups regarding socio-demographic characteristics $p>0.05$, the mean \pm SD of age per years of both groups were (28.16 \pm 6.1 Quran group vs. 27.78 \pm 5.2 control group). Nearly more than one third (34%) of Quran group were had basic education vs. (30%) secondary education in control group, majority of participants in both groups were housewives (78% in Quran group vs.80% in control group) also more than half of participants in Quran group were lived in rural area vs. 68% lived in urban area in control group). On the other hand regarding life style listening to Quran question nearly half of participants in Quran group were listened to Quran once a day vs 52% listened to Quran few times a week with statistical significance differences $p = 0.006$

Table 2. Indicated that there is no statistical significant difference between Quran group and control group regarding obstetric history $p>0.05$ including mean of gestational age, number of gravity and number of parity. The majority of participants in both groups were had no history of abortion and still birth (90% in both groups, and 96 vs. 92%) respectively but with no statistical significant difference $p>0.05$.

As regards current labor characteristics among both groups **table 3.** cleared up that despite the mean duration of labor in second and third stage were shorter in Quran group than control group put not

reach to statistical difference .But the mean duration of first stage of labor was significantly shorter among participants in Quran group $p=0.019$ (8.22 \pm 5.8 vs.12.44 \pm 8 in control group. Also the majority of participant's mothers in both group didn't use analgesia during labor, the difference statistical insignificant $p>0.05$. Moreover **table3 and figure2.** portrayed that the great majority of Quran group delivered spontaneous vaginal delivery 90% vs. 68% in control group the difference statistically significant $p=0.006$.

Table 4. Demonstrated that there was no statistical significant difference $p>0.05$ regarding mean amount of estimated blood loss at delivery between both groups (546 \pm 216 in Quran group vs. 528 \pm 254 in control group). Almost of participant's women in both groups were had no postpartum complications (90% in Quran &92% in control group) the difference statistically insignificant $p> 0.05$. The percent of complications in Quran group were 1(2%) had pyrexia, 4(8%) with third degree perineal tear, retained placenta. While in control group 1(2%) had ruptured uterus 1(2%) retained placenta, 1(2%) need to admit to ICU.

Table 5. showed that there is no statistical significance difference between both groups regarding neonatal outcome $p>0.05$. All over babies delivered in both groups were living.100% . Mean birth weight were somewhat higher in Quran group than control group (2963 \pm 437.8 vs.2922 \pm 406.2) the difference statistically insignificance $p>0.05$,also the mean scores of Apgar score at 1 minute was slightly higher in Quran group than control group(8 \pm 2 vs.7.96 \pm 1.3). As well as at 5 minutes (9 \pm 2.4 vs.9.48 \pm 0.76). Moreover, percentage of newborn complications in Quran group were slightly lesser than reported newborn complications in control group (32% vs.40%). with statistically insignificant difference $p>0.05$.

Concerning; Mean score of anxiety was lesser in Quran group than in control group (3.66±1.3 vs. 4.42±1.68) with statistically significant difference p=0.004. Meanwhile mean pain coping score were higher among Quran group than control group (6.38±1.58 vs. 4.64±1.65) the

difference statistically significant p=0.0001. Mean score of visual analogue scale for pain was slightly lesser in Quran group 2.42±0.85 compared to 2.62±1.07 in control group. There was statistical in significant difference p>0.05 as reported in table 6, figure 3.

Table (1): Comparison of socio-demographic characteristics among both groups.

parameters	Studied groups				χ^2	p-value
	Intervention group N=(50)		Control group N=(50)			
Age						
Mean ±SD	28.16±6.1		27.78±5.2		t=0.33	0.74
range	18-40		27(19-40)			
Education						
Can't read and write	9	18.0	7	14.0	1.04	0.79
Basic education	17	34	14	28		
Secondary	13	26.0	15	30.0		
University	11	22.0	14	28.0		
Occupation						
Employer	11	22.0	10	20.0	0.06	0.81
House wives	39	78.0	40	80.0		
Residence						
Rural	24	52.0	16	32.0	2.1	0.1
Urban	26	48.0	34	68.0		
Listening to Quran						
Once a day	26	52.0	12	24.0	12.57	0.006 (S)
Few times a week	21	42.0	25	50.0		
Once a week	2	4.0	4	8.0		
Less than once a week (occasionally)	1	2.0	9	18.0		

χ^2 Chi square test (t)= student t test S= significant p<0.05.

