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Original Article

Augmentation of Labor: Women's Attitude and Nurses' Practices

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1- ABSTRACT

Background: Oxytocin is used to induce uterine contractions. It is crucial that nurses know how to utilize oxytocin to induce labor and recognize areas that need improvement in order to improve mother satisfaction and maternity care. **Aim**: The aim of this study was to evaluate nurses' practices and women's attitude toward labor augmentation. **Method**: A descriptive design was used. **Setting**: This study was conducted at Mansoura University Hospitals' labor and delivery unit. **sample**: A convenient sample was used. All (20) nurses who were working in the Labor and Delivery Unit of the predetermined setting regardless of their age, experiences or qualification and one hundred sixty-seven parturient women attended to predetermined setting. **Tools**: Three tools were used; a structured interview questionnaire, an observational checklist for nurses' practices regarding oxytocin administration and Likert's scale for women's attitude towards augmentation of labor. **The results**: Less than one third of nurses didn't explain procedure for women. Most of them completely started oxytocin according to hospital protocol, the majority of them recorded intake & output and half of them completed partogram data. Most of the studied parturient women reported that labor augmentation is more painful than normal labor and more than three quarters weren't satisfied globally about the augmentation. **Conclusion**: More than two thirds of the studied parturient women had a negative attitude regarding labor augmentation, and more than half of the studied nurses had good practices regarding administering oxytocin. **Recommendation**: Performing continuous periodic in-services training for maternity nurses to improve their practice regarding oxytocin administration and improving women attitude towards augmentation of labor through increasing their awareness & enhancing the shared decision making

Keywords: Attitude, augmentation, induction, labor, oxytocin and practices

2- Introduction:

For a woman and her family, giving birth is a profoundly life-changing experience. Now is the time to strike a balance between fulfilling experience and the expectations' reality. Despite the fact that birthing is one of the most important medical concerns, emphasis is placed on natural birth with few interventions **(Karkada, Noronha, Bhat, Bhat & Nayak, 2022).** Increased frequency and force of uterine contractions are signs of labor. The cervix becomes increasingly effaced and frequently starts to dilate, which is followed by the placenta and baby being delivered **(Cohen & Friedman, 2023).**

Clinical procedures like labor induction and augmentation are frequent. By triggering uterine contractions prior to the commencement of spontaneous labor, induction of labor is regarded as a therapeutic and preventive method to facilitate vaginal birth **(Zhu, Xue, Shen, Zhang, Lu, Wang, et al., 2022).** Augmentation of labor (AoL) is the process of stimulating the uterus to increase the frequency, duration and force of contractions. It is commonly used to treat protracted or arrested labor when the cause is believed to be insufficient contractions. **(Nunes, Dupont, Timonen, Ayres de Campos & Dreyfus, 2022).**

In the UK, one in five deliveries was induced, compared to 31.8% of multiparous women and 42.9% of nulliparous women in the US. There is an increasing disparity in labor induction rates around the globe. Approximately 45% of births in Egypt in 2015 were thought to have involved the use of uterotonic medications, which are used to either induce or augment labor **(Mohamed, Ahmed & Gaheen, 2022)**. Contrarily, labor induction is less widespread in Africa and Asia, where it accounted for 12.1% of total employment **(Zhu, Xue, Shen, Zhang, Lu, Wang, et al., 2022).**

The most widely used medication during labor is oxytocin, which has been used to promote uterine contractions. There are numerous natural techniques that improve the efficiency of contractions, including nipple stimulation, membrane sweeping, and vertical positions **(Wray, Arrowsmith & Sharp, 2023).** In order to limit hazards, oxytocin continues to be one of 12 particular high-alert drugs on the list. Because oxytocin has a varied individual therapeutic index, one dose may have little effect in some women

while causing hypertonic uterine contractions in others. Increased fetal ischemia and discomfort can quickly follow hypertonic contractions, which can result in brain damage or intrauterine mortality. Hypertonic contractions can also reduce placental blood perfusion and oxygen delivery to the fetus. Anomalies in fetal heart rate are linked to the use of oxytocin to induce labor **(Kujabi, Mikkelsen & Housseine, 2022).**

Due to the higher risk of problems associated with these procedures, augmentation of labor should only be performed by highly skilled and competent professionals in institutions with access to emergency obstetric services. The nurse is crucial in helping to prioritize treatments and care and in understanding the physiology of both healthy and abnormal women **(Kujabi, Mikkelsen & Housseine, 2022).** Improving the quality of care given during labor and delivery is the most effective way to reduce stillbirths, maternal deaths and newborn deaths when compared to antenatal care or postnatal care measures **(WHO, 2020)**.

