

# Effect of Listening to Holy Quran on Maternal and Neonatal Outcomes among Muslim Primiparous during the Active Phase of Labor

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**Abstract:** During labor women suffering from an intense painful and traumatizing pain. Anxiety and pain are closely interrelated. Non- pharmacological interventions can affect maternal and neonatal outcomes in a positive way. Aim of this study was to evaluate the effect of listening to Holy Quran on maternal and neonatal outcomes among Muslim primiparous during the active phase of labor. Design: A quasi experimental design was utilized. Study sample: A purposive sampling of (128) Muslim primiparous was divided randomly into two groups assigned to either Qur'an listening group or Non- Quran group. Tools of data collection: Visual Analogue Scale, Beck Anxiety Inventory, Apgar score and data to evaluate hemodynamic parameters were used. Results: The present study finding showed that in 1<sup>st</sup>, 2<sup>nd</sup> & 3<sup>rd</sup> hours of active phase after listening Quran there were statistically significant differences in labor pain, anxiety and hemodynamic parameters for the Quran group than the Non-Quran group ( $p= 0.001$ ) in favor of the Quran group. Also, there was a statistically significant difference was found at the 5<sup>th</sup> minutes Apgar score between the two groups with improvement in Quran group. Regards the neonate's admission to intensive care unit the findings revealed that only (3.1%) newborns were admitted to ICU in Quran group compared to (15.6%) in the Non- Quran group. Conclusion: Listening to Qur'an is non-pharmacological effective measure for reducing labour pain, anxiety level, hemodynamic parameters of mothers also affected positively on neonatal outcomes. Recommendations: Integrating listening to Holy Quran as a non-pharmacological method to reduce pain, anxiety and improve neonatal outcomes in nursing care protocol for caring women during labor.

**Keywords:** Apgar score, listening to Qur'an, Neonatal Intensive Care. Normal labor, Pain, Primiparous.

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## 1. INTRODUCTION

Women experience psychological and physiological changes during pregnancy and labor that generate stress (Lin et. al., 2019). Women's anxiety rises with the onset of labor, this has a detrimental effect on both mother and the newborn (Zijlmans et. al., 2017). The incidence of anxiety among pregnant women is higher compared to general population (27% vs. 5%) and levels of complications in anxious women were significantly higher (Lin et al., 2019).

Labor pain is one of the most extreme pain among human beings around the world, during childbirth, extreme uterine contractions widened the cervix, causing the woman to experience intense pain (Shnol et al., 2014). It has been generally accepted that if pain control wasn't done properly, the parturient women's tolerance would decrease promptly as a series of inflammatory cytokines in plasma were associated with labor pain (Rhee et al., 2015). Considering the severity of labor pain, various degrees of hypertension and heart rate rises will likely serve a negative role in women's health, also affecting maternal and newborn relationship (Gau & Kao, 2013).

The major psychological adverse outcomes of pregnancy include stress, anxiety, and depression (Nasreen et al., 2010). Symptoms of anxiety and stress during pregnancy were contributed to low birth low birth weight and preterm delivery, abnormal Apgar score and hence admission to intensive care unit (Mirghafourvand et al., 2016 & Sanchez et al., 2013). According to parents' experience (Polkki et al., 2012), indicated that music therapy alleviated stress, crying and enhanced sleep in infants. Music therapy also reduced depression (Loewy et al., 2013) and enhances sucking in premature infants (Standley, 2012). Studies have shown that fetus feel more comfortable when their mothers regularly read the same book, indicating that memory is already well established as the book of Quran (Suciati, 2015).

Nurses remain in constant and consistent contact with laboring women and therefore play a crucial role in understanding meaning and consequences of pain during labor. In labor, both non-pharmacological and pharmacological methods can be useful for pain control. Among the pain management strategies which are not pharmacological methods of pain relief, music therapy, massage and hot application are proved to be effective techniques for management of labor pain (Nayak et al., 2014).

Music therapy is one of non-pharmacological and effective method to alleviate and promotes thresholds for stimulation and pain (Kuczkowski, 2012). Music has several therapeutic properties, both physical and emotional. Music decreases the need for medical therapy and contributes to decreased heart rate and respiration and blood pressure (Salimi et al., 2014). One of the most beautiful, attractive and natural types of music is the music of Quran recitation sound. Quran is the holy book of Muslims which covers all aspects of human life (Babaei, 2017). Treatment of diseases may be one of the numerous effects of its divine verses and revealing this effect is one of the duties of Muslim physicians (Ghanei, 2012). God says: "And we send down of the Quran that which is healing and mercy for the believers" [Al-Isra/82]. Amir Al-momenin Ali said, "Quran is the healing of all pains". The holy prophet also said: if anybody does not get his healing from Quran, God will not heal him.

