ASSESSMENT OF NURSES' COMPLIANCE WITH OXYTOCIN ADMINISTRATION PROTOCOL DURING LABOR AT DAMMIETA CITY

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ABSTRACT

Background: Oxytocin is safe when used correctly. Complications usually follow improper doses or inadequate supervision .Oxytocin administration errors are a significant source of professional liability. **Aim:** Assess nurses' knowledge and practices toward compliance with oxytocin administration protocol during labor. **Design:** A cross sectional descriptive design was adopted. **Setting:** The study was conducted at Obstetrics and Gynecology department in four hospitals named: Altakhasosy Hospital, Al Azhar Hospital, General Damietta Hospital and Kafr Saad Hospital in Damietta city**. Subjects:** A total of fifty five nurses. **Tools:** Three tools were used for data collection: 1-Structured Self -administered questionnaire, 2- an observational check list and 3- assessment sheet. **Results:** About two third of the nurses had poor knowledge about use of oxytocin administration protocol , and there was a statistically significant relation between average total knowledge score of studied nurses and their working shift, years of experiencing in nurses. The majority of them had unsatisfactory Practice level, and there was no statistically significant relation between the average total practice score of studied nurses and their demographic characteristics, their work characteristics, only between average total practice score and years of experiencing in midwifery. **Conclusion:** nurses had poor knowledge about use of oxytocin, and most of them had unsatisfactory practice. **Recommendations:** periodic in-services training programs on oxytocin administration to improve nurses knowledge and practice is needed , further studies to identify factors responsible for the low quality of nursing care during childbirth to any complication also needed .

Key words: Nurses' compliance; oxytocin administration protocol; labor

INTRODUCTION

Childbirth is a most wonderful, pleasurable event to the mother but at the same time it is also a life-threatening event to her. Hence, ensuring safe childbirth is the responsibility of a maternity nurse by promoting and preserving the health of the mother and fetus from conception to childbirth (Sathiya, 2015). Labor is considered a life changing event for most women and families all over the world. Also, labor is associated with great risks and in severe cases disability and even death for mother or child *(*WHO, 2018).

Induction of labour is the stimulation of uterine contractions during pregnancy before labor begins on its own to achieve a vaginal birth. It is most often performed by administering oxytocin or prostaglandins to the pregnant woman or by manually rupturing the amniotic membranes (WHO, 2011). Labour induction and augmentation should only be carried out by highly qualified health workers in facilities with access to emergency obstetric care due to increased risks of complications accompanying these procedures (Deepak, Mirzabagi, Koski, & Tripathi, 2013).

Oxytocin is the most commonly used induction agent worldwide and is utilize to stimulate or augment labor in 50%of all births in the United States. Furthermore, one of the leading causes of obstetrical liability claims involves the administration of Oxytocic (Boston, Hall, & Fraser, 2009; Hidalgo-Lopezosa, Hidalgo-Maestre & Rodríguez-Borrego, 2016). It was designated as high-alert medication in 2007by the institute for safe medical practice. High-alert medications are recognized as those medications that require special considerations and precautions before and during administration which increased risk of causing significant patient harm when used in error (Krening, 2012; Clark, Simpson, Knox, & Garite, 2009; Williams, 2007).

Oxytocin is a serious medicine that needs close monitoring to avoid consequences as fetal respiratory distress caused by severe uterine contraction and uterine rupture. . In addition, it needs close monitoring to evaluate progress of labor and to detect signs of failure of induction if they occur early to prevent adverse outcomes (Clark, Rice Simpson , Knox & Garite, 2011).

Compliance defined as the act or method of obliging to a need, demand, proposal, or programme or with coercion. Hence, if the nurse becomes able to acknowledgement and compliance guidelines of medications administration, all the previous oxytocin complications

and side effects can be controlled or completely disappeared. So, understanding of safe administration and management of the drug is critical (Tyreman, 2012).

Nurses have a major role in compliance to guidelines of medications administrations to women during labour, especially with high alert medication as (Oxytocic) which includes nurse role before, during, and after administration of oxytocin. Nurse role before oxytocin administration as checking five rights of medication, assess maternal vital signs, uterine contraction as well as fetal heart rate. While nurse role during oxytocin administration as monitoring maternal, fetal condition, intake and output chart, and manage any complication arise, and nurse role after oxytocin administration as documentation and reporting (Freeman , Nageotte, 2007; WHO, 2012).