Childbirth experiences might affect a woman's decision to have another baby or whether she wants a cesarean section during future pregnancies. These feelings can be positive ones of empowerment and fulfillment or negative ones of disappointment and dread. Additionally, women who have had unpleasant birthing experiences are more likely to face major mental health problems such as posttraumatic stress disorders. According to WHO guidelines on intrapartum care for a pleasant birthing experience, most of women desire a physiological birth and want to be involved in decision-making when medical interventions are necessary **(Alòs-Pereñíguez, O'Malley & Daly, 2021).**

Policy makers, administrators and healthcare professionals are becoming more and more concerned with how satisfied women are with maternity services, particularly with the care they receive during labor and delivery. Health care providors utilize women's satisfaction to assess the quality of care, and policymakers use them to inform decisions about how health services are organized and provided. Studies reveal a relationship between a mother's and her baby's health and well-being and the degree of satisfaction that women have with giving birth **(Ahmed, 2022).**

2.1 Significance of the study

Around 303,000 women worldwide died during and after giving delivery, according to WHO **(Islam et al., 2018).** Pregnancy-related or delivery-related problems claim the lives of about 700 women in the US each year **(CDC, 2018)**. There has been a rise in the rate of induction of labor over recent decades. Internationally, between 25% and 33% of women have induction of labor (IoL), while in the US, about 1 in 4 women undergo this procedure. Variable rates occasionally reach or surpass those in high-income countries are found in low- and middle-income countries **(WHO, 2018).** According to recent statistics, 20% of Egyptian pregnant women may be subjected to labor induction. Induction rose from 29.4% in 2016–17 to 31.6% in 2017–18, based on Hospital Episode Statistics (HES) **(Gibreil, Elboghdady, & Al-Bohy, 2018).**

Various studies demonstrated how inappropriate oxytocin administration can result from hospital protocols not being followed, midwifery nurses not being informed on the monitoring of oxytocin, its administration during labor and its harmful side effects. A positive delivery experience is achieved when women have a better awareness of how to administer oxytocin throughout labor which reduces intrapartum problems and improves their attitude toward it **(Wahdan, Saadoon, & El-Sayed, 2021).**

Nursing care can be designed by health institutions based on an understanding of parturient women's attitudes regarding nursing care. It helps in determining the areas in which women are satisfied and dissatisfied with the various nursing care items to improve health care services and achieve better women satisfaction **(Girmay, Marye, Haftu, Brhanu, & Gerensea, 2018)**. Despite being widely used during labor and being effective in augmentation of labor, routine usage of oxytocin doesn't present any benefits when there are no medical indications for using it **(Grobman, Caughey, 2019).** Augmentation of labor is undocumented in Egyptian obstetric facilities **(Baranowska et al., 2021)** and there is still little research on assessing women attitude towards it and nurses' practices, so this study was conducted.

2.2 Aim of the Study

The aim of this study was to evaluate nurses' practices and women's attitude regarding labor augmentation.

2.3 Research question:

What is the attitude of parturient women and the practices of nurses towards augmentation of labor?

3- Method:

3.1 Research Design:

A descriptive study design was used which are observational studies that describe the patterns of disease occurrence in relation to variables such as person, place and time.

3.2 Study Setting

This study was conducted in the labor and delivery unit at Mansoura University Hospitals, which includes a postnatal room, an ultrasound room, an examination room, a large room with six beds, and a pre-eclamptic patient room. It offers services three days a week (Sunday, Tuesday and Thursday) to pregnant, laboring, and postpartum women. Every month, the unit receives nearly 80 cases for delivery.

