Effect of Distraction technique and Relaxation Exercise on Anxiety Level and Quality of Life among Threatened Preterm Labor Women

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Abstract:

Background: Maternal prenatal anxiety plays an obvious role in adverse obstetrical problems such as preterm labor and low birth weight. Distraction technique and relaxation exercise can reduce the anxiety level and improve quality of life among threatened Preterm Labor women. **Aim**: this research aimed to evaluate the effect of distraction technique and relaxation exercise on anxiety level and quality of life among threatened Preterm labor women. **Design**: the study used a quasi-experimental design. **Methods:** the study included 200 pregnant women who diagnosed with threatened preterm labor in which they divided into intervention and control group (100 women for each group). **Setting**: Obstetrical and gynecological inpatient department at Suez Canal university hospitals, Ismailia Governorate, Egypt between the periods of May 2023 to April 2024. **Tools:** In the present research, three tools were used. **Tool (I):** Pregnant women identification form. **Tool (II):** Beck Anxiety Inventory and **Tool (III):** The Quality of Life Enjoyment and Satisfaction Questionnaire–Short Form. **Results**: The mean quality of life score was improved, rising from 25.8±2.7 before the intervention to 60±7.4 after it. The average anxiety score dropped from 52.4±4.6 prior to the intervention to 22±5.5 after it. These improvements were statistically significant (p<0.00001). **Conclusion**: Distraction technique and relaxation exercise are effective in reducing anxiety level and improving quality of life among women with preterm labor. **Recommendations:** Nurses and midwives should consider incorporating medical therapy with relaxation exercise and distraction techniques in women diagnosed with preterm labor.

Keywords: Anxiety level, Distraction technique, Preterm labor, Quality of life & Relaxation exercise.

Introduction

Threatened preterm labor (PTL) is characterized by regular uterine contractions that start after viability of fetus but before 37 full weeks of gestation, without a cervical change or ruptured membranes. It is the most typical reason for pregnancy-related hospitalization **(Buesa et al., 2024)**.

Threatened preterm labor may have negative effects on the mother and her fetus. Mothers who experience preterm delivery typically experience different emotional responses than mothers who give birth to their babies at term such as depression and anxiety ; their stress and anxiety is the source of psychological trauma, which can result in post-traumatic stress disorder and negatively affect the mother-infant bond **(Randriamboarison et al., 2024)**. Additionally, Preterm fetuses are more likely to die and experience bad results in the short- and long-term Complications of PTL include pulmonary or intravascular bleeding, hyper-bilirubinemia, anemia, a higher risk of infection, neurological issues, metabolic disorders, and a lack of ability to regulate body temperature. **(Dakhundaridze, 2024)**.

Quality of life (QoL) of women during the prenatal period may be affected by the presence of preterm birth. Women in pregnancy who experience depressive symptoms and anxiety have poor QoL. PTL women have significantly higher depression and lower QoL scores than women who do not have complications **(Park et al., 2023)**.

Despite the fact that the fundamental reason of preterm labor is not recognized, some factors influencing the PTL incidence have so far been documented. Infections, abnormalities, premature membrane rupture, intrauterine growth restriction, preeclampsia, gestational diabetes, and aberrant maternal corticotropin-releasing hormone production are all medical risk factors that can lead to the birth of an preterm infant **(Ayele et al., 2023)**.

Pituitary-adrenal axis stimulation and placenta stimulation can result in uterine contractions and preterm labor in mothers experiencing anxiety before delivery. **(Nevitt et al., 2022)**. Also, other research revealed that maternal psychological discomfort, especially anxiety, significantly contributes to unfavorable obstetric outcomes like PTL. On maternal, fetal, and pregnancy outcomes, anxiety has both immediate and long-term consequences such as, PTL, low birth weight, unintended pregnancies, early pregnancy nausea and vomiting that is severe, fatigue,

reduced breastfeeding, low Apgar scores at 1st and 5th minutes, and postpartum anxiety **(Charkamyani et al.,2021)**.