Mothers who are struggling against labor pain, Allah the Almighty will give them a great reward to increase pain-coping behaviors (Samieizadeh, et al., 2011 & Say, 2011). The tremendous effect of this blessing is such that in some Islamic countries and societies, patients have turned to Quran and prayer to heal their physical and spiritual diseases. It has been scientifically proven that listening to the Quran recitation sound can reduce mental stresses (Saged et. al., 2018). In Quran therapy it is always emphasized on that Quran is very effective in treatment of people with various medical conditions. In this regard, "prayer and spiritualities" have been raised in other countries, such that their therapeutic effects have been investigated in different studies. These studies have been conducted on patients with cardiovascular diseases, Rheumatoid arthritis, brain vascular injuries and so on (Nilsson, 2008).

Nurses are responsible to provide physical, psychological and spiritual care for each patient (Dossey & Keegan, 2013). To prepare for birth, nurses must consider cultures and beliefs to increase pain coping behaviors (Farnes et al., 2011 & Yilmaz et al., 2013). The patient's psychological dimension is very significant in growing habits and distress that cope with pain (Callister & Khalaf, 2010). Therefore, nurses play a significant role in promoting care that supports labor to prevent unnecessary medical procedures. Of all caregivers, nurses are the ones who have the greatest ability to provide comfort when maintaining natural birth physiology (Adams et al., 2016 & Johnson et al., 2018).

## 2. SIGNIFICANCE OF THE STUDY

Listening to recitation of the Holy Qur'an is easily identifiable Islamic repentance to the Muslim faith. Those values will certainly cultivate the mind and soul. The repentance therefore has a supernatural power from one's mind to alleviate anxiety and tension like psychological pessimistic matters. In addition, listening to the recitation of the Holy Quran will ease and relax a troubled mind. Hence it can be used as the therapeutic agents in some cases (Salam et al., 2013). One of the efforts to promote fetal growth and development is by listening to or reading the Qur'an verses. If it is performed by pregnant women, Quran will relax her and her baby's mind and encourage both the fetus' knowledge and attempts to incorporate God and faith from an early age (Suciati, 2015).

The Prophet Muhammad peace is upon him (pbuh) himself instructed his followers to Dua (prayer) in times of stress, for example Surah Al Fatiha as Ruqya it is a dua to Allah for cure against disease (Hadith Al Bukhari). Also, Surah Yassin, most commonly used Islam followers as one way of recovering or peaceful during sickness (Bakar, 2014). Therefore, such researches are urgently required. They will attempt to investigate the value of applying inexpensive, non-invasive

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procedures that have negative effect on pain & anxiety control; lower hemodynamic parameters and boost neonatal outcomes among women undergoing vaginal delivery in "Egyptian Muslims." Such knowledge could open the way for Quran Listening to be added as a complementary way to manage pain & anxiety in midwifery practices.

### 3. AIM OF THE STUDY

This study aimed to evaluate the effect of listening to Holy Quran on maternal and neonatal outcomes among Muslim primiparous during the active phase of labor through:

1. Assess the effect of listening to holy Quran on pain, anxiety & hemodynamic parameters among Muslim primiparous during the active phase of labor.
2. Assess the effect of listening to holy Quran on neonatal Apgar score & admission to Intensive care unit.

### 4. RESEARCH HYPOTHESIS

It was expected that Muslim primiparous who listened to Holy Quran exhibit positive effect in level of labor pain, anxiety, hemodynamic parameters and neonatal outcomes than those who didn't.

### 5. SUBJECTS & METHOD

**Study Design:** A quasi-experimental design was utilized to achieve the aim of this study.

**Study Setting:** The study was carried out at labor and delivery unit in Mansoura University Hospitals during the period from the beginning of September 2019 to the end of February 2020, the previous setting consists of room for examination, a big room consists of six beds, a room for pre-eclamptic patient, a room for ultrasound, and postnatal room. Nearly more than 80 patients per month visit the unit for delivery in three days per week (Sunday, Tuesday & Thursday).