Significance of this study

Safe childbirth is the responsibility of the maternity nurse by promoting and preserving the health of the mother and foetus. There are various drugs that are used during the pregnancy cycle. A group of drugs called "oxytocics" are commonly administered to expectants mothers for the management of abortions, post-dated pregnancy, labour and puerperium. Nurses at the bedside of the laboring women make oxytocin titration decision based on their nursing assessment. Misuse of labor inducing medication such as oxytocin has been identified as contributing to maternal and neonatal mortality. Use of labor-inducing medication by insufficiently trained cadres of healthcare workers is prevalent. The stakes are high, with unregulated usage of such medication resulting in severe consequences for mother and child (McKinney, , James, Murray, Nelson,& Ashwill, 2017; Safieh, 2014). So nurses must be up to date in their knowledge and be careful to learn all practical procedures following guidelines related to medication administration to save maternal &fetal life (Williams, 2007;WHO,2002).

AIM OF STUDY

This study aimed at assess the nurses' knowledge and practices toward compliance with oxytocin administration protocol during labor.

SUBJECT AND METHOD

Research Design:

Cross sectional Descriptive design was utilized in this study.

Setting:

The study was conducted at obstetric and gynecological department in four hospitals in Damietta governorate namely: Al-Azhar University Hospital, General Damietta Hospital, Altakhasosy Hospital, and KafrSaad Hospital.

Study **sample***:*

There are two samples where determined:

First sample: A total of 55 nurse, they are a total of nurses study, who was provide nursing care for hospitalized woman with induction by oxytocin.

Second Sample: A total of (165) women who attending the previously mentioned selected obstetric and gynecological department and fulfilling the following inclusion criteria .

Inclusion criteria:

1. Assigned to normal vaginal delivery.

2. Women at reproductive age from (20-35) years old.

3. Gestational age above 37 week.

4. Induced by oxytocin.

Exclusion criteria:

 - A pregnant woman diagnosed with severe cardiovascular disease

- Women who delivered previously by cesarean section.

-Any condition where vaginal delivery inadvisable.

Sample type: Convenience sample.

Sampling procedure: Purposive sampling was used to select the subjects for the study.

   Sample Size:

   Second Sample: A sample of (165) women who attended the previously mentioned study settings and fulfilling the inclusion criteria were enrolled in this study during the period of data collection (8 months).

The sample was determined by using the way of 25% from average number women who was induced by oxytocin drug during labor in previous mentioned setting.

Total numbers=**2384** rate of hospital administration at 2017

Average number=**596**

Sample size=**149**

The calculated sample is 149 women. Due to expected non-participating rate (10%), the final sample size is 165 laboring women. At least three women for each nurse .

Tools of data collection:

Data were collected using three tools devised specifically for the study these tools include the following. *Tool (I): Self-administered questionnaire for nurses*

   It was designed by research investigator after reviewing related literatures, it was written in Arabic language and composed of two parts containing open and closed ended questions to assess the following:-

- **Part (I):** *Socio-demographic characteristic data of studied nurses*:

It was contained questions about nurses" name, age, works of place, marital status, level of education, years of experience and previous training in labor and delivery unit.

Part (II): *Nurses* **knowledge** *regarding* oxytocin administration such as: definition, administrations rout and, complication, nursing intervention for oxytocin administration mother and etc….

Knowledge scoring system:

A score of each question was given as follows:

-Correct answer scored = (1)   - Incorrect answer scored = (0)

As well as nurses' total knowledge score was classified as the following:

- Total nurses' knowledge considered UN satisfied (poor) when the total score is<50%.

- Total nurses' knowledge considered fair when the total score is 50% to <75%.

- Total nurses' knowledge considered satisfied (good) when the total score is≥75%.

Tool (II): Observational checklist for nurses

- It was used to assess the nurses' performance which includes data related to practical skills provided by nurses for mothers with   oxytocin administration. That included admission care, vital signs measurement, fetal heart rate count…etc.

It contained 33 items grouped in 3 main sections as follows:

- Nurses role before oxytocin administration(N=9)

- Nurses role during oxytocin administration(N=16)

- Nurses role after oxytocin administration(N=8)

Scoring system: Nurses performance were scored: Done compliance or practice in objective (satisfied) scored (2),incompletely done compliance or practice in objective (unsatisfied) scored (1) ,and Not done compliance or practice in objective scored (0).The total score ranged between (33 -66).