The Obstetric treatment of PTL has relived via activity restriction (AR), which restricts activities to necessary bed rest and antepartum bed rest (ABR). Bed rest is intended to help women in PTL experience less anxiety and avoid premature delivery. ABR and AR can cause maternal worry, powerlessness, and anxious as a result of psychosocial and physiological changes **(Park et al., 2023)**. Anxiety symptoms are common during ABR and AR, and research has found a link between PTL and maternal anxiety. Women who are hospitalized may have increased anxiety as a result of being taken away from the familiarity and stability of their home, which may exacerbate their anxiety and depression. Anxiety and depression are linked to a higher premature birth risks during pregnancy **(Maba et al., 2023)**.

Mothers with PTL may feel less stressed if they receive psychological help. Support can also be obtained from mind-body therapies, which account for a significant amount of complementary and alternative medicine (CAM) usage. These techniques aimed at enhancing the mind's ability to control body functions and symptoms **(Shaw et al.,2023)**. Mind-body therapies encompass a wide variety of methods and approaches. Some easily available relaxation therapies such as yoga, calming exercises, music therapy, active visualization strategies, and support, empathy, preparation, and diversion techniques can help pregnant women at risk of PTL feel less nervous. On the other hand, Prenatal education is important in improving both physical, mental health and reducing psychiatric problems and anxiety **(Mekonnen, et al.,2024).**

Distraction technique and relaxation therapy can substantially lower the danger of preterm labor, and manage stress. The relaxation response restores homeostasis by reducing heart rate, blood pressure, blood oxygen concentration, skeletal muscle tension, and blood lactate levels. Peripheral flow, slow alpha waves in the brain (when relaxed), and carbon dioxide removal are all improved with relaxation therapy. Relaxation therapy is commonly recognized as a cost-effective nursing intervention. Respondents at risk of PTL undergo relaxation therapy as part of their nursing treatment and follow-up **(Abera et al., 2024)**.

 Holistic nursing care improves women psychosocial outcomes and is better able to manage the effects of physiological stress. Hearing to the women speak about how they are coping with their emotional stressor complaints during the interview may have provided emotional support; Providing a confidential

and supportive environment for women on hospital stay has been shown to lower anxiety and depressive symptoms **(Park et al., 2023)**.

Significance of the research:
Despite the fact that anxiety plays a significant influence in preterm birth, relaxation exercises have gained little publicity as a cost-effective method. Relaxation activities should be used to manage and follow-up of participants with threatened preterm labor by midwives and nurses working in the area of prenatal care **(Güler and Mete, 2023)**. Few studies evaluated the usefulness of relaxation exercises for PTL women who have been admitted to the hospital. Hospitalization of women with PTL may increase anxiety level because of the hospital's uncomfortable atmosphere, lack of privacy, isolation from friends and family, limited activities, and worry about the baby's health and prognosis from a preterm delivery **(Park et al., 2023)**. This study was done to reduce anxiety level and improve QoL in women with PTL at admission and after 2 weeks of admission.

Aim of the research:
The present study aimed to evaluate the effect of distraction technique and relaxation exercise on anxiety level and quality of life among threatened Preterm labor women

Hypothesis:
H1: Pregnant women with threatened preterm labor who underwent distraction technique and relaxation exercises reported lower levels of overall anxiety than women who received routine hospital pregnancy care.

H2. Pregnant women with threatened preterm labor who are subjected to receive distraction technique and relaxation exercises exhibit high quality of life than those who do not receive.

Method
The operational definition
Preterm labor: (PTL) is the term used to describe births that occur before the 37th week of pregnancy, when frequent contractions of the uterus related to the progressive cervical change start.

Relaxation exercise, involve raising awareness of woman body and shifting woman attention on something calming.

Distractions techniques .This study encouraged women to make clothes for the unborn child, learn them to knit, track fetal movements, or keep a diary to communicate with the unborn child, among other things.