3.3 Sample type: A convenient sample was used.

3.4 Study Sample:

All maternity nurses (20) who are working in the Labor and Delivery Unit of the predetermined setting regardless of their age, experiences or qualification and one hundred sixty-seven parturient women attended to predetermined setting during the period from beginning of September 2022 to end of February 2023.

Sample size calculation for parturient women:

The sample size was estimated using the following formula, based on data from literature by **Adler et al. (2020)** to compare childbirth experiences in induced and spontaneous labor and to investigate the factors influencing the childbirth experience, considering a 5% level of significance and an 80% power of analysis, the sample size was estimated using the following formula:

$$n = \frac{\left(Z1 - \frac{\alpha}{2}\right)^2 . P(1 - P)}{d^2}$$

Where $Z_{1-\alpha/2}$ at 5% type 1 error ($p<0.05$) is 1.96.

P = the expected proportion in population based on previous studies.

d = absolute error or precision. Therefore, sample size

$$n = \frac{(1.96)^2 . (0.075)(1 - 0.075)}{(0.04)^2} = 166.5.$$

Based on the previous formula, the total sample size required for the study was 167 parturient women.

3.5 Tools for data collection

Three tools were used to collect data.

Tool (I): A structured interview questionnaire:

This tool was developed by the researcher after reviewing the related literature and consisted of two parts.

Part (1): Demographic characteristics:

- **For nurses:** as age, place of residence, degree of education, occupation, number of years of experience, and participation in training programs on labor augmentation .
- **For parturient women** such as age, place of residence, degree of education, type of work, and income.

Part (2): Obstetric history of parturient women such as age of marriage, gravidity, parity, number of abortions.

Tool (II): An observational checklist for nurses' practices regarding oxytocin administration:

It was adopted by **Wahdan, Saadoon, & El-Sayed (2021)** to evaluate the clinical skills of the nurses in administering oxytocin. There are three domains and nineteen items in total. Getting Ready (8 items), management of oxytocin infusion steps (6 items) and post procedure tasks (5 items).

Scoring system:

Each item was scored (2) if completely done, (1) if incompletely done and (0) if not done. Total score ranges from 0 - 38. Higher score indicates higher achievement. The total skills score was classified as bad < 50%, moderate 50<75% and good ≥75% **(Wahdan, Saadoon, & El-Sayed, 2021).**

Tool III: Likert's scale for women's attitude towards augmentation of labor:

It was developed by the researcher after reviewing the related literatures **(Blanc-Petitjean et al, 2021; Coates, 2021; Coates, Cupples, Scamell, & McCourt, 2019)** to assess the attitude of parturient women towards labor augmentation. It consists of 18 questions such as I'm worried about getting too uncomfortable when being augmented, I feel worried about problems with augmentation as baby being distressed, I feel worried about problems with augmentation as having a cesarean section,etc.

Scoring System:

Each statement was scored as following (3) for agree, (2) for to some extent and (1) for disagree. The total score of attitudes was classified into: positive attitude ≥ 75%, negative attitude < 75% **(Coates, 2021)**.

3.6 Validity of the study tools

Three specialists in the field of women's health and midwifery nursing tested the data collecting tools for content validity. The recommended revisions included removing some items due to duplication and rearranging some phrases were done.

3.7 Reliability of the tools

The observational checklist for nurses had a Cronbach's alpha score of 0.889, and the women's attitude toward augmentation of labor had a value of 0.897. These results indicated that the questionnaire was highly reliable.

3.8 Pilot Study:

The pilot study was conducted prior to data collection on 10% (17 parturient women & 2 nurses) to assess the simplicity, feasibility, clarity and applicability of these tools. Based on the findings of the pilot study, the necessary adjustments were done as omitting of some statements due to repetition and rearrangement of some statements.

3.9 Ethical considerations

An ethical approval was obtained from the Research Ethics Committee at the Faculty of Nursing, Mansoura University. An official permission was acquired from the director of Mansoura University Hospitals. Each nurse and parturient woman participated in the study gave their oral consent after clarification of the aim and approach of the study. All women were reassured about the confidentiality of the collected data. In addition, the right to withdraw from the study was permitted.