As well as nurses' total practice score was calculated as following:

- The total practical skills was considered satisfied if the percentage of total practices scored ≥ 60 %

- The total practical skills will be considered UN satisfied if the percentage of total practices scored < 60%.

Tool III: **Assessment sheet for women:**

This tool was developed by the researcher to collect data related to:

- Sociodemographic characteristics such as: age, address, level of education, occupation, marital status and housing condition.

- Medical history such as: diabetes, hypertension, heart disease, kidney disease, anemia and.

- Obstetric history such as: gravid, parity, number of abortion, previous method of delivery, any complications during previous delivery, problems related to present pregnancy, duration of pregnancy, and method of present delivery.

Tools Validity: The tools were developed by the researcher based on review of related literature and similar tools. They were exposed to face and content-validated by a panel of six university experts in obstetrics and gynecology from nursing discipline.

Content reliability: Tools were tested for reliability using Cronbach's alpha test which the nurses' knowledge about oxytocin administration was = 0.726, and an observational check list was = 0.872. The tools were proved to be reliable with Cronbach's alpha test.

Pilot Study:

Before embarking on the actual study, a pilot study was conducted on 10% of the study subjects which represent 17 women, and 6 nurses who were excluded from the study sample. The purposes of the pilot study were to test the applicability and clarity and feasibility of the study tools and it served to estimate the time needed to complete the tools. It also helped to find out any obstacles and problems that might interfere with data collection process. Based on findings of the pilot study, no certain modifications on the tools were done.

Field work*:*

The data was collected through two days per week to each hospital which means six days per week. Collection of data covered a period of eight months" from the first of May 2018 to the end of December 2018". The data collection process was conducted by observation of nurses during their administration of oxytocin using observational checklist (tool II).Each nurse was observed 3 times: during morning shift (8am to2am) and the evening shift (2am to8am).There are no differences found in their action between observation one, two and three. Tool III was completed at the same time from the women and hospital record. Tool I was distributed to the nurses during the break time to evaluate their knowledge about oxytocin after completing (tool II& Tool III). After completion, the researcher ensures that all statements included in the tools were completed. Then, nurses were thanked for their cooperation.

Administrative design

Before starting any step in the study, an official letter was issued from the Dean of the faculty of nursing to the director of each previously mentioned study setting requesting his/her cooperation and permission to conduct the study in obstetric and gynecological department, after explaining the aim of the study.

Ethical considerations:

1. An official permission was taken from directors of the previously mentioned study settings to carry out the study.
2. An oral consent was obtained from the nurses and women after explaining the aim of the study.
3. The studied nurses were assured that the information obtained was confidential and used only for the purpose of the study and anonymity is guaranteed.

4. The studied subjects were informed that their participation is voluntary and they had the right to with draw from the study at any time. This study has not any harmful for nurses or mothers and does not touch religious cultural and ethical issues.

RESULTS:

Table (1): Reveals that studied nurses' age ranges between 20-50 years with a mean age± SD of 33.11± 6.18years, two third of them (60.0%) their age ranges between 30 to less than 40 years old. Looking to their level of education, it is found that, two- third of the nurses (65.5%) had diploma level of education. It is also observed that the high majority of them (87.3%) were married and more than three quarter of the nurses (80.0%) live in Rural. As regard to family income, 52.7% of the studied nurses had enough income monthly. Only 23.6% of them had training courses, about half of them (53.8%) had two courses, and 46.4% had the last course from one year. This entire course (100%) was provided by ministry of health.

Table (2): show that 81.8% of the studied nurses had not correct answer about definition of oxytocin . 74.5% hadn't correct answer for the relation between oxytocin& bonding. Looking to the best method to give the oxytocin, and the labour where it used, the most of nurses 92.7 % had correct answer.

Table (3): Describes that the majority of nurses (90.9%) had correct answer for indication of oxytocin, 63.6% hadn't correct answer for mothers' contraindications of using oxytocin, while 41.8% hadn't correct answer about fetus' contraindications of using oxytocin.85.5% of studied nurses had correct answer about nurse role at occurrence of side effects, but had not correct answer about side effects and complications to the newborn.