Research Design:
A quasi-experimental design (pretest and posttest) was used in this study to explore the current research topic.

Setting: This study was done in the Obstetrical and gynecological inpatient department at Suez Canal university hospital and Suez Canal University specialized hospital, Ismailia Governorate, Egypt between the periods of May 2023 to April 2024. The aforementioned environment was selected due to the high flow rate and the fact that women attending receive high-quality prenatal care and represent a wide range of populations with varying socio-demographic and obstetric variables.

Study subjects:

Sample type:

A Purposive sample consisted of 200 women with PTL were assigned alternatively into control and study groups.

Sample size: Assuming mean ± SD of Anxiety level was 8.79 ± 7.43 before intervention and 6.9 ± 7 after intervention program **(Park et al., 2023)**. At 80% power and 95% confidence level. The estimated sample was (200) divide into two groups (open EP1 program). Of whom 100 belonged to the study group and another 100 were the control group.

Inclusion criteria; Women who diagnosed with threatened PTL; gestational age between 20 and 36 weeks; no medical history of heart, thyroid, adrenal, chronic renal diseases, or other problems; no mental health issues and desiring to take part in the research.

Figure 1: Flowchart of the study process
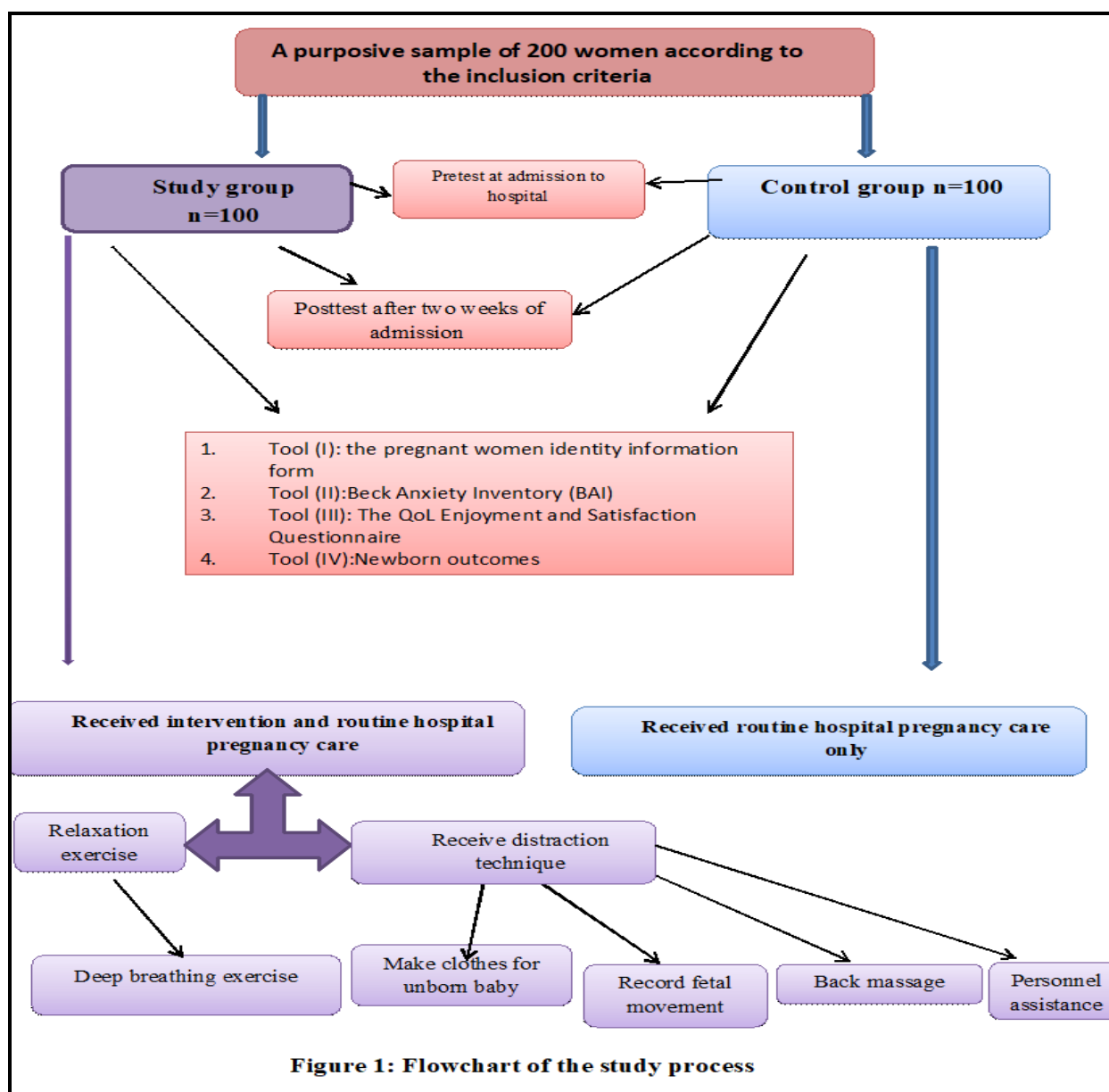
Recruitment of the sample