**Sample type:** A purposive sampling was used.

**Study Sample:** One hundred twenty-eight Muslim primiparous who admitted to predetermine setting were recruited in the study, according to the following criteria:

**Inclusion criteria:**

- Being in term pregnancy (37 to 41 week).
- Normal pregnancy.
- Primiparous.
- Pregnant with fetus of cephalic presentation.
- Normal birth.

**Exclusion criteria:**

- Having hearing impairment.
- Using analgesia or antipsychotic medications.
- Intrauterine fetal death.

**Sample Size:**

The sample size was calculated using G 'power' version 3.1, according to the previous study conducted by **Gallo et al., (2013)** reported that pain severity was 52mm (SD 20) in intervention group and 72mm (SD 15) in control group. Where effect size = 0.50 with a significance level ( $\alpha = 0.05$ ) at two-sided independent samples t- test with statistical power = 80%. The calculated total sample was (128) women.

**Groups' Allocation:**

Using a closed envelope containing Quran Group or non-Quran Group cards, one hundred twenty-eight Muslim primiparous women who underwent normal delivery were randomly assigned to two different groups of sixty-four.

Laboring women in relation to Quran group were listened to the Holy Quran and received daily hospital care. The women laboring in the non-Quran group received only routine care.

#### **Tools of data collection:**

Data were collected through

**Tool I: A Structured Interview Questionnaire:** This was developed by the researchers after reviewing relevant literatures and consisted of socio-demographic data of laboring women as age, level of education, residence and lifestyle listening to Quran.

**Tool II: Visual Analogue Scale (VAS).** It was adopted from **Aslan, (2006)**. It is a simple and effective instrument for assessing the pain intensity. VAS consisted of a 10 cm line drawn in horizontal or vertical direction. Two distinguishing sets of subjective categories are written as "no pain" and "most extreme pain possible" or "unbearable pain" at two ends of the sheet. The woman had been told to draw a mark accordingly on this line. The distance from the lowest point on VAS to the patient's mark is determined with a ruler in cm or mm, and the pain intensity index is obtained numerically.

**Tool III: Beck Anxiety Inventory (BAI).** It was adopted from **Beck et al., (1988)** it consisted of 21 self-report items which assess distinct anxiety symptoms from depression. Woman is asked on a 4-point Likert-type scale ranging from 0 (not at all) to 3 (severe) to answer each object. Potential scores range from (0 to 63), with high scores showing a severe anxiety.

**Tool IV: Hemodynamic parameters tools.** It included watch or another timer to measure the Woman's heart rate and respiratory rate for full one minute with normal rate (60: 100b/m & 12:20 c/m respectively). Sphygmomanometer (Blood pressure measuring cuff with stethoscope) to measure systolic & diastolic blood pressure.

**Tool V: Apgar score.** It was adopted from (**Apgar, 1953 & Casey et. al., 2001**). It is used to assess the condition of newborns, it is a 10-point assessment score typically recorded at 1 and 5 minutes after birth and consists of five items: heart rate, respiratory effort, muscle tone, reflex irritability and color; each of which has a score of 0, 1, or 2. Total score = 10, normal = 7-10, mild asphyxia = 4-6, severe asphyxia = 0-3. Also question related to requirement of the neonate to be admitted to the intensive care unit, answered by (a) Yes = (1) and (b) No = (0).

#### **Content validity of the tools:**

Five jury experts and specialized university professors in the field of women's health and midwifery nursing reviewed tools to check the validity of the content, changes were considered according to their comments.

#### **Reliability of the tools:**

The reliability analysis was used to verify the relevance of the questionnaire elements to each other. Test re-test was used for visual analogue scale of pain it was (0.93) & Apgar score was (0.79). Cronbach's alpha was used for Beck Anxiety Inventory (BAI) it was (0.82). So, the study tools were reliable.

#### **Ethical Considerations:**

Approval from the head of woman health and midwifery department, then permission from an ethics research committee of the faculty of the nursing Mansoura University, otherwise a letter of approval from the Director of Mansoura University Hospital (MUH) was obtained for the implementation of this report. Each laboring woman had obtained informed consent before intervention. They were made aware of their rights to refuse to involve or withdraw at any time. Study maneuver can't hurt the participants and data collection tools did not affect moral, religious political or cultural issues of laboring women.

#### **Pilot Study:**

Thirteen laboring women were recruited to conduct the pilot study from 1/8/2019 until 29/8/2019 to evaluate the applicability and clarity of the questionnaire. According to statistical analysis of pilot study, modification was considered as change some words to be understood. These women were excluded from the study sample.