Table (2): Comparison of obstetrics history among both groups.

	Studied groups				Test of sig.	
	Intervention group N=(50)		Control group N=(50)		p-value	
Gestation age / week						
Mean ±SD	38.67±1.18		37.94±3		t=1.64	0.105
Median(Range)	39(34-40)		38.5(25-40)			
No. of Gravity						
Mean ±SD	2.18±1.4		2.28±1.28		u=0.78	0.42
Median(Range)	2(1-6)		2(1-7)			
No. of Parity						
Mean ±SD	1.3±1.5		1.58±1.26		u=1.54	0.12
Range	0-6		0-5			
History of abortion	No.	%	No.	%	χ^2	p
No	45	90.0	45	90.0	0	1

Yes	5	10	5	10		
Still birth						
No	48	96.0	46	92.0	f	0.67
Yes	2	4.0	4	8.0		

(t) t test U=Mann Whitney U test f= Fisher Exact test p>0.05

Table (3): Comparison of labor outcome among both groups.

parameters	Studied groups				Test of sig.	p-value
	Intervention group N=(50)		Control group N=(50)			
Duration of first stage per hour						
mean± SD	8.22±5.8		12.44±8		u-2.34	0.019(S)
Median(Range)	9(0-18)		11(3-51)			
Duration of second stage/ minute						
mean± SD	30.4±13.2		41.28±43.6		u-0.55	0.58
Median(Range)	30(10-90)		30(0-180)			
Duration of third stage / minute						
mean± SD	10.58±4.2		10. ±9.5		u-1.75	0.08
Median(Range)	10(3-20)		7.5(0-35)			
Using of augmentation	no	%	no	%	χ^2	p
yes	34	68.0	30	60.0	0.69	0.404
no	16	32.0	20	40.0		
Using analgesic during labor						
yes	5	10.0	8	16.0	0.79	0.37
no	45	90.0	42	84.0		
Mode of delivery						
Spontaneous vaginal delivery	45	90	34	68	7.29	0.006(S)
Cesarean section	5	10	16	32		

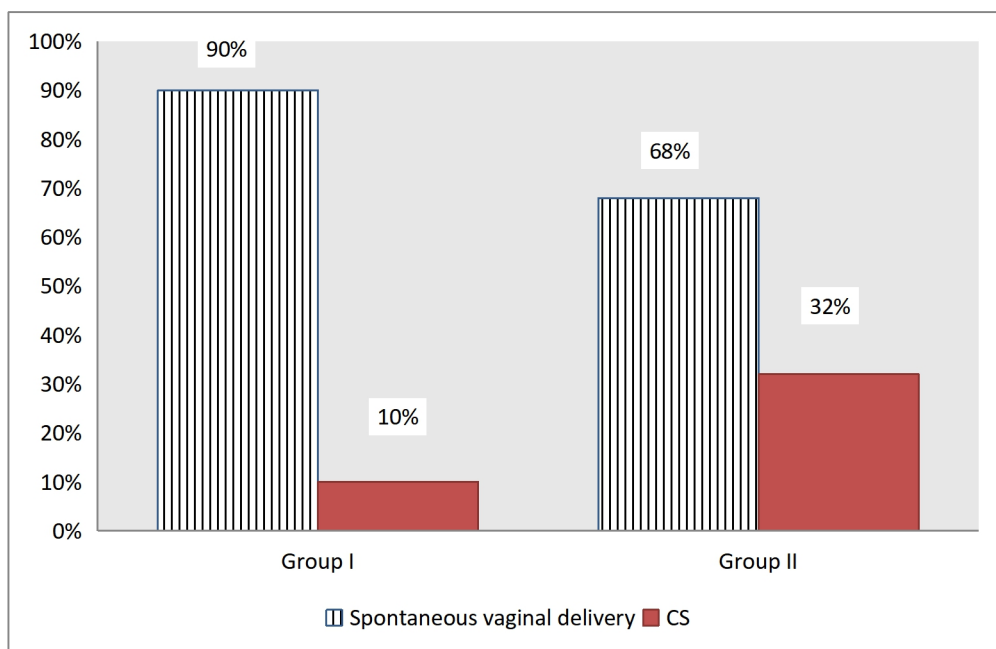


Figure (2) distribution of mode of delivery among studied groups

Table (4): Comparison of postpartum complications among both groups.