The flowchart of the study and control sample is presented in **Figure 1**.

Tools of data collection:

The researchers used three instruments to achieve the current study's goal.

Tool (I): The pregnant women identification form: was created by the research teams after reviewing the relevant literatures which included; Socio-demographic data such as age, level of education, occupation and obstetric history such as parity and history preterm labor.

Tool (II): Beck Anxiety Inventory (BAI), it is adopted from **(Beck et al., 1988)** is a 21-item questionnaire used to score symptoms and attitudes toward anxiety over the course of the previous week such as numbness or tingling; feeling hot Wobbliness in legs, Unable to relax, Fear of worst happening and Nervous …..etc. It gauges the severity of anxiety. Each item's severity is rated on a scale of 0 to 3, where 0 represents no anxiety and 3 represents extreme anxiety. Higher scores indicate more severe anxiety. Total scores range is from 0 to 63.

Scoring system of Tool (II)

The total score is calculated by finding the sum of the 21 items. Score of 0 –21 = low anxiety, Score of 22 – 35 = moderate anxiety, Score of 36 and above = potentially concerning levels of anxiety. According to the **American College of Obstetricians and Gynecologists (2021)**, the BAI is regarded as a reliable indicator of anxiety for prenatal depression. Good convergent validity (Pearson's correlation =.72) and Cronbach's α =.95 and Guttman split-half coefficient = 0.91 are demonstrated.

Tool (III): The QoL Enjoyment and Satisfaction Questionnaire–Short Form (Q-LES-Q-SF), it is adopted from **(Endicott et al., 1993)**. It is a rated scale with 15 general activity items and 1 overall life satisfaction item that is intended to the degree of enjoyment and satisfaction experienced by the person with different aspects of daily functioning as physical health; mood Dizzy or lightheaded; household activities ;social relationships; family relationships…….etc. For both the general activity items and the overall life satisfaction item, a summary score is determined.

Scoring system of Tool (III). Scores for state of satisfaction vary from 16 to 80 on a 5-point rating scale. Greater satisfaction or enjoyment is indicated by higher scores.

Content Validity and Reliability:

Tools were reviewed by a panel of five experts (Three in the field of Obstetrics and Gynecological Nursing and two in the field of psychiatric Nursing) to test its content validity. No changes were required. Test-retest reliability was used. The internal consistency of the measures was calculated using Cronbach's alpha coefficients. The BAI is valid and reliable with Cronbach's α = .95, Guttman split-half coefficient = 0.91) and good convergent validity (Pearson's correlation = .72) and QoL Cronbach's alpha was .87; and the intra-class correlation coefficient (ICC) was 0.75.

