



RESEARCH ARTICLE

Effectiveness of Educational Program on Nurses/Midwife's Performance Regarding Placenta Examination at Maternity Teaching Hospital in Sulaimani/Iraq

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ABSTRACT

Background: The placenta is a feto-maternal organ. It arises from the trophoblastic layer of the fertilized egg. It works closely with the mother's circulatory system to perform functions that cannot be performed by itself while the foetation is in the womb. The placenta is a separate, distinct organ comprising maternal and fetal components.

Aim: To evaluate the effectiveness of educational programs of the placenta examination on nurses'/midwives' level of performance. Who was taking care of the maternal during and after delivery

Research Design: A quasi-experimental study was conducted at a Maternity Teaching Hospital in Sulaimani City from August 2021 to December 2021

Material and Method: A purposive convenience sample consists of (87) nurses/ midwives working in the delivery room, Postpartum ward, and theatre room (emergency – cold cases) with different qualifications and years of experience. A structured interviewing questionnaire includes three parts: socio-demographic characteristics, participants' professional background, and an Observation checklist of Nurses/Midwives' performance regarding the placental examination.

Result: The findings show that (90%) of the study sample performed poorly on the pretest, but after implementing the education program, most (94.3%) improved their performance and had good practice on the post-test. The result indicates that the majority of N/M are above 40 years old. They have skills but traditionally apply their care; after receiving the program, their practice improved.

Conclusion: The study concluded that the participants have poor practice regarding the examination of the placenta after delivery and follow traditional performance; also, the finding indicates a significant association between nurses/Midwives' age and their overall practice.

Keywords: Nurse/Midwives, Performance, Placenta, Examination.



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INTRODUCTION

The placenta is a feto-maternal organ. It arises from the trophoblastic layer of the fertilized egg. It works closely with the mother's circulatory system to perform functions that cannot be performed by itself while the foetation is in the womb (Bligh et al., 2016). The placenta is a separate, distinct organ comprising maternal and fetal components (Favaro et al., 2015).

The placenta develops gradually throughout the first trimester of pregnancy and then increases, corresponding with the uterus during the fourth month. When finished, it will resemble a sponge disk. It is a temporary organ with the same genetic traits as a developing fetus. The placenta interacts with its surroundings and vice versa (Burton & Jauniaux, 2018).

The fresh, healthy placenta has a 15–20 cm diameter and a 2.0–2.5 cm thickness. It usually weighs between 500 and 600 grams (1/6 of the baby's birth weight). However, measures might vary greatly based on various factors such as race, pathophysiology, and infant weight (Pozor, 2016).

The placenta's membranes are divided into two layers (the amnion and the chorion); the amniotic membrane releases amniotic fluid, which is breathed in and out by the fetus and acts as a sort of protection and cushion against the uterine walls (Chappell, L. C. et al., 2022). It also contributes to maintaining stable pressures and temperatures, allows for fetal development, and protects against infection. The amniotic membrane is responsible for the glossy look of this surface (Weinberg, 2021).

The maternal surface should be dark maroon and comprise lobules, typically 15 to 20, known as cotyledons. Sulci, or deep waterways, separate them. Each lobule is divided into smaller sections, each containing one lobule (Koren, G., & Ornoy, 2018). These same villi emerge from the chorion and contain fetal capillaries that bathe in the intervillous area. Maternal veins and arteries are embedded in the decidua and finish in the intervillous area; they are also in continuous circulation with the maternal circulation (Walejko et al., 2018).

The umbilical cord serves as a key link between the fetus and the placenta. The umbilical cord, which consists of the connecting stalk, vitelline duct, and umbilical veins encircling the amniotic membrane, has fully developed (Hegazy, 2016).

The umbilical cord is usually 55 to 60 cm long at term, with a 2.0 to 2.5 cm diameter, and is spirally coiled to protect the vessels (Bligh et al., 2016). A typical cord consists of two arteries and one vein. The cord is usually situated in the centre of the fetal skin, with blood vessels flowing outwards.

The umbilical arteries and veins are the lifeline that transports blood between the developing

fetus and the placenta. Without this link to the placenta, the fetus could not acquire oxygen and other nutrients or filter out carbon dioxide, urea, and other waste materials (Sibley et al., 2018).