Fieldwork

- The Research Ethics Committee of the Mansoura University Faculty of Nursing granted ethical permission for the study's implementation.
- The researchers prepared and designed data collection tools after reviewing the relevant literature.
- The researchers attended labor and delivery unit at Mansoura University Hospitals three days per week (Sunday, Tuesday & Thursday) from 9:00 Am to 2:00 Pm.
- The researchers introduced themselves to each nurse and after an explanation of the aim of the study, they obtained her oral consent to participate in the study.
- The researchers interviewed each nurse individually to gather demographic characteristics such as: age, residence, educational level, occupation, years of experience and attendance of training program regarding augmentation of labor.
- Each nurse was observed for at least 6 hrs / shift until her practice covered the items of tool II (an observational checklist for nurses' practices regarding oxytocin administration).
- The researchers collected data regarding parturient women's demographic characteristics, obstetric history and attitude regarding augmentation of labor.
- The researcher attended the Labor and Delivery Unit until the calculated sample was completed.
- A statistical program for social science (SPSS) version 21 was used to store, categorize, code, computerize, tabulate and analyze the acquired data.

Statistical Analysis

For all statistical studies, SPSS for Windows version 20.0 (SPSS, Chicago, IL) was utilized. The continuous data were shown as mean ± standard deviation (SD) and showed a normal distribution. Categorical data were expressed as percentages and numbers. The chi-square test (or, if appropriate, the Fisher's exact test) was used to compare variables with categorical data. The internal consistency (reliability) test for the used questionnaires was calculated by the study. The specified criterion for statistical significance was $p<0.05$.

4- Results:

Table 1. shows that 45% of the studied nurses aged 24 – 29 years with mean ± SD 26.3 ± 3.7. 70% of them had technical institute and most of them (95%) work as staff nurses. The majority (85%) of them are from rural areas. 45% of them had 1-5 years of experience in maternity. 80% of them didn't attend the training program regarding augmentation of labor.

Table 2. shows that two thirds of the studied parturient women (65.9%) aged from 18 to 25 years with mean ± SD 24.3 ± 3.2. 53.3% had middle education. Around three quarters of them were housewives and from rural areas (73.7% & 76.6 %, respectively). Most of them (91.0 %) hadn't enough income.

Table 3. shows that preparing equipment and bringing it to the bedside were the best steps where they were completely done by the nurses studied (95% & 90%, respectively), while explaining the procedure was the worst step where

30% of them weren't done. Three quarters (75%) of them incompletely ensured the comfort of the women. 55% of them incompletely washed their hands & dried it well.

Table 4. shows that the second step of connecting the woman with fetal monitor was the worst one where 20% of the studied nurses done it completely and 75% of them not done it. 60% of them incompletely ensured that the woman is on her left side. Most and all of them respectively responded well to 5th and 6th steps where 90% of them completely started oxytocin infusion according to hospital protocol and all of them completely discontinued the oxytocin infusion and notified the physician if complications have been developed.

Table 5. clarified that the best steps were the second step (remove the equipment) and the fifth step (let the oxytocin infusion to be completed), where the completed percentage was 100.0% and not done percentage was zero. While, the worst step was the fourth step (complete the partogram data), where completely done percentage was 50 %, the incompletely done percentage was 15% and not done percentage was 35%.

Table 6. illustrates that 60% of the nurses studied had good practice during oxytocin administration regarding getting ready, 50% of them had good practice regarding management of oxytocin infusion steps and post procedure tasks.

Figure 1. clarifies that more than half of the nurses studied (55%) had good practice regarding oxytocin administration procedure, 30% of them had average practice, while 15% of them had poor practice.

Table 7. shows that most of the studied parturient women (90.4%, 91.6% & 98.8, respectively) agreed that labor augmentation is more painful than normal labor, augmenting agent may induce labor quickly and they felt reassured by regular surveillance with CTG and ultrasound. 93.4% of them disagreed that augmenting drugs makes the augmentation as painless as possible, 76.0% disagreed that they were satisfied globally about the augmentation and 86.2% disagreed that if labor had to be augmented again, they would like the same method. Around half of them (52.7% & 45.5%, respectively) were to some extent worried about losing control and they thought that augmentation may fail.