Ethical consideration:

The faculty of Nursing's Research Ethics Committee at the Suez Canal University accepted the study on March 28, 2023 by code (212). The pregnant women under study were briefed about the nature, methodology, and anticipated results of the study. They were also reassured of the study's safety and that the information collected would be kept private and utilized exclusively for research. Throughout the study, the researchers notified the women under study of their right to withdraw from it; after that, the women under study provided written consent.

A pilot study was carried out on 20 women with PTL (10%) who were excluded from the study sample to ascertain the clarity and the applicability of the tools. Determining the time needed for each form and assessing its readability, viability, execution, item counts, and item layouts were its main objectives.

The results of the pilot study showed that:

- The tools were relevant and reliable; - the tools were intelligible and usable with a few word changes.

- No problem that might have hindered the data collection was discovered. After this pilot research, the tools were ready for use.

Field of the work:

The researchers collected relevant local and international literature to be more familiar with the issue of developing the study measures and finalizing them through the use of journals, scientific books, magazines and the internet. The actual fieldwork was performed between the start of May 2023 to April 2024. They attended the study setting three days weekly until the estimated sample size was obtained, throughout the morning and afternoon shifts.

In order to achieve the research goal, the study was conducted in the following stages by the researchers:

Preparatory phase:

During this phase, the researchers reviewed the contemporary and historical literature that was pertinent to the study topic in order to gain a thorough theoretical grasp of all the problem's parts. The researchers examined books, journals, textbooks, newspapers, magazines, and websites with information from scientific publications in order to do this. Following that, the creation of the study tool and the training sessions were finished. The course, which was conducted in Arabic, covered theoretical aspects as well as training in relaxation techniques and distraction tactics. The control group consisted of

pregnant women who were not enrolled in the training program and who received only routine hospital care. The intervention group, on the other hand, had one-on-one interviews with researchers in the previously mentioned setting and was given the training program during sessions that lasted for forty minutes.

Assessment Phase:

The researchers introduced themself to every pregnant woman, assessed her suitability for the study, explained its purpose, and got her permission to participate. Three tools were collected by the researcher including the following: the 1st tool was used for collecting personal data such as: age, education and occupation. The 2nd tool was Beck Anxiety Inventory. The 3rd tool was the QoL Enjoyment and Satisfaction Questionnaire–Short Form.

Planning phase:

The researchers prepared the contents of nursing intervention (relaxation exercise and distraction techniques) in Arabic language to match the educational level of women according to aim of the study that includes the importance of performing these techniques and how to perform it.

Implementation phase:

The study group received personalized instruction in relaxation exercise, distraction techniques and support in addition to routine nursing care at antenatal room. Each mother was given an individualized and comprehensive knowledge about relaxation techniques. After that, the intervention was split into two sessions; the first part consisted of at least one instructional session, within the first week after admission. During this session the researcher trained the participants in psycho-physiological relaxation techniques (e.g., decentralized attention of participants and expressing their feelings) to help them reduce feelings of anxiety, while also listening to the participants' complaints and emotional stress related to their PTL and hospitalization.

The researchers taught the mother the right relaxation method by instructing them in deep breathing and progressive muscle relaxation. To develop complete relaxation and a deep sense of calm, a picture of a peaceful scene and energy is then suggested. Be sure to practice this approach many times a day and whenever there is a frustrating moment. Deep breathing is one of the simplest methods for relaxation. This takes just a few minutes, and wherever they are, they can use it. To calm the body, breathe in a steady, relaxed way.

The relaxation exercises were discussed through the intervention program, CD, face-to-face and question-and-answer interactions which were in agreement with the study methods. In addition, the participants were taught how to monitor fetal movement prepare clothing for the unborn child, focus on and communicate their thoughts toward the unborn child, and keep a diary to communicate with the unborn child, among other sorts of distraction techniques that the researchers described. These distractions can also result in relaxation and engaging in activities can be a good way of helping women to switch off from their worries and emotional distress. Every participant needs thirty to forty minutes for the intervention session. After that, the participants were seen by the researcher three to five times while they were in the hospital. The second part of the intervention was providing personal assistance as massage (back massage), which can promote relaxation and assist with day-to-day tasks like getting dressed when confined.