**Data collection procedure:**

- The fieldwork was carried out from the beginning of September 2019 to the end of February 2020. The study was carried out through three phases.

- **Preparatory phase:** After reviewing the relevant literatures, the researchers prepared and designed data collection tools. Official permission was obtained from the director of Mansoura university hospitals; head of woman's health and midwifery nursing department and from the faculty of nursing ethical committee to conduct the study. Then the pilot study was carried out.

**-Implementation phase:**

▪ The researchers met each laboring woman who fitted the inclusion criteria individually, at the labor unit at Mansoura university hospitals on days of Sunday, Tuesday and Thursday. The researchers started by introducing themselves to each woman in the study, greet the woman, making them feel secure, explaining the study's intent and obtaining written consent from them. Researchers began with women in non-Quran group first then the women in Quran group to consider ethical issues of distributing care of the women.

▪ **Non-Quran group.** The researchers collected data of the non-Quran group from the period of 1/9/2019 until 28/11/2019. At first the researchers asked women about their sociodemographic characteristics as age, educational level, residence & lifestyle listening to the Holy Quran. No additional practices were done for the non-Quran group except the routine care provided. Labor pain, anxiety level & hemodynamic parameters of the laboring women as systolic blood pressure, diastolic blood pressure, heart rate and respiratory rate were assessed at the beginning of the active phase where the cervical dilatation = 3: 4 cm (pretest) and (after 1<sup>st</sup>, 2<sup>nd</sup> & 3<sup>rd</sup> hours of the active phase) as (posttest).

▪ **Quran group.**

- The researchers met each laboring woman included in this group individually, who fitted the inclusion criteria at the labor unit at Mansoura university hospital on days of Sunday, Tuesday and Thursday. Firstly, the researchers collected data from the period of 1/12/2019 until 27/2/2020. At first the researchers asked women about their sociodemographic characteristics as age, educational level, residence & lifestyle listening to the Holy Quran.

- Then labor pain, anxiety level & hemodynamic parameters of the laboring women as systolic blood pressure, diastolic blood pressure, heart rate and respiratory rate were assessed at the beginning of the active phase where the cervical dilatation = 3: 4 cm (pretest).

- After that women were asked to listen to Surah Yassin and (13) verses of the Quran (1) Ar-Ra'd 13; number 8, (2) Az-Zumar 18 & 39, (3) Alfath; 4, (4) Al-Ghafir 40:60, (5) ArRahman; 15, (6) Maryam;16, (7) Al-Israa; 82, (8) Hood; 56, (9) Al-Fatiha2:7, (10)An -Nahl; 78, (11) Abasa 20, (12)Al-Imran ; 38-39 (13) Ibrahim; 40 with the voice of Syekh Al-Menshawi recitation by a CD-player through an occlusive headphone for 30 minutes then hold listening for another 30 minutes after that measure level of pain, anxiety level & hemodynamic parameters as (1<sup>st</sup> hr. measure) then listen 30 minutes then hold listening for another 30 minutes after that measure level of pain, anxiety level & hemodynamic parameters as (2<sup>nd</sup> hr. measure), finally listen 30 minutes then hold listening for another 30 minutes after that measure level of pain, anxiety level & hemodynamic parameters as 3<sup>rd</sup> hr. measure).

- **Evaluation phase:** Labor pain, maternal anxiety & hemodynamic parameters of women were assessed 3 times at 1<sup>st</sup>, 2<sup>nd</sup> & 3<sup>rd</sup> hours after cervical dilatation measured 3:4 cm during the active phase. Then after the fetus was delivered, the newborn's condition was assessed at (1minute & at 5 minutes) of birth by Apgar score, and which his condition required to be admitted to intensive care unit or not.

**Statistical Analysis:**

Data were analyzed using SPSS (Statistical Program for Social Science) 19 for Windows package program. Categorical measures were expressed using numbers and percentages while the means and standard deviations were used to represent numerical measures. To compare between variables of the studied groups, Chi-square test was used for categorical variables while, Independent group's t-test was applied for numerical measurements. The statistical significance p-value < 0.05 was considered (*Krzywinski & Altman, 2013*).

6. RESULTS

Table (1): Distribution of the studied groups according to their socio-demographic characteristics.