Figure 2. shows that more than two thirds of the studied parturient women (69.5%) had negative attitude, while 30.5% had positive attitude regarding augmentation of labor.

Table 1. Distribution of the nurses studied according to their demographic characteristics.

Items	No. (20)	%
Age (Years)		
18 – 23	5	25.0
24 – 29	9	45.0
30 – 35	6	30.0
Mean ±SD	26.3 ±3.7	
Educational level		
Diploma	5	25.0
Technical institute	14	70.0
Bachelor degree	1	5.0
Occupation		
Staff nurse	19	95.0
Head nurse	1	5.0
Residence		
Rural	17	85.0
Urban	3	15.0
Experience in maternity		
< 1	4	20.0
1 – 5	9	45.0
6 – 10	4	20.0
11 – 15	3	15.0
Attend training program regarding augmentation		
No	16	80.0

Yes	4	20.0

Table 2. Distribution of the studied parturient women according to their demographic characteristics.

Items	**No. (167)**	**%**
Age (Years)		
18 – 25	110	65.9
26 – 30	34	20.4
More than 30	23	13.8
Mean ±SD	24.3 ±3.2	
Educational level		
Unable to write and read	27	16.2
Middle education	89	53.3
High education	51	30.5
Occupation		
Housewife	123	73.7
Working	44	26.3
Income		
Not enough	152	91.0
Enough	15	9.0
Residence		
Urban	39	23.4
Rural	128	76.6

Table 3. Distribution of the studied n1urses practice during oxytocin administration regarding getting ready (n=20).

Items	**Not done**		**Incompletely done**		**Completely done**	
	n	**%**	**n**	**%**	**n**	**%**
- Hand washing	4	20.0	1	5.0	15	75.0
-Preparing equipment	0	0.0	1	5.0	19	95.0
-Confirming that there are no danger issues for the woman (contraindications).	4	20.0	2	10.0	14	70.0
-Explaining the procedure for using the oxytocin to the woman to alleviate anxiety, fear, and gain her cooperation	6	30.0	9	45.0	5	25.0
-Ensure the comfort of the woman (establish safe, quiet and clean environment)	0	0.0	15	75.0	5	25.0
-Bring equipment to the bedside to avoid delay	0	0.0	2	10.0	18	90.0
-Before beginning the infusion, check the woman's vital signs, the position of the fetus, the uterine contraction, the cervical dilatation, and the fetal heart sounds to obtain baseline data and detect any variation from these data.	3	15.0	9	45.0	8	40.0
-Wash hands and dry it well to prevent cross infection & wear gloves.	1	5.0	11	55.0	8	40.0

Table 4. Distribution of the nurses studied during oxytocin administration regarding management of oxytocin infusion steps (n=20).

Items	**Not done**		**Incompletely done**		**Completely done**	
	n	**%**	**n**	**%**	**n**	**%**
-Ensure that the woman is on her left side to prevent the compression of gravid uterus on the inferior vena cava.	1	5.0	12	60.0	7	35.0
-Connect the woman with fetal monitor to assess fetal well-being and to establish a base line of uterine activity	15	75.0	1	5.0	4	20.0
-Prepare the I.V. fluids	2	10.0	1	5.0	17	85.0
-Insert the cannula in the right hand and secure it with suitable size of plaster (using cotton with alcohol before insertion to clean the site of insertion)	0	0.0	6	30.0	14	70.0
-In accordance with documented instructions from your doctor or hospital procedure, begin the oxytocin infusion.	1	5.0	1	5.0	18	90.0

- If difficulties for the mother or the fetus have arisen, stop the oxytocin infusion and contact a doctor.	0	0.0	0	0.0	20	100.0

Table 5. Distribution of the nurses studied during oxytocin administration regarding post procedure tasks (n=20).