In which the participants in the control group received routine nursing care similar to that provided to women in the antenatal ward who were hospitalized with PTL.

Evaluation Phase (final assessment):

The researchers assessed all selected participants to evaluate the effect of relaxation exercise and distraction technique on anxiety level and QoL in women with PTL at admission and after two weeks of admission through using tool (II, and III).

Statistical analysis:

All data were collected, tabulated and statistically analyzed using SPSS 20.0 for windows (Einstein and Abernethy, 2000). Quantitative data were expressed as the mean ± SD and (range), and qualitative data were expressed as & (percentage). To compare two groups of normally distributed variables, the t-test was employed. The two dependent variables of normally distributed variables were compared using the Paired T-test. When necessary, the Fisher Exact Test or the Chi-square Test was used to compare the percentage of categorical variables. In order to evaluate the link between the different research variables, Pearson's correlation coefficient was computed. Values close to 1 indicate strong correlation and values close to 0 indicate weak correlation. The (+) sign denotes direct correlation and the (-) sign denotes inverse correlation. Every test had two sides. Statistical significance (S) was defined as a p-value < 0.05, while statistical insignificance (NS) was defined as a p-value ≥ 0.05.

Results

Table (1): Distribution of the Study and Control groups according to demographic characteristics and obstetrical history (n=200).

Variables	Study group (n=100) No (%)	Control group (n=100) No (%)	X2	P value
Age				
Age per years				
- ≤30	76 76.0	76 76.0		
- >30	24 24.0	24 24.0		
Mean ±SD (year)	28±4.7	27.8±4.8	t=0.3	0.7
Min-Max (year)	18-40	18-40		
Occupation				
- Housewife	68 68.0	78 78.0	1.3	0.26
- Employed	32 32.0	22 22.0		
Education level				
- Primary school	8 8.0	10 10.0		
- Secondary school	78 78.0	73 73.0	2.9	0. 4
- University or postgraduate	14 14.0	17 17.0		
Obstetrical history				
Parity				
- Nulliparous	35 35.0	32 32.0	0.2	0.65
- Multiparous	65 65.0	68 68.0		
History of preterm labor				
- Yes	16 16.0	22 22.0	1.1	0.27
- No	84 84.0	78 78.0		

X2   Chi-square test   *(f) Fisher exact test*

Table (2): Comparison between mean of anxiety level at admission and after two weeks from hospitalization among studied group (n=200).

Variables	Study group (n=100) No (%)	Control group (n=100) No (%)	t	P value
Anxiety at admission				
Mean ±SD	52.4±4.6	52±4.3		
- Minimum-maximum	46-60	46-60		
Anxiety Level (no %)			0.4	0.68(NS)
- Moderate	11 11.0	8 8.0		
- Severe	89 89.0	92 92.0		
Anxiety two week after admission				
Mean ±SD	22±5.5	53±4.4		
- Minimum-maximum	9-31	46-62		
Anxiety Level (no %)			MW	0.00001 (S)
- Mild	70 70.0	3 3.0		
- Moderate	22 22.0	11 11.0		
- Severe	8 8.0	86 86.0		
- **Paired t**	100	0.4		
- **P value**	0.00001*(S)	0.7(NS)		

*MW = Mann Whitnney U   *Wilcoxon Signed Ranks Test   * P < 0.05 (Significant)*

Table (3): Comparison between level of quality of life at admission and after two weeks from hospital admission among studied groups (n=200).