Variables	Quran Group (n= 64)	Non-Quran Group (n= 64)	Significant test
Age in (years)	27.77 ± 3.90	26.95 ± 3.81	t=1.19 0.24
<b>Educational level</b>			
Read & Write	9 (14%)	8 (12.5%)	X <sup>2</sup> = 0.52 p= 0.91
Primary education	22 (34.4%)	19 (29.7%)	
Secondary education	28 (43.8%)	31 (48.4%)	
University education	5 (7.8%)	6 (9.4%)	
<b>Residence</b>			
Rural	56 (87.5%)	53 (82.8%)	X <sup>2</sup> = 0.56 p= 0.46
Urban	8 (12.5%)	11 (17.2%)	
<b>Lifestyle listening to Quran</b>			
Once/ day	28 (43.8%)	25 (39.1%)	X <sup>2</sup> = 0.29 p= 0.59
Once/ week	36 (56.2%)	39 (60.9%)	

Table (1): Shows the mean age of the Quran group was (27.77 ± 3.90) compared to (26.95 ± 3.81) in the Non-Quran group. There were no statistically significant differences in relation to age, educational level, residence & lifestyle listening to Quran between them (p= 0.24, p= 0.91, p= 0.46 & p =0.59 respectively).

Table (2): Mean differences within and between the studied groups regarding Visual Analogue Scale for pain during the active phase.

VAS (Pain)	Quran group (n= 64)	Non- Quran group (n= 64)	t -test	p- Value
	Mean ± SD	Mean ± SD		
At beginning of the active phase	4.39 ± 0.55	4.42 ± 0.50	0.34	0.74
After 1 hour	5.06 ± 0.73	5.73 ± 0.45	6.27	0.001*
After 2 hours	6.13 ± 0.49	6.91 ± 0.77	6.85	0.001*
After 3 hours	7.22 ± 1.02	8.16 ± 0.93	5.45	0.001*

\*Significant at p ≤0.05.

Table (2): Demonstrates no significant differences were found between the both groups regarding level of labor pain at beginning of the active phase (p > 0.05). While after 1<sup>st</sup>, 2<sup>nd</sup> & 3<sup>rd</sup> hours of active phase there were statistically significant differences in labour pain for the Quran group than the Non- Quran group (p= 0.001).

Table (3): Mean differences within and between the two groups regarding Beck Anxiety Inventory (BAI) Scale during the active phase.

BAI (Anxiety)	Quran group (n= 64)	Non -Quran group (n= 64)	T -test	p-Value
	Mean ± SD	Mean ± SD		
At beginning of the active phase	27.83 ± 3.88	28.66 ± 3.64	1.25	0.22
After 1 hour	31.31± 3.52	34.11± 0.98	6.12	0.001*
After 2 hours	34.42 ± 1.22	38.34 ± 2.14	12.74	0.001*
After 3 hours	36.45 ± 1.81	41.45 ± 4.32	8.99	0.001*

\*Significant at p ≤0.05



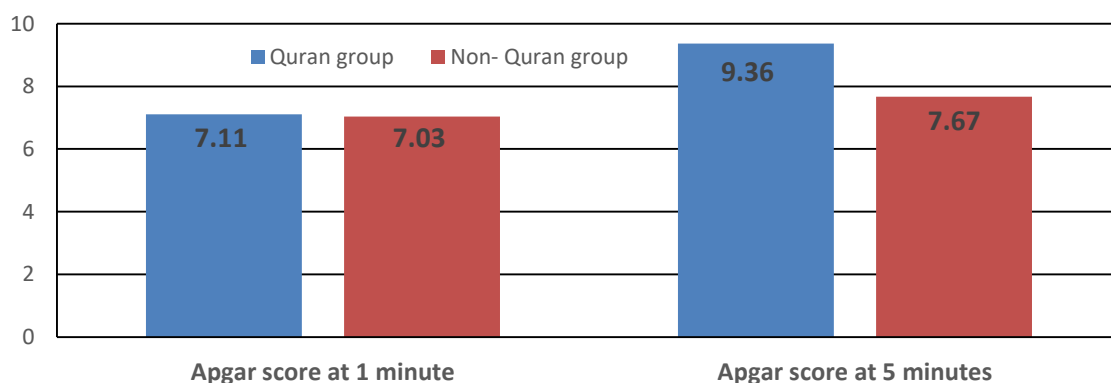
**Table (3):** Exhibits no significant differences were found between the Quran and Non-Quran groups regarding maternal anxiety at beginning of the active phase ( $p > 0.05$ ). While after 1<sup>st</sup>, 2<sup>nd</sup> & 3<sup>rd</sup> hours of active phase there were significant differences in Beck anxiety scale in favor of the Quran group compared to the Non- Quran group ( $p= 0.001$ ).