Items	Not done		Incompletely done		Completely done	
	n	%	n	%	n	%
-Record intake and output.	2	10.0	2	10.0	16	80.0
-Remove the equipments.	0	0.0	0	0.0	20	100.0
-Hand wash.	1	5.0	0	0.0	19	95.0
-Complete the partogram data.	7	35.0	3	15.0	10	50.0
-Let's the oxytocin infusion to be completed after delivery with close observation of any signs of postpartum hemorrhage until the dose that is finished.	0	0.0	0	0.0	20	100.0

Table 6. Total score of oxytocin administration domains among the studied nurses (n=20).

Items	Poor		Average		Good	
	n	%	n	%	n	%
Getting ready	2	10.0	6	30.0	12	60.0
Management of the infusion processes for oxytocin	4	20.0	6	30.0	10	50.0
Post procedure tasks	2	10.0	8	40.0	10	50.0

Figure (1). Total practice score of the studied nurses regarding oxytocin administration procedure (n=20).

Table 7. Distribution of the studied parturient womens' attitude regarding augmentation of labor (n=167).

Items	Disagree		To some extent		Agree	
	n	%	n	%	n	%
-I'm worried about getting too uncomfortable when being augmented	35	21.0	15	8.9	117	70.1
-I feel worried about problems with augmentation such as baby being distressed	28	16.8	19	11.4	120	71.8
-I feel worried about problems with augmentation such as having a cesarean section	45	26.9	22	13.2	100	59.9
-I think augmentation may fail	40	24.0	76	45.5	51	30.5
-I'm worried about losing of control	47	28.1	88	52.7	32	19.2
-I think augmenting agent may induce labor quickly	2	1.2	12	7.2	153	91.6
-Augmenting drugs is safe for baby and for me even if it takes longer to work	30	18.0	73	43.7	64	38.3
-Augmenting drugs makes the augmentation as painless as possible	156	93.4	8	4.8	3	1.8
-I think Complication risk is higher if labor is augmented	55	32.9	68	40.7	44	26.3
-I think labor much faster than expected	7	4.2	10	6.0	150	89.8
-I think I have to stay in hospital longer if I augmented	83	49.7	49	29.3	35	21.0
-I think labor augmentation more painful than normal labor	9	5.4	7	4.2	151	90.4
-I think I'm not able to move around when labor augmented	12	7.2	32	19.2	123	73.7
-I think length of labor was acceptable	6	3.6	38	22.8	123	73.7
- If the doctor or midwife says everything is fine, I feel reassured.	6	3.6	44	26.3	117	70.1
-I feel reassured by regular surveillance with CTG and ultrasound	1	0.6	1	0.6	165	98.8

-I'm Globally satisfied about the augmentation	127	76.0	35	21.0	5	3.0
-If labor had to be augmented again, the same method would be preferred	144	86.2	10	6.0	13	7.8

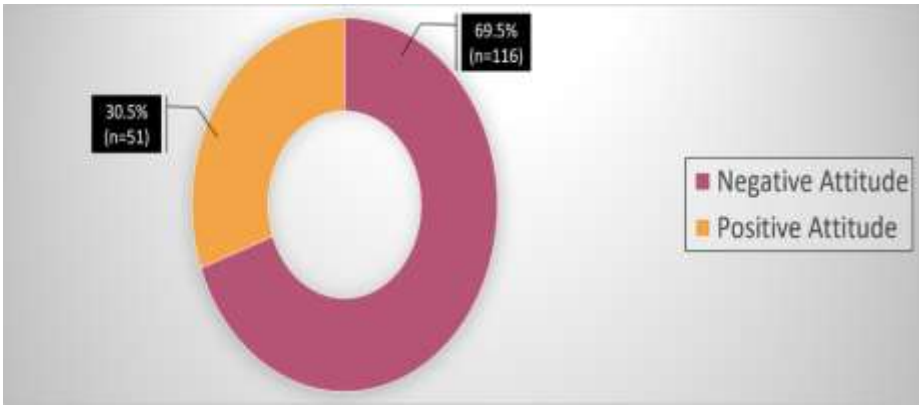

Figure (2): Total score of the studied parturient womens' attitude regarding augmentation of labor.