Variables	Study group (n=100) No (%)	Control group (n=100) No (%)	T test	P value
QOL at admission				
Mean ±SD	25.8±2.7	25.7±2.6		
- Minimum-maximum	21-31	21-32		
QoL level (no %)			0.2	0.8 (NS)
- Poor	91 91.0	87 87.0		
- Fair	9 9.0	13 13.0		
QoL two week after admission				
Mean ±SD	60±7.4	25± 2.7		
- Minimum-maximum	36-72	20-31		
QoL level (no %)			44	0.00001 (S)
- Poor	6 6.0	90 90.0		
- Fair	12 12.0	5 5.0		
- Good	82 82.0	5 5.0		
- **Paired t**	99	1.4		
- **P value**	0.00001(S)	0.1(NS)		

Table (4): Correlation between pre and post intervention total anxiety and QoL scores of studied groups (n=200)

Variables	Study group (n=100)				Control group (n=100)			
	Pre QOL		Post QOL		Pre QOL		Post QOL	
	r	P	r	p	r	P	r	P
Pre anxiety score	0.21	0.034 (S)			0.17	0.09		
Post anxiety score			-0.11	0.3			-0.13	0.2

r: correlation coefficients

Table (1): Regarding age, there were no statistically significant variations between the two groups (p>0.05). The study and control groups had mean ages of 28±4.7 and 27.8±4.8 years old, respectively. 68.0% of the study group and 78.0% of the control group were housewives. Additionally, 78.0% of women in the study group and 73.0% of women in the control group had secondary school. There was no statistical significant differences regarding parity and history of preterm labor between the both groups (p>0.05).

Table (2): Reveals that, before the intervention, 89% of the study group experienced severe anxiety, and after the intervention, 70% of them experienced mild anxiety. Furthermore, the average anxiety score dropped from 52.4±4.6 prior to the intervention to 22±5.5 after it. There was statistical significance in these gains. These improvements were statistically significant (p<0.0001).

Table (3): Shows that 82.0% of the women in the study group had good QoL after the intervention, compared to 91.0% who had poor QoL prior to the intervention. The mean quality of life score also improved, rising from 25.8±2.7 before the intervention to 60±7.4 after it. These improvements were statistically significant (p<0.00001).

Table (4): Indicates that, for the study group prior to intervention, there were statistically significant positive correlations between the pre-anxiety and pre-QoL scores (P<0.05).

Discussion

The state of pregnancy with premature contractions is a time that causes more stress and anxiety for pregnant women. Physical and psychological factors can be affected by anxiety that is not adequately controlled to cause premature labor. Nurses are very much needed at this time as caregivers who holistically offer nursing care. The nurse is also an advocator and educator for the respondent and the family to make it easier for the respondent to obtain access, services and help during the care provided by the respondent. Relaxation therapy is one of nursing interventions that is considered very simple and inexpensive **(Souza., 2024).**

According to the current study, there was no statistically significant difference between the two groups as regard to their age. Most of women in both groups had secondary level of education. This result indicates that the women in the two groups were matching. This is congruent with **Bazrafshan et al., (2020)** study in Taiwan who revealed no appreciable differences in the women's mean age between the two groups and average age in their research very close to the average age for this study.

Regarding to the obstetric history of the studied women, this research revealed that there were no statistically significant differences between the groups in terms of parity and premature labor history. This corresponds with the study of **Bazrafshan et al., (2020)** who showed no discernible variations between the two groups in any of the obstetric characteristic factors.

Low birth weight and preterm labor are linked to maternal anxiety during pregnancy, which is a significant contributing factor to preterm labor. It has been proposed that maternal prenatal stress stimulates the placenta and the mother's pituitary-adrenal axis, which can lead to preterm labor **(Park et al., 2023)**. Mothers may experience feelings of fear, helplessness, and anxiety in addition to the physiological and psychosocial changes associated with antepartum bed rest (ABR) and activity restriction (AR). During ABR and AR, anxiety symptoms are more prevalent, and there is a direct correlation between PTL and maternal anxiety **(Diotaiuti, 2022)**.

According to the current study's findings, the study group's anxiety levels significantly decreased after two weeks in the hospital as opposed to when they were admitted. This is supported by **Bazrafshan et al., (2020)** who found that one effective strategy to reduce anxiety levels among Iranian pregnant women at risk of PTL is to incorporate group educational counseling sessions into the scheduled primary care practice.