Parameters	Studied groups		χ^2 group	p-value		
	Intervention group N=(50)	Control N=(50)				
Estimated blood loss						
Mean \pm SD	546 \pm 216	528 \pm 254	U=0.48	0.62		
Median(range)	500 (150-1000)	500(150-1000)				
Immediate post -partum complication	no	%	no	%		
No	45	90.0	46	92.0	0.12	0.73
yes	5	10.0	4	8.0		
Types of complication						
Ruptured uterus	0	0.0	1	2.0	6.3	0.28
Post partum pyrexia	1	2.0	0	0.0		
3 rd degree perineal tears	2	4.0	0	0.0		
Retained placenta	2	4.0	1	2.0		
Admission ICU	0	0.0	1	2.0		
others	0	0.0	1	2.0		

U=Mann-Whitney U χ^2 =Chi square test P<0.05 significant

Table (5): Comparison of neonatal outcome between both groups.

Studied groups	Test of sig. p-value
----------------	----------------------

Parameters	Intervention group N=(50)		Control group N=(50)			
	no	%	No	%		
Baby condition						
living	50	100	50	100	f	0.24
Dead	0	0.0	0	0.0		
Birth weight/ gram						
Mean \pm SD	2963 \pm 437.8		2922 \pm 406.2		t=0.48	0.63
Apgar score at one minute						
Mean \pm SD	8 \pm 2		7.96 \pm 1.3		t=0.11	0.9
Median (Range)	8(0-10)		8(4-10)			
Apgar score at five minute						
Mean \pm SD	9 \pm 2.4		9.48 \pm 0.76		t=1.1	0.27
Median (Range)	10(9-10)		10(8-10)			
Newborn Complication	no	%	No	%	χ^2	p-value
no	34	68.0	30	60.0	0.69	0.404
yes	16	32.0	20	40.0		

(t)=t test χ^2 =Chi square test f= Fisher Exact test P<0.05 significant

Table (6): Comparison of labor pain, anxiety score, pain coping score and current labor experience among studied groups.

parameters	Studied groups		(U)	p-value
	Intervention group N=(50) No.(%)	Control group N=(50) No.(%)		
Visual analog scale for anxiety				
no	1(2)	1(2)		
Mild anxiety	21(42)	10(20)	2.9	0.004
Moderate anxiety	28(56)	36(72)		
Severe anxiety	0	3(6)		
Mean \pmSD	3.66 \pm 1.3	4.42 \pm 1.68		
Coping				
Unable to cope	7(14)	29(58)	4.9	0.0001
Able to cope	43(86)	21(42)		
Mean \pmSD	6.38 \pm 1.58	4.64 \pm 1.65		
Visual analog scale for pain				
Mild pain	24(48)	16(32)		
Moderate pain	23(46)	26(52)	1.5	0.13
Severe pain	3(6)	8(16)		
Mean \pmSD	2.42 \pm 0.85	2.62 \pm 1.07		
opinion				
As expected	19(38)	18(36)		
Mixed feeling	6(12)	11(22)	$\chi^2=14.5$	0.002

Worse than expected	7(14)	17(34)
Better than expected	18(36)	4(8)