5- Discussion

This study aimed to assess women's attitude and nurses' practices regarding augmentation of labor. This aim was achieved through the present study findings which revealed that more than half of the studied nurses had good practice regarding oxytocin administration, less than one third had average practice and few percentages had poor practice. More than two thirds of the studied parturient women had negative attitude regarding augmentation of labor. Therefore, the findings of the present study answered the research question which is; “What are women's attitude and nurses' practices regarding augmentation of labor?”

The results of the current study demonstrated that, with regard to the administration of oxytocin, more than half of the studied nurses had good practice, fewer than one-third had average practice and a small percentage had poor practices. This may be attributed to nearly three quarters of the studied nurses had technical institute and only one quarter had diploma degree. In agreement with the present study findings, a study conducted by **Wahdan, Saadoon & El-Sayed (2021)** to evaluate the oxytocin administration knowledge and skills of nurses, who found that fewer than half of the group under study had intermediate skills and more than half had good skills. Else, **Abdel Fattah, Abdel Moneim & Eid (2019)** study about the effect of maternity nurse's knowledge and practices regarding the medication errors on laboring women safety in labor unit illustrated that nearly half of the studied maternity nurses had a complete satisfactory level of practices regarding oxytocin administration. Moreover, **Sims (2016)** study about the "midwifery role in malpractice cases related to oxytocic application" who found that one third of midwifery nurses had poor practice related to oxytocic application. The reason for the agreement between the study results could be that, in the last few years, all nurses have graduated from nursing faculties and technical institutes; hence, there haven't been any nursing diploma programs which inturn promote more effective nursing practices.

However, the results of this study didn't agree with those of **Mohamed, Ahmed & Gaheen (2022)** study which examined the impact of guidelines for the administration of uterotonic medicines on nurses' performance and labor outcomes. They found that the majority of the nurses in the study performed oxytocic administration at a practice level that was inadequate. Furthermore, **Ibrahim & Hassan (2022)** investigated the impact of a training program on maternity nurses' understanding and application of the oxytocin administration during labor.They concluded that less than half of studied maternity nurses had satisfactory practices regarding oxytocin administration.

Also, **Sengab, Fahmy, Mohammed& Abd-Elmoniem's (2020)** study about "assessment of nurses' knowledge and practices regarding oxytocin infusion care for women during labor at obstetric and gynecological department affiliated at Benha University Hospital," contradicts the results of the current study. They demonstrated that regarding to administering oxytocin, more than half of the studied nurses had unsatisfactory practice. Additionally, the results of this study contradicted with the study entitled "assessment of nurses' compliance with oxytocin administration protocol during labor at Damietta city" conducted by **Shady, Ibrahem, Gamal, and Farahat (2020)**. They found that, in terms of their overall practice score, the majority of the examined nurses had

unsatisfactory practice levels following women's oxytocin induction, while only one-third of them had satisfactory practices prior to women's oxytocin induction.

Furthermore, the current study's findings differed from those of **Mohamed et al. (2020)** study entitled "nurses' knowledge and practices regarding oxytocin infusion care for women." They reported that less than two thirds had unsatisfactory practice regarding oxytocin drugs. Furthermore, the findings of the current study contradicted those of **Lohani (2020)** study about nurse's knowledge and practice regarding oxytocin administration during first stage who reported that one-third of nurses had poor practice, two-thirds of them had moderate practice and none had good practice.

Moreover, the current study findings were in contrast with **Mohamed et al. (2019)** study about the impact of training initiatives on enhancing nurses' comprehension and application of oxytocin administration during delivery. They indicated that more than two thirds of staff nurses had poor level of practice on oxytocin use. Additionally, **Shiny (2017)** evaluated the oxytocin usage knowledge and practices of nurses employed at particular maternity hospitals in Chennai. They demonstrated that, when it came to administering oxytocin, two thirds of the nurses had bad practice, one third had intermediate practice and less than one quarter had good practice. The disagreement between the study results may be due to variations in education and experience levels, the absence of oxytocic guidelines in the health care settings under investigation, an excessive workload, a lack of training programs and in-service education regarding the administration of uterotonic drugs.