Table (4): show that the highest percentage of the studied nurse (65.5%) had low level of knowledge about use of oxytocin, third of them (30.9%) had fair level of knowledge while only 3.6% of them had high level of knowledge about use of oxytocin.

Table (5): represents that all of studied nurses (100.0%) were satisfied checking woman's name and 60.0% not satisfied in Comparing name of oxytocin with woman's sheet 3 times to ensure correct name. In regarding to assess FHR more than three quarter of studied nurses 78.2% didn't do it.

Table (6): Illustrates nurses' role after administration of oxytocin . More than three quarter of them (83.6%) Satisfied marked Signature in women sheet, and the half (50.9%) not satisfied record Observations notified to the physician. It's observed that the high majority of studied nurses (96.4%) didn't record women Intake & output.

Table (7): show that 94.5%0f studied nurses had unsatisfactory practice after women induction with oxytocin, while 25.5% of them had satisfactory practice before women induction with oxytocin with Mean ± SD 11.92 ± 2.67. Regarding to Total score practice 87.3%of them had Unsatisfactory Practice Level with Mean ± SD 35.31 ± 11.0.

Table (8): Shows that there is statistically significant relationship between average total knowledge score and sociodemographic characteristics of the studied nurses in the areas of educational level, age group, and Marital status whereas p-value ≤0.05 ,and there was a statistically significant relation between the average total knowledge score of studied nurses and their years of experiencing in nurses whereas (P 0.001) and number of working hours . Its elicits that there is no statistically significant relation between the average total knowledge score of studied nurses and years of experiencing in midwifery, attending training courses.

Table (1): Demographic and profile of the studied nurses (n=55)

Personal characteristics	Studied nurses (n=55)		Test /p value
	No	**%**	
Age (years) :			Range: 22.0 – 47.0
20- <30	15	27.3	
30 -<40	33	60.0	Mean ±
40 – 50	7	12.7	SD=33.11±6.18
			Median = 34.0
Education :			
Diploma	36	65.5	
Technical	12	21.8	
Bachelor	7	12.7	
Marital status :			
Single	3	5.5	
Married	48	87.3	
Divorced	2	3.6	
Widow	2	3.6	
Residence :			
Urban	11	20.0	
Rural	44	80.0	
Family income :			
Not enough	26	47.3	
Enough	29	52.7	
Attending training			
No	42	76.4	
Yes	13	23.6	
Number of training courses(n=13)	(n=13)		
One	5	38.5	
Two	7	53.8	
Three	1	7.7	
Duration since last training(n=13)			
< one year	6	46.4	
1 -<2	2	15.4	
2 – 5 years	5	38.5	

Table (2): Distribution of the study nurses according to their general knowledge about oxytocin administration. (n=55)

Questions	Not correct		Correct		Average score
	No	%	No	%	Range: 3.0 – 12.0
Nature of oxytocin	45	81.8	10	18.2	
the source of oxytocin	36	65.5	19	34.5	Mean ± SD=6.34
Reasons for administration	22	40.0	33	60.0	
Oxytocin is used in which stage of labor	39	70.5	16	29.1	±2.44
Best way of Oxytocin administration during labor	4	7.3	51	92.7	Median =6.0
Type of labor in which Oxytocin are administered	4	7.3	51	92.7	
Effect of Oxytocin on uterine muscles	18	32.7	37	67.3	
Factors affecting Oxytocin effectiveness	18	32.7	37	67.3	
relation between oxytocin & milk expression	37	67.3	18	32.7	
What is this relation?	39	70.9	16	29.1	
relation between oxytocin & bonding	38	69.1	17	30.9	
What is this relation?	41	74.5	14	25.5	
Warning signs be reported to the doctor during oxytocin administration	25	45.5	30	54.5	
percentage of the nurses knowledge	50.9		49.1		

Table (3): Nurses' knowledge about use of oxytocin use, side effects & complications . (n=55)