**Table (4): Mean and standard deviation distribution of Hemodynamic Parameters within and between the two groups during the active phase.**

Hemodynamic Parameters		Quran group (n= 64)	Non- Quran group (n= 64)	t -test	p-Value
		Mean ± SD	Mean ± SD		
Systolic Bl.p (mmhg)	At beginning of the active phase	110.4 ± 11.87	112.31 ± 12.14	0.86	0.39
	After 1 hour	102.63 ± 9.91	109.88 ± 9.74	4.18	0.001*
	After 2 hours	97.34 ± 9.51	105.14 ± 8.08	4.99	0.001*
	After 3 hours	91.09 ± 8.14	103.09 ± 5.35	9.85	0.001*
Diastolic Bl.p (mmhg)	At beginning of the active phase	85.08 ± 6.27	84.23 ± 4.98	0.84	0.40
	After 1 hour	80.45 ± 5.71	83.42 ± 4.55	3.25	0.001*
	After 2 hours	76.95 ± 4.98	81.66 ± 5.06	5.30	0.001*
	After 3 hours	71.41 ± 5.81	78.36 ± 3.98	7.90	0.001*
Heart rate (beat/min)	At beginning of the active phase	92.42 ± 12.10	93.30 ± 11.45	0.42	0.68
	After 1 hour	84.69 ± 10.50	90.83 ± 11.25	3.19	0.002*
	After 2 hours	77.03 ± 9.03	86.64 ± 8.34	6.25	0.001*
	After 3 hours	74.89 ± 8.88	82.98 ± 6.41	5.91	0.001*
Respiratory rate (breath/min).	At beginning of the active phase	13.91 ± 1.61	14.36 ± 1.69	1.55	0.12
	After 1 hour	14.77 ± 1.07	17.58 ± 1.49	12.29	0.001*
	After 2 hours	16.56 ± 1.63	19.39 ± 1.45	10.35	0.001*
	After 3 hours	17.06 ± 1.42	19.53 ± 1.30	10.26	0.001*

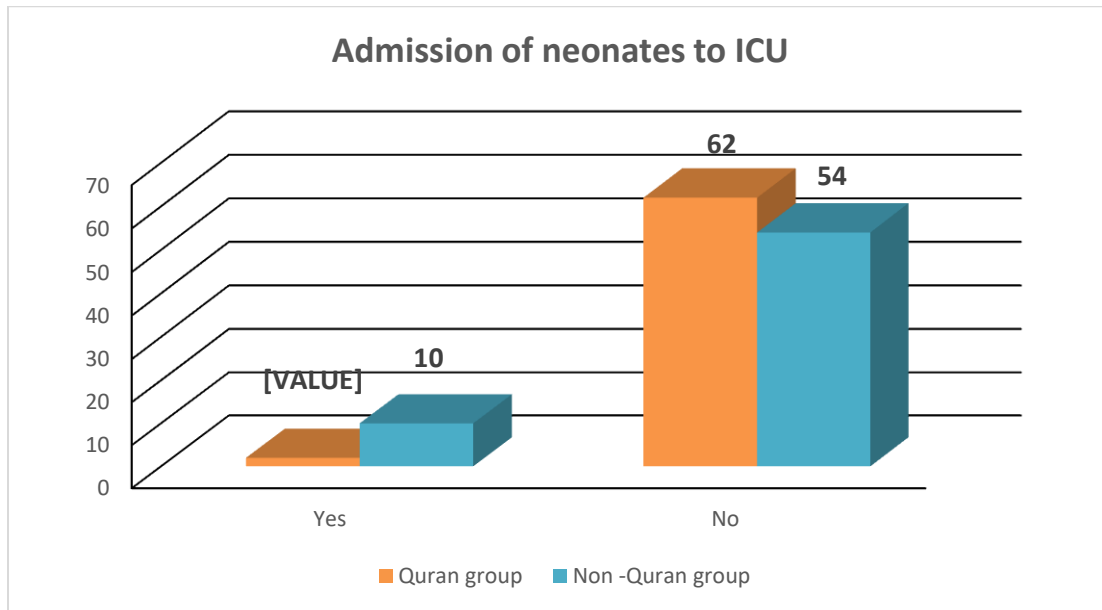
\*Significant at  $p \leq 0.05$

This table illustrates no significant differences were found between the Quran and Non-Quran groups in terms of systolic, diastolic Bl. p, heart rate & respiratory rate at beginning of the active phase ( $p > 0.05$ ). While after 1<sup>st</sup>, 2<sup>nd</sup> & 3<sup>rd</sup> hours of active phase the hemodynamic parameters in the Quran group lowered significantly than the Non- Quran group ( $p= 0.001$  &  $0.002$ ).