U=Mann-Whitney U χ^2 =Chi square test P<0.05 significant

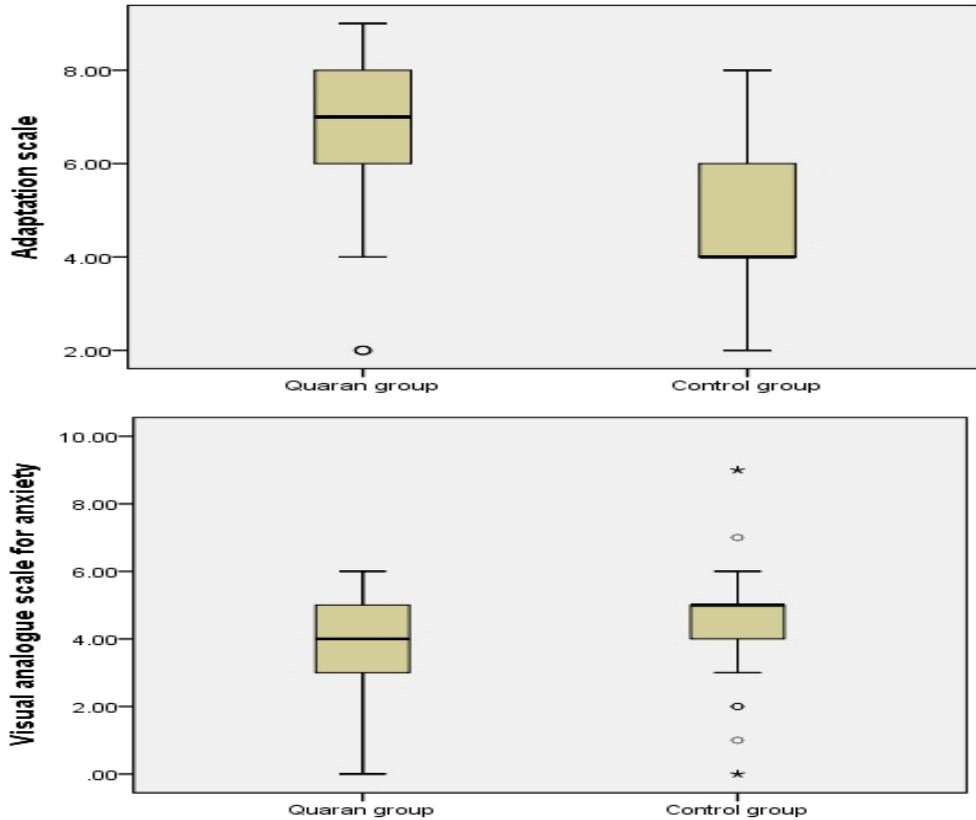


Figure (3) Median, range of pain coping scale, visual analogue scale for anxiety of the studied groups

Discussion

Childbirth produces a state of pleasure and enjoyment for most women, but it's associated with marked by pain and stress. Furthermore, the invasive procedures used in labor and delivery intensify these traumatic and stressful events. So the role for midwives to promote the use of non-pharmacological pain relief for parturient mothers (Bayrami and Ebrahimipour, 2014). Quran therapy has never been introduced or recommended to reduce labor pain in health centers. Current research was conducted to assess the impact of Qur'an during labor on its progress, maternal and neonatal outcome.

As regards labor staging duration; present study revealed that mean duration per hours of the first stage of labor was significantly shorter in the Quran group $p=0.019$ (8.22 ± 5.8 vs. 12.44 ± 8 in the control group), consistence with (Bayrami and Ebrahimipour, 2014). who reported that significant shorter duration of first stage of labor 3.3 ± 0.66 in Quran group than. 4.2 ± 0.55 in control group $p=0.001$.

Despite mean duration of labor in the second and third stage were shorter in the Quran group than in the control group, the difference statistically insignificant.

Exploring the effect of listening to Quran on anxiety score among studied women ;the present study defined that mean score of anxiety was somewhat less in Quran group than in control group (3.66 ± 1.3 vs. 4.42 ± 1.68) but difference statistically insignificance. Analogous to (Hamidiyanti, and Pratiwi, 2019) Who demonstrated that listening to Quran was effective in reducing anxiety in the interventional community . On the same line ,various studies have shown that music therapy is a valuable means of

relieving stress (Evans, 2002); (Yung, 2002).

The current study estimated mean pain coping score was higher among Quran group than control group (6.38 ± 1.58 vs. 4.64 ± 1.65) the difference statistically significant $p=0.0001$. Also the present study determined that mean score of visual analogue scale for pain was slightly lesser in Quran group 2.42 ± 0.85 compared to 2.62 ± 1.07 in control group put with no statistical difference $p>0.05$. Similar to Desmawati & Chatchawet (2019) showed that there were significant differences between the control and experimental groups in the perception of labor pain $p<0.001$ and pain behavior $p < 0.001$. Also Bayrami and Ebrahimipour, 2014). Revealed that listening to the Quran sound minimize the intensity of pain in the first stage of labor in nulliparous mothers. (Fanne 1998) also indicated that non-invasive methods of pain reduction, such as music, can be effective in relieving labor pain, especially in the first and third phases of nulliparous women. (Rezai et al. 2000) who found that music has pain-reducing effects in nulliparous mothers on the first stage of labor. Moreover, (Abbas et al 2016) reported that pain score was lower significantly among women listening to Quran during CS compared to control group either directly after surgery or during recovery. This may be attributed to mothers' relaxation caused by Quran recitation this may be due to the Holy Quran's harmonious sound being a form of spiritual music, which leads to endorphin production by influencing the brain and inducing alpha waves. It thus improves the stress threshold, eliminates negative emotions, creates a sense of relaxation and improves the immune system (Bayrami and Ebrahimipour, 2014), who conducted their research to determine the impact of Quran sound on labor pain & other