The present study findings showed that more than two thirds of the studied parturient women had negative attitude, while less than one third of them had positive attitude regarding augmentation of labor. In agreement with the present study findings, **Webb, Ayers, Bogaerts, Jeličić, Pawlicka, Van Haeken, et al. (2021)** research on unexpected births: a systematic review of the impact of a mismatch between expectations and experiences. They found that the majority of mothers had negative attitude regarding augmentation of labor**.** Additionally, a mixed-methods study by **Viirman, Engström, Sjömark, Hesselman, Poromaa, Ljungman, et al. (2023)** examines the relationship between adverse delivery experiences and labor episodes and the mode of birth. They revealed that all of women had negative childbirth experience and the majority of them had negative attitude regarding augmentation of labor**.**

Moreover, **Schaal, Fehm, Albert, Heil, Pedersen, Fleisch, et al. (2019)** study contrasting the vaginal birth experience and outcomes between labors that start spontaneously and those that are induced revealed that two thirds of induced women had negative attitude regarding augmentation of labor. The agreement between the study results may be due to women weren't allowed to have labour companion, fear of pain, lack of resources and administration of oxytocin as they thought that augmentation may fail. Also, may be due to the lack of choice given to women in the care received during labour and birth, lack of awareness about alternative options, overcrowding and lack of privacy.

While, the present study findings contradict with **Blanc-Petitjean et al.'s (2021)** study about "Methods of induction of labor and women's experience: a population-based cohort study with mediation analyses," They reported that a positive labor induction experience was reported by the majority of all induced women. Furthermore, the cross-sectional study "First-time mothers' satisfaction with their birth experience" by **Johansson & Finnbogadóttir (2019)** revealed that while nearly few percent of women experienced a bad birth experience, the majority of them felt positively about using oxytocin to induce labor.

Furthermore, a population-based cohort study conducted by **Dupont, Blanc-Petitjean, Cortet, Gaucher, Salomé, Carbonne, et al. (2020)** examined women's discontent with labor induction based on parity. They showed that less than one-third of the women expressed negative attitude with labor induction. Additionally, a survey of obstetricians' opinions of inducing labor at 39 weeks gestation with the goal of lowering the rate of cesarean sections was conducted by **Davis, Waldman, Phipps, Hyett, & de Vries (2021**) , they found that most of responders agreed on medical and clinical indications for IOL. The disagreement between the study results may be due to that augmenting agent induce labour quickly and length of labour is acceptable, so labour become much faster than expected for women.

Lastly, when administered correctly, oxytocin helps parturient women. In order to enhance mother satisfaction and boost women's favourable attitudes about labour augmentation, it is crucial to promote women's safety when using oxytocin through knowledge and effective clinical application of the most recent research, professional standards and guidelines.

6- Conclusion

Based on the findings of the present study, it can be concluded that:

More than half of the studied nurses had good practice regarding oxytocin administration procedure, while few percentages had poor practice. More than half of them had good practice regarding getting ready, few percentages had poor practice regarding management and post procedure tasks. Three quarters of them incompletely ensured the comfort of the woman. All of them discontinued the oxytocin infusion and notified a physician if maternal or fetal complications have been developed. The majority of them recorded intake and output and more than one third of them didn't complete the partogram data.

More than half of the studied parturient women had negative attitude regarding augmentation of labor. More than three quarters weren't satisfied globally about the augmentation. Around half of them were to some extent worried about losing of control and they thought that augmentation may fail. Most of them agreed that labor augmentation is more painful than normal labor and augmenting agent may induce labor quickly.

7- Recommendation

Based on the results of the present study, the following recommendations were suggested:

- Conducting continuous periodic in-services training for maternity nurses to improve their practice regarding oxytocin administration.
- Improving women attitude towards augmentation of labor through increasing their awareness & enhancing shared decision making.
- Policy makers and head managers must work hardly to make universal written guidelines on safe oxytocin administration in every health institution.

Further studies are recommended to investigate

- Barriers against nurses' compliance with oxytocin drug administration guidelines.
- Conducting this study on different settings.

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Conflicts of Interests

There isn't a conflict-of-interest statement according to the investigators.

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