Questions	Studied nurses (n=55)				
	Not correct		Correct		Average score
	No	%	No	%	Range:0.0– 3.0
Indications of oxytocin	5	9.1	60	90.9	Mean±SD
Mothers' contraindications of using oxytocin	35	63.6	20	36.4	=1.85 ±0.97
Fetus' contraindications of using oxytocin	23	41.8	32	58.2	Median =2.0
Available oxytocin dose in the unit	0	0.0	55	100	
Hospital practice of using oxytocin	10	18.2	45	81.8	
Side effects to the mothers	39	70.9	16	29.1	Range:0.0– 7.0
Complications to the mothers	10	18.2	45	81.8	Mean±SD
Side effects to the fetus	19	34.5	36	65.5	=3.58 ±1.57
Complications to the fetus	37	67.3	18	32.7	Median =3.0
Side effects and complications to the newborn	47	85.5	8	14.5	
In what of labor, oxytocin is used?	28	50.9	27	49.1	
Nurse role at occurrence of side effects	8	14.5	47	85.5	
Meaning of oxytocin protocol	8	14.5	47	85.5	
percentage of the nurses knowledge	25.5		74.5		

Table (4): summary of total nurses' knowledge score to compliance of oxytocin administration. (n=55)

Level of knowledge	Values	No	%
Poor knowledge	< 50.0%	36	65.5
Fair knowledge	50.0% t0 < 75.0%	17	30.9
Good knowledge	≥75.0%	2	3.6
	Ranges of score	**Mean ± SD**	**Median**
	5.0 – 21.0	**11.78 ±3.63**	**11.0**

Table (5): Distribution of the nurses' practice according to their Compliance before administration of oxytocin (n=55)

Items	Studied nurses (n=55)					
	Done				Not done	
	Satisfied		Not satisfied			
	No	%	No	%	No	%
1-Checking woman's name by asking her name or checking rest band	55	100.0	0	0.0	0	0.0
2-Comparing name of oxytocin with woman's sheet 3 times to ensure correct name	16	29.1	33	60.0	6	10.9
3-Reviewing woman's sheet for correct date, time & dose of oxytocin	26	47.3	25	45.5	4	7.3
4-Making sure that gestational age is 39 weeks or more	4	7.3	11	20.0	40	72.7
5- Reviewing woman's sheet to ensure clarity of physician's order	27	49.1	25	45.5	3	5.5
6-Assessing woman's vital signs & blood pressure	38	69.1	17	30.7	0	0.0
7-Assessing fetal heart rate	4	7.3	8	14.5	43	78.2
8-Performing complete pelvic examination by physician or the midwives	52	94.5	3	5.5	0	0.0
9-Obtaining informed consent	41	74.5	8	14.5	6	10.9

Table (6): Distribution of the nurses practice according to their Compliance after administration of oxytocin(n=55)

Items	Studied nurses (n=55)					
	Done				Not done	
	Satisfied		Not satisfied			
	No	%	No	%	No	%
Documentation of the following data about oxytocin infusion in woman's sheet						
26-Dose of oxytocin as well as amount & type of solution	40	72.7	15	27.3	0	0.0
27-Initial oxytocin rate, increasing or decreasing rate, discontinuation or restarting	12	21.8	23	41.8	20	36.4
28-FHR or its changes as well as duration, interval & intensity of contraction every 30 min & on changing dose	2	3.6	5	9.1	48	87.2
29-Maternal vital signs and blood pressure	32	58.2	21	38.2	2	3.6
30- Vaginal exams & their findings	6	10.9	8	14.5	41	74.5
31-Intake & output	1	1.8	1	1.8	53	96.4
32-Observations notified to the physician	1	38.2	28	50.9	6	10.9
33-Signature	46	83.6	6	10.9	3	5.5

Table (7): summary of total nurses practice score to compliance of oxytocin administration (n=55)

Practice Level	Unsatisfactory (<75%)		Satisfactory (≥75%)		Average score		
	No	%	No	%	Max score	Min - Max	Mean ± SD
Before	41	74.5	14	25.5	18	7 – 18	11.92 ± 2.67
During	45	81.8	10	18.2	32	7 – 32	15.62 ± 6.91
After	52	94.5	3	5.5	16	3 – 16	7.76 ± 2.64
Total practice	48	87.3	7	12.7	66	21 -64	35.31 ± 11.0

Table (8): Relationship between average total knowledge score and sociodemographic , work characteristics , of the studied nurses (n=55)