**Figure (1): Mean differences within and between the two groups regarding Apgar score.**

**Figure (1)** A statistically significant difference was found at the 5<sup>th</sup> minute Apgar score between the two groups compared to the 1<sup>st</sup> minute.



**Figure (2):** Distribution of the neonates according to admission to intensive care unit.

This figure reveals only 2(3.1%) newborns were admitted to ICU in Quran group compared to 10 (15.6%) in the Non-Quran group.

## 7. DISCUSSION

The recent study aimed to evaluate the effect of listening to Holy Quran on maternal and neonatal outcomes among Muslim primiparous during the active phase of labor. Findings of this study revealed presence of statistically significant differences between the studied groups whereas, the level of labor pain, anxiety, hemodynamic parameters in each time point (first, second & third hours) of the active phase of labor were lowered in favor of the Quran group. Also, there was a statistically significant difference between the two groups whereas, neonatal outcomes were improved in favor of the Quran group. Results of the present study support the research hypothesis that Muslim primiparous who listened to Holy Quran expected to exhibit positive effect in level of labor pain, anxiety, hemodynamic parameters and neonatal outcomes than those who didn't.

The current study revealed that primiparous women who were listened to Quran experienced lower level of pain in each time point (first, second & third hours) of the active phase of labor compared to the Non- Quran group. This may be due to positive effect of Quran on labour pain, as Allah Almighty says, Quran promotes healing and mercy to those who believe, and it increases and wrong doers nothing but loss. (Al-Israa, 82], AL Quran Alkareem). Moreover "Those who hearts, are assured by the remembrance of Allāh (Sura Ar-Ra'd verse: 28). Also, ALLA says, He it is Who sent down A Sakīnah into the hearts of the believers, that they may grow more in Faith along with their (present) Faith. And to Allāh belong the hosts of the heavens and the earth, and Allāh is Ever All-Knower, All-Wise (Sura Al-Fath verse: 4) (Al-Quran Alkareem).

In addition, Hadith Tirmidzi number 3479 (From Abu Hurairah, Prophet Muhammad (peace be upon him) said "praying to Allah with faith will be granted, Allah will not answer prayer from a careless heart." Thus, those praying for their pain were more likely to improve positively in pain behaviors, as the more pain, the more surrendering oneself to Allah. Passive prayer is widely used among Muslim women to reduce pain for example listening to surahs (Ar-Rahman, 27 & Maryam, 16; Al-Quran Alkareem).

This result was in the same line with Desmawati et al., (2019) labor pain behaviors in primiparous women after integrating an Islamic praying program. They reported a statistically significant difference in favor of the intervention



group. Also, **Esmacili et al., (2019)** who investigated effect of Quranic verses on the intensity of labor pain. They reported frequency of pain was significantly different in the intervention group and women felt less pain during the 4<sup>th</sup> and 5<sup>th</sup> hours of the active phase. Another similar study of **Bayrami & Ebrahimipour, (2014)** studied maternal and neonatal factors in nulliparous after listening to sound of Quran. They reported that Quran sound had an effect on the intensity of pain in the first stage of labor in nulliparous mothers. On the other hand, another contradicted trial by **Liu et al, (2010)** who studied labor pain and anxiety of Taiwanese primiparous after implementing music therapy. They reported that pain and anxiety in the latent phase were significantly lowered in Quran group, with no difference in the active phase.