maternal & neonatal outcome and reports positive effects of Quran sound on neonatal outcomes. The interpretation of these results may be due to the relaxation of the mothers triggered by recitation from the Quran. So Quran likening can be used as a calming technique as a new alternative remedy, which is even better than other audio treatments because the Quran can produce delta wave which gives comfort and causes relief pain. This audio therapy also constitutes a cheap treat (Mirghafourv et al, 2016). In the Quran community, the total dose of postoperative analgesic use was also significantly lower. Anxiety score was significantly higher in the control group. besides all Muslims believe in God, believes in the wards of Allah (Quran), it was also written in the Holy Quran to bring good psychological condition, stability, comfort and pain management; thus reduce the level of adrenaline and then reduce pulse rate, blood pressure and respiratory rate. So that both maternal and neonatal outcomes can be improved. Auditory pathways show counter-effects, activation of the auditory pathway can play a vital role in confronting

Conclusion

Listening Quran as non-pharmacological modalities during labor, especially in women who are much more familiar with the Quran, had favorable effects on both maternal and neonatal outcomes.

Recommendations

From our findings researchers recommend that:

- Listening to the Holy Quran as non-pharmacological methods as a way to manage pain and anxiety, it can become a major issue of complementary and

nociceptive stimulus conduction Kissin, (1996).

Current research indicated that all babies born viable of both groups. The mean birth weight in the Quran group was slightly higher than the control group (2963 ± 437.8 vs. 2922 ± 406.2). In addition, the percentage of newborn complications in Quran group was slightly lower than control group (32% vs. 40%). The difference statistically insignificant. Present study estimated the mean Apgar score at first minute in the Quran group was slightly higher than the control group (8 ± 2 vs. 7.96 ± 1.3), Apgar score at five minute in the Quran group was slightly lower than the control group (9 ± 2.4 vs. 9.48 ± 0.76), the difference statistically insignificant.

Dissimilar with Abbas et al, (2016) revealed that significantly higher Apgar scores at 1 & 5 minutes in neonates of Quran-exposed mothers. Quran recitation had beneficial effects on the Apgar scores, and this is similar to previous findings on the beneficial effect of music on Apgar scores for newborns (Sen et al., 2009).

alternative analgesic treatment for women in the laboratory.

- Encourage women to listen to Quran during labor as one of the significant modalities to improve labor progress, manage pain, anxiety and attain more satisfactory birthing experience.
- Quran can enrich the non-pharmacological pain management in maternity nursing that is low-cost, easy to use, noninvasive, and provide significant benefits to women and their baby without causing additional harm.
- It is in the interest and consent of

policy makers and health care providers to consider the Quran as a non-pharmacological labor pain and anxiety management during labor.

- Further studies needed with large sample and with another religious women

Financial support

No funding was received

Conflicts of Interest Disclosure

The authors declare that there is no conflict of interest.

Acknowledgement

The researchers would like to thank the participating mothers, research assistants, and staff members who cooperated with the study.