Items	No (n=55)	Total score Mean ± SD	Significance test
Age (years)			
20 –<30	15	14.60 ± 2.64	F = 9.375,
30 –<40	33	11.09 ± 3.46	P <0.001
40 – 50	7	09.00 ± 2.71	
Education			
Diploma	36	10.67 ± 2.52	F = 7.737,
Technical	12	14.91 ± 2.87	P 0.001
Bachelor	7	12.14 ± 6.20	
Marital status			
Single	3	15.67 ± 1.53	
Married	48	11.63 ± 3.67	F = 1.475,
Divorced	2	12.00 ± 4.24	P 0.232
Widow	2	09.50 ± 0.70	
Residence			
Urban	11	11.73 ± 3.92	t = 0.055,
Rural	44	11.80 ± 3.61	P 0.956
Family income			
Not enough	26	10.08 ± 2.77	t = 1.373,
Enough	29	12.41 ± 4.21	P 0.176
Years of experiencing in nursing			F = 7.614, P 0.001
< 5	8	14.38 ± 2.92	
5 –<15	21	12.95 ± 4.03	
15 – 25	26	10.04 ± 2.58	
Years of experiencing in midwifery			
< 5	19	12.42 ± 3.24	F = 3.019,
5 –<15	24	12.38 ± 3.89	P 0.058
15 – 25	12	09.58 ± 3.03	
Number of working hours			
6	16	10.06 ± 3.04	F = 5.608,
8	25	11.56 ± 3.91	P 0.006
12	14	14.14 ± 2.51	

DISCUSSION:

Childbirth is important and a life changing event so, the care given to women may affect both mother and her baby physically and emotionally in the short and longer term (Karlström, Nystedt, & Hildingsson, 2015).

Induction of labour is the process of artificially stimulating the uterus to start labour. To avoid potential risks associated with the induction the woman and her baby need to be monitored closely to identify and manage any complication (WHO, 2014). Oxytocin is the most commonly used induction agent worldwide and is utilize to stimulate or augment labor in 50%of all births in the United States. Furthermore, one of the leading causes of obstetrical liability claims involves the administration of Oxytocic (Baston Hall, Fraser, 2009; Bugg, Siddiqui , Thornton , 2013).

Oxytocin is one of the most frequently used drugs in obstetrics, but it is also the drug accompanied with the most preventable adverse events in childbirth. All midwives bear a huge obligation when they administering drugs, since these may affect not only on the mother but also on the fetus during delivery and on the newborn. As an active member in the care group, midwife plays an essential role in detecting the changes of oxytocin use. Nurses particularly the midwife, should be very careful when administering the oxytocin and follow it up with full monitoring as, it can be harmful to the life of both the mother and fetus (Mosbys, 2015).

Therefore, this study was conducted to evaluate nurses' compliance with oxytocin administration protocol during labour. This aim was achieved through assess nurses' knowledge and practices regarding use of oxytocin during labor.

The finding of the present study denoted that the highest percentage of the studied nurse, two third (65.5%) had low level of knowledge about use of oxytocin, while only 3.6% of them had high level of knowledge about use of oxytocin. So, we can understand from the findings that majority of the staff nurses had below average level of knowledge.

This study was carried on 55 nurses. Two third of them (60.0%) their age ranges between 30 to less than 40 years old, about two thirds of them had secondary school of nursing, less than half (45.5%) of them their experience in obstetric ward in ranges between (5-14) years, less than half

(45.5%) of them working for 8 hours, and more than two-third (70.9%) of nurses provided care to patient in range between 1-9for each nurse, and The high majority of them (89.1%) didn't have another work. only 23.6% of them had training courses about labor. This explains why the majority of them had inadequate knowledge.

This finding goes in line with Shrestha, (2017) who reported that majority of respondents 37% belongs to 31-35 years of age group, minority of the respondents 18% were in the age group of above 35 years of age group, , the distribution includes majority of staff nurses 53% of them were married, and minority 47% of them were un-married. With regard to educational qualification, 83% of the staff nurses were GNM, total years of experience maximum 39% of staff nurses had above 6 years' experience, and 63.3% had Inadequate knowledge (<50%) knowledge regarding maternal and neonatal outcome of induction of labour.

This is congruent with Shiny, (2017) study in Chennai about assessment of the knowledge and practice on use of oxytocin among nurses working in selected hospitals who showed that the majority of the staff nurses were in age group of 21 -30 years. This is also matching with the study of Thamer (2014) about assessment of nurses' knowledge regarding oxytocin administration during labor at maternity hospitals in Al-Kut City who indicated that 62.9% of nurses had no training in the administration of oxytocin during labor and 52.9% of them had more than 5 years of experience.