In this regard, **Özberk et al., (2021)** study revealed that the intervention group's state anxiety level was lower than the control group. Women hospitalized for TPL have shown to benefit from relaxation techniques in terms of reduced anxiety. This may be explained by the fact that teaching relaxation techniques and helping with personal tasks might enhance the emotional well-being of women who are hospitalized for PTL.

The study findings are also in agreement with **Mete & Ozberk, (2020)** study which showed that, after the mother received relaxation-focused nursing care, her anxiety reduced, her gestational period lengthened, and she felt more satisfied with the care she received. The findings demonstrated how educational interventions have a significant impact in lowering pregnant anxiety. This is supported by **Raju., (2023)** who stated that improving women's knowledge about pregnancy risk factors will lower the negative outcomes associated with pregnancy and childbirth and have long-term health benefits for both mothers and their offspring. In this study, we found that these women's need for additional knowledge was a significant source of stress and that this program was successful in addressing their information demands.

Similarly, **Abera et al., (2024)** study stated that using relaxation therapy helped them avoid having repeated contractions, feel more comfortable, and experience less anxiety.

Preterm birth can have an impact on maternal quality of life during the perinatal period. Pregnant women who suffer from anxiety and depression have a low QoL **(Götz et al., 2021)**. Compared to women without problems, PTL women score significantly lower on QoL and have greater depression levels **(Souza et al., 2024)**. Following the application of relaxation techniques and distraction techniques, the study's findings showed a statistically significant improvement in QoL compared to admission. In this respect, the findings of **Lamadah et al., (2021)** shown that improving the quality of life for pregnant women can be achieved through exercise that incorporates progressive muscle relaxation. Conversely, **(Kao et al., 2019)** study showed that, regarding QoL, there was no statistically significant difference between the two groups (p>0.05).

This implies that offering nursing guidance that improves women's psychological health and assists them in managing the effects of physiological stress. Listening to the participants discuss their emotional tension or complaints may have offered emotional support; it has been demonstrated that giving hospitalized women on bed rest a safe space to talk about their concerns can help lower anxiety.

The evidence based nursing intervention of the current study was also supported by the study of **Khanum, (2021)** who indicated that one of the few benefits of hospitalization for PTL may be that women receiving assistance and guidance from medical professionals made them feel more confident about their capacity to carry out their high-risk pregnancy. The findings of this study suggest that relaxation exercises are practical, affordable, and effective ways for nurses to lower anxiety levels in expectant patients who have been diagnosed with premature labor.

In terms of delivery outcomes, the current study found a statistically significant difference between the mean gestational age at labor in the study and control groups. This was supported by the study of **Mete & Ozberk, (2020)** who demonstrated that using relaxation-focused nursing care lengthened the gestational period. This finding also supported by the study of **Ertekin Pinar et al., (2022)** who reported that the gestational period was positively impacted by relaxation activities.

Conclusion
According to the current study's findings, educating hospitalized women with PTL relaxation and distraction techniques lowers their anxiety levels and

enhances their quality of life. This relaxation intervention is inexpensive, non-invasive, and simple to use. This fulfills the research hypothesis.

Recommendations

The following recommendations were made in light of the results of the current study:

▪ Women with threatened preterm labor should be advised to have bed rest and relaxation exercises as this is inexpensive, non-invasive, and simple to use on PTL women.

▪ In women with threatened preterm delivery, nurses and midwives should consider combining medical treatment (drugs) with relaxation exercises.

▪ Integration of relaxation exercises as a part of health service training delivered in the scope of prenatal care to midwives and nurses working at the gynecology and obstetrics clinics.

▪ Provision of a relaxed atmosphere in obstetrics clinics for relaxation exercises.

Declaration of Conflicting Interests

In relation to the research, authorship, and/or publication of this paper, the authors declared no possible conflicts of interest.

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