References

- Abbas, A. M., El-Houfey, A. A., Abdelbadee, A. Y., Ali, M. K., Ali, S. S., Abdelrahman, R. M., and Tolba, S. M. (2016):** Effects of listening to Qur'an on maternal & neonatal outcomes among mothers undergoes cesarean section. *International Journal of Nursing, Midwife and Health Related Cases*, 2(2), 39-50.
- Adams, J., Frawley, J., Steel, A., Broom, A., and Sibbritt, D. (2015):** Use of pharmacological and non-pharmacological labour pain management techniques and their relationship to maternal and infant birth outcomes: examination of a nationally representative sample of 1835 pregnant women. *Midwifery*, 31(4), 458-463.
- Aitken, R. C. B. (1969):** Measurement of feelings using visual analogue scales. *Proc. R. Soc. Med.* 62, 989.
- Almerud, S and Petersson, K.(2003):** Music therapy--a complementary treatment for mechanically ventilated intensive care patients. *Intensive Crit Care Nurs.* ; 19(1) : 21 -30
- Chang, M.Y., Chen, C.H and Huang, K.F. (2008):** .Effects of music therapy on psychological health of women during pregnancy. *J Clin Nurs.*; 17(19) : 2580 -7 .
- Bayrami R and Ebrahimipour H(2014):** Effect of the Quran sound on labor pain and other maternal and neonatal factors in nulliparous women. *J Research Health*; 4(4): 898-902.
- Capogna, G., Camorcia, M., Stirparo, S., Valentini, G., Garassino, A., Farcomeni, A. (2010):** Multidimensional evaluation of pain during early and late labor: A comparison of primiparous and multiparous women. *Int J Obstet Anesth* ;19:167–70.
- Desmawati, W. K., and Chatchawet, W. (2019):** Effect of nursing intervention integrating an Islamic praying program on labor pain and pain behaviors in primiparous Muslim women. *Iranian journal of nursing and midwifery research*, 24(3), 220.
- El-Zanaty (2014):** Egypt Demographic and Health Survey Main Findings Ministry of Health and Population Cairo, Egypt .
- Eskandari, N., Keshavars, M., Ashayeri, H., Jahdi, F., & Hosseini, A. F. (2012):** Quran Recitation:Short-Term Effects & Related Factors in Preterm Newborns. *Res J Med Sci*, 6

- (3), 148-153.
- Evans, D. (2002):** The effectiveness of music as an intervention for hospital patients: a systematic review. *J Adv Nurs*, 37,8–18.
- Fanne G, (1998):** Progression of labor pain in primiparas and multiparas. *Nursing research*; 47 (2):214225.
- Hamidiyanti, B.Y, and Pratiwi, I.G (2019):** Effect of Listening to the Quran on Anxiety Level in Primipara. *Health, Spirituality and Medical Ethics*, 6(1), 52-56.
- Khatoni, A(1997):** The effect of reciting the quran on anxiety of patients hospitalized in the cardiac intensive care unit of the selected hospitals in tehran.; 1(39) : 22 -4
- Kissin, I. (1996):** Preemptive analgesia: why its effect is not always obvious. *Anesthesiology*, 84,1015-1019.
- Marshall, N.E., Fu, R., Guise,J.M.(2011):** Impact of multiple cesarean deliveries on maternal morbidity: a systematic review. *Am J Obstet Gynecol*; 205(3): 262 e1–e8.
- McCaffery, M and Asero C(1999):** Numeric Pain Rating Scale & (VAS): Pain:Clinical Manual, Mosby,.St. Louis,
- Miquelutti, M. A., Cecatti, J.G and Makuch, M.Y.(2013) :** Evaluation of a birth preparation program on lumbopelvic pain, urinary incontinence, anxiety and exercise: a randomized controlled trial. *BMC Pregnancy Childbirth.*; 13: 154.
- Rezaie –Abhari, F., Parhizkar, S., Yaghoobi, T(2000):** Investigation on the effect of music on the intensity of labour pain ; 5 (17, 18):36-44.
- Şen, H., Sizlan, A., Yanarateş, Kul, M., Kılıç, E., zkan, S., and Dağlı, G. (2009):**The Effect of Musical Therapy on Postoperative Pain after Caesarean Section. *TAF Prev Med Bull*, 8(2), 107-112.
- Simkin, P and Bolding, A.(2004) :** Update on nonpharmacologic approaches to relieve labor pain and prevent suffering. *J Midwifery Womens Health*; 49(6): 489–504.
- Smith, C.A., Collins, C.T., Crowther, C.A., Levett, K.M.(2011):** Acupuncture or acupressure for pain management in labour. *Cochrane Database Syst Rev.*; (7): CD009232.
- WHO (1994):** Preventing Prolonged labor:A practical Guide(the Partograph Parl:Principles and Strategies). Geneva:WHO.
- Wong, D and Whaley,L (1986):** The Pain Intensity Scale: 0 to 10. Adapted from " Wong–Baker Faces Pain Rating Scale " in *Clinical Handbook of Pediatric Nursing* (2nd ed., p. 373), St. Louis, MO: C.V. Mosby Company, for " Pain Medications for Labor & Birth "
- Yung, P. M., Chui-Kam, S., French, P., & Chan, T. M. (2002):** A controlled trial of music & pre-operative anxiety in Chinese men undergoing transurethral resection of the prostate. *J Adv. Nurs*, 39, 352–359.