In other hand; the current finding is not in harmony with Durodola, Kuti, Orji, & Ogunniyi (2005) who study titled had "Rate of increase in oxytocin dose on the outcome of labor induction". Their study shows that head nurses and doctors had good knowledge about oxytocic administration. The differences between finding of the present study and Durodola may be due to the fact that the present study subjects are stuff nurses, while in Durodola study are medical staff and professional nurses.

Regarding knowledge about the relation between oxytocin and milk expression and the relation between oxytocin and bonding, about two third of nurses hadn't correct answer. This lack of knowledge may be due to this knowledge are not practiced. These results were in the same direction with Roma, Al-Battawi, & Zaki, (2014) who demonstrated that the vast majority (87.5% and 88.33%) gave incorrect answers or didn't know the relation between oxytocin and

milk expression and the relation between oxytocin and bonding respectively. The similarity between Roma and present study may be due to the majority of subjects in two studies didn't receive any training programs about oxytocin drug and didn't had any training programs.

World Health Organization, (2013) reported that the nurses who

offer care to women during labor must be have a base of knowledge that

guide them to accomplish their nursing practice. Unfortunately, the

findings of the present study revealed that, 60.0% of studied nurses had Poor knowledge about general knowledge for oxytocin administration related to the source of oxytocin, which stage of labor use and best way of oxytocin administration during labour (table 4). This may be due to lack of continuous educational programs. The current study findings are in contrast with Roma, Al-Battawi, & Zaki (2014).

The current study revealed that 65.5% of nurses had inadequate knowledge, third of them (30.9%) had fair level of knowledge while only 3.6% of them had high level of knowledge about use of oxytocin during labour. These results were supported by Ahla, Fatihah&Norziyana (2015) who conducted a study to assess the knowledge of nurses' midwives regarding nursing care of a women receiving oxytocin drug during labour in El Ribat who stated that, 32.3% of staff nurses had sufficient pretest knowledge. The same results were also observed by Haleena&Prathap (2013) who evaluates the knowledge and practice of oxytocin induction and quality of delivery care among staff nurses working in maternity ward. The results of the research concluded that, 61.6% of nurses had insufficient knowledge. This study is in agreement with other study done by Mohamed , Desoky, Metwally(2019) that studied the effect of educational Program on improving nursing knowledge and Practice regarding administration of oxytocin during labour the study concluded that 36.3% of nurses mentioned correct answer in pretest related to the action of oxytocin. Regarding the effect of oxytocin on labor, 73.3% of nurses had correct answer. As for maternal factors that influence augmentation of labor with oxytocin, only 20.0% of nurses had correct answer.

The present study showed that 94.5% 0f studied nurses had unsatisfactory practice after women induction with oxytocin, while 25.5% of them had satisfactory practice before women

induction with oxytocin with Mean ± SD 11.92 ± 2.67. Regarding to total score of practice 87.3% of them had unsatisfactory Practice level with Mean ± SD 35.31 ± 11.0. This is in agreement with Shiny (2017) who reported that 72.9% of the staff nurses had insufficient knowledge and 66.2% of them had bad practice regarding administration of oxytocin during delivery. This corresponds well with the study of Ali, &Ameer (2012) about knowledge and practice on oxytocin administration techniques among staff nurses working in maternity hospitals in Al-Hillah City who emphasized that more than half of the staff nurses had insufficient knowledge and poor practice. This finding on the same line with the findings of Shiny (2017) who shows that majority (45%) of the staff nurses had poor practice, 32.5% of the staff nurses had moderate practice and 22.5% of the staff nurses had good practice on use of oxytocin.

Regarding relationship between average total knowledge score and sociodemographic characteristics of the studied nurses, and work characteristics of the studied nurses. The present study Shows that there is statistically significant relationship between average total knowledge score and sociodemographic characteristics of the studied nurses in the areas of educational level, age group, and Marital status whereas p-value ≤0.05 , there was a statistically significant relation between the average total knowledge score of studied nurses and their years of experiencing in nurses whereas (P 0.001)and number of working hours, but there is no statistically significant relation between the average total knowledge score of studied nurses and years of experiencing in midwifery, attending training courses.