Regarding maternal anxiety, the present study reported that the Quran group had significantly lowered anxiety level than the Non- Quran group during the three measures of the active phase. This can be interpreted as sound of Quran can reduce anxiety and improve an individual mental health as ALLA Almighty says in " We send down (stage by stage) to those who believe in the Quran what is a blessing and a mercy: to the unjust it causes nothing but loss after loss (**SuraAl-Israa, verse: 82**) ( **Al-Quran Alkareem**). Also, I put my trust in Allâh, my Lord and your Lord! There is not a moving living, but He has the grasp of its forelock, Verily, my Lord is on the Straight Path. (**Surah, Hood: verse 56**) (**Al-Quran Alkareem**). Besides Allah says, " All the praises and thanks be to Allâh, the Lord, The Most Gracious, the Most Merciful, The Only Owner of the Day of Recompense, You we worship, and You we ask for help, Guide us to the Straight Way, The Way of those on whom You have bestowed Your Grace, not (the way) of those who earned Your Anger (**Surah Al-Fatiha, verse 2:7**) (**Al-Quran Alkareem**).

The present study results agreed with **Saged et al., (2018)** who studied impact of Quran in treatment of the psychological disorder and spiritual illness, proved that the Holy Quran's sound is an effective therapy for those who suffer as distress from spiritual and psychological issues. Also, **Sahmeddini et al., (2014)** studied serum cortisol levels and anxiety in primiparous listened to Quran during the first stage of labor. They reported recitation of Quran affected positively on reducing anxiety level during the active phase of labor.

Concerning maternal hemodynamic parameters, the current study findings reported that maternal vital signs (systolic & diastolic Bl. p, respiration & heart rate) were lowered significantly at the 1<sup>st</sup>, 2<sup>nd</sup> & 3<sup>rd</sup> hrs. of the active phase of labor in the Quran group compared to the Non- Quran groups. The previous results can be interpreted as listening to Quran affect positively on reducing labor pain and anxiety and produce a state of comfort and relaxation that lead to lowering hemodynamic parameters. Furthermore, Muslims believes in the wards of Allah (Quran), `as it promotes a state of wellbeing and relaxation both physically and psychologically, which decrease level of adrenaline and then reducing heart rate, blood pressure, and respiratory rate.

These results were agreed upon with **Abbas et al., (2016)** they reported that pulse rate, blood pressure, and respiratory rate were lowered significantly in the Quran group than in the Non-Quran group. Also, this study findings were in accordance with **Simavli et al., (2014)** who studied effect of music on labor pain relief, anxiety level and postpartum analgesic requirement. They reported that maternal systolic, diastolic blood pressure & heart rate in the music group were lowered compared to the control group.

Regarding the neonatal outcomes in both groups, the current study revealed that the Apgar mean scores at (1<sup>st</sup> & 5<sup>th</sup> minutes) after birth were higher among newborns whose mothers had listened to the Holy Quran. Moreover, decreased number of neonates that were admitted to NICU in the Quran group compared to the Non- Quran group. It can be interpreted as listening to Quran affects not only on adults but also on fetuses as Allah Almighty says, who listen to speech and follow the best of it. Those are the ones Allâh has guided, and those are people of understanding (**Az-Zumar: Verse 18**) (**Al-Quran Alkareem**).

The previous result agreed with the study of **Bayrami & Ebrahimipour, (2014)** & **Sen et al., (2009)**, reported higher Apgar score in the intervention to the control one. In addition to the result of **Abbas et al., (2016)** they found a significant higher Apgar scores at 1 & 5 minutes for newborns whose mothers assigned to Quran recitation. Also, decreased number of neonatal admission to NICU in the Quran group. Hence it was interpreted that the Quran group had improved maternal and neonatal outcomes than the Non-Quran group which showed that listening to the Holy Quran affected positively on maternal and neonatal outcomes during the active phase of labor.

## 8. CONCLUSION

Findings of the study, highlighted that listening to Quran promote harmonization of mind, body, and spirit. Listening to Qur'an is an effective intervention for reducing pain, anxiety level, hemodynamic parameters among primiparous women, also affected positively on neonatal Apgar scores and hence reduced admission to Intensive care unit. So, it can be used as a non-pharmacological pain therapy for laboring women.

## 9. RECOMMENDATIONS

- Integrating listening to Holy Quran as a non-pharmacological method to reduce pain, anxiety and improve neonatal outcomes in nursing care protocol for caring women during labor.
- Religious beliefs and healing practices must be integrated in undergraduate nursing curriculum.
- Further study is need for exploring the effect of Listening to Holy Quran in high risk pregnancy conditions.
- Additional large-scale studies are required to examine the effects of Qur'an on physiological & psychological symptoms during childbirth.

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### Conflicts of Interest Disclosure

Nothing to declare by the authors.

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