This study is in agreement with Shiny (2017) who reported that there was a statistically significant association between the level of knowledge on use of oxytocin among staff nurses with the age and religion at p < 0.001 , income per month at p < 0.01 ,the educational status, total working experience at p < 0.05 and working experience in maternity unit at p < 0.001 ,in-service education on use of oxytocin at p <0.001, level of significance, and there was no statistically significant association between level of knowledge on use of oxytocin with the maximum working experience in maternity unit & current area of working.

The finding of present study is not in congruence with the finding of Shrestha (2017) that explains that the all demographic variable such as age, religion, marital status, educational

qualification, total years experiences, monthly income, shows that there is no statistical association with pretest level of knowledge at 5 % level of significance.

CONCLUSION:

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

The highest percentage, two third of the studied nurse (65.5%) had poor knowledge about use of oxytocin, while only (3.6%) of them had good knowledge, and 30.9% had fair knowledge about use of oxytocin. Regarding to total score of practice 87.3% of them had unsatisfactory Practice Level with Mean ± SD 35.31 ± 11.0.

RECOMMENDATIONS:

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

❖ Designing and implementing an educational training program to nurses about high alert medications (as Oxytocin) that used in labour unit.

❖ Every health institution must have written protocol on safe oxytocin administration.

❖ Conducting periodic in-services training program for midwifery nurses who are handling cytotoxic drugs to improve knowledge and safe handling measures and reduce the harmful effects of these drugs among nurses is considered of great importance.

Further studies:

-Further studies are recommended to investigate the effect of educational training program on nurses' knowledge and practice.

-Further studies are recommended in other settings to Investigate barriers against nurses' compliance with drug administration guidelines.

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تقييم إلـتـزام الممرضـــات ببروتوكول إعطـاء الأوكسيتوسـين أثنـاء الــولادة بمدينة دمياط

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الـخـــلاصـة

الأوكسيتوسين آمن عند استخدامه بشكل صحيح. عادة ماتنتج المضاعفات من جرعات غير مناسبة أو مراقبة غير كافية. أخطاء إعطاء الأوكسيتوسين هي مصدر مهم للمسؤولية المهنية. **هدف البحث:** هدفت هذه الدراسة الوصفية إلى تقييم مستوى معرفة وممارسات الممرضات تجاه الامتثال لبروتوكول إعطاء الأوكسيتوسين أثناء الولادة. وقد أجريت هذه الدراسة بقسم أمراض النساء والولادة في أربعة مستشفيات هي: مستشفى التخصصي ، ومستشفى الأزهر ، ومستشفى دمياط العام ، ومستشفى كفر سعد بمدينة دمياط. وشملت عينة البحث خمسة وخمسون (55) ممرضة عاملة في المستشفيات المذكورة سابقاً في الدراسة. **طرق وادوات البحث:** تم استخدام ثلاث أدوات لجمع البيانات: 1- استمارة استبيان 2- استمارة الملاحظة لاداء التمريض، 3- - استمارة تقييم. **النتائج:** كشفت أن: حوالي ثلثي الممرضات يفتقرن إلى المعرفة حول استخدام بروتوكول إعطاء الأوكسيتوسين ، وكانت هناك علاقة ذات دلالة إحصائية بين متوسط درجات المعرفة الإجمالية للممرضات الخاضعات للدراسة وفترة عملهن ، وسنوات الخبرة. كان لدى الغالبية منهم مستوى ممارسة غير مرضٍ ، ولم تكن هناك علاقة ذات دلالة إحصائية بين متوسط درجات الممارسة الإجمالية للممرضات المدروسات وخصائصهن الديموغرافية ، وخصائص عملهن ، فقط بين متوسط مجموع درجات الممارسة وسنوات الخبرة في التوليد. **الاستنتاجات:** كان لدى الممرضات معرفة ضعيفة حول استخدام الأوكسيتوسين ، ومعظمهم مارسوا ممارسات غير مرضية. **التوصيات:** هناك حاجة إلى برامج تدريب دورية أثناء الخدمة حول إعطاء الأوكسيتوسين لتحسين معرفة الممرضات وممارساتها ، ودراسات إضافية لتحديد العوامل المسؤولة عن الجودة المنخفضة للرعاية التمريضية أثناء الولادة.

الكلمات المرشدة :الولادة ، تحفيز الولادة ، الأوكسيتوسين ، دور الممرضة