The placenta is a fascinating and intricate organ (Kapila, V., & Chaudhry, 2020). For one reason, no organ can compete with the placenta in terms of function variety since it executes the acts of all main organ systems while they differentiate and grow in the baby. For example, an astounding range of morphological variation in placental types is observed throughout mammals and even lower orders (Turco & Moffett, 2019). It functions as the fetus's lungs, intestines, kidneys, and liver. The placenta also has significant endocrine functions that influence maternal physiology and metabolism while simultaneously providing a safe and protected environment for the developing child (Burton & Jauniaux, 2015).

Principal placental anomalies can impact both the fetus's and the mother's health. Accordingly, examining the placenta may reveal information about the impact of maternal diseases on the fetus or the cause of preterm birth, neurodevelopmental impairment, or fetal growth limitation. The advantages of placental testing include determining the cause of various unfavourable gestational outcomes, identifying infant risk factors for a long-term neurodevelopmental sequel, and improving risk assessment for upcoming gestations (Deneux-Tharoux et al., 2013).

A careful examination is required to verify that no part of the placenta or membranes has been retained since this might result in postpartum bleeding and infection. The placenta should be examined as soon as possible after birth. Every placenta, whether in the delivery room or the pathology unit, should theoretically be inspected. Any skilled staff, such as a nurse or assistant, can undertake the examination; being a pathologist or obstetrician is not essential.

The initial inspection is easy and takes a few minutes, but it is quite beneficial, particularly when there are no substantial clinical signs and symptoms shortly after birth. According to (Schellenberg et al., 2019), examining the placenta is crucial since it reflects the pathophysiology of both the mother and the baby. It can provide crucial diagnostic, prognostic, and therapeutic information and possibly disclose information about future pregnancies. It may also give crucial information about any probable causes of newborn sickness or death.

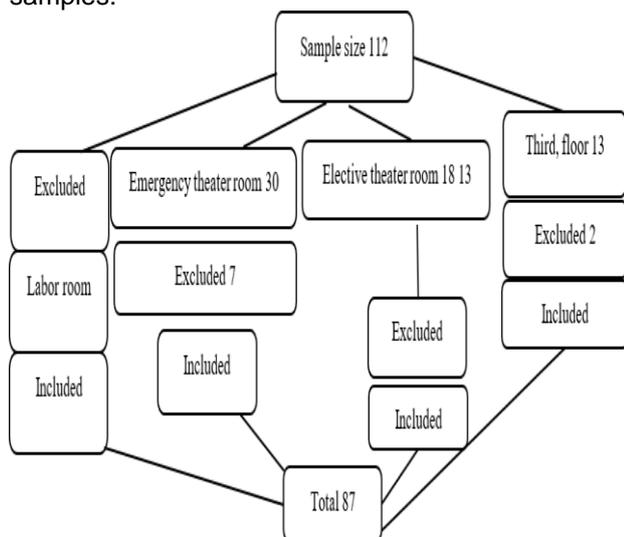
METHOD

Design Quasi-Experimental study has been chosen. This study aimed to assess the effectiveness of educational programs regarding the placenta and how to examine Nurses/ Midwives' performance who take care of maternal

during and after delivery in the Maternity Teaching Hospital in Sulaimani City.

Study sample: A purposive convenience sample consists of (112) nurses/ midwives working in the delivery room, Postpartum ward, and theatre room (emergency – cold cases) with different qualifications and years of experience at Maternity Teaching Hospital / Sulaimani City.

A researcher interviewed those who met the inclusion criteria. The following figure shows the steps that were taken to get the final group of samples:



The flow chart shows the distribution of the study sample.

Data collection: The researchers created the data collecting instruments after conducting a literature analysis examining the placenta. The questionnaire addressed various variables, sociodemographic characteristics, participants' professional backgrounds, and an Observation checklist of Nurses/Midwives' performance regarding the placental examination.

A structured interviewing questionnaire consisted of two parts:

- ▶ Part 1 consists of closed-end questions; it was constructed to collect nurses' age, educational level, and years of experience among the participants' demographic features.

* The level of education of nurses and midwives is divided into 4 levels like following:

Nursing School graduate, Secondary Nursing School graduate, Nursing and Midwifery Institute graduate, College of Nursing, graduated.

- ▶ Part 2 Observation checklist of Nurses/Midwives' performance regarding placental examination This part comprises (5) N/M performances during an examination of the placenta, which included preparation performance (6 items), Observing usual things (2 items), Observing the Umbilical Cord (9 items), Examination of Membranes

(5 items), and Examination of Placental Disk (18 items).

Statistical analysis: Reassessment scoring scales for scale dichotomous random variable, and scoring scales according to the following intervals: L (Low) 0.00 – 33.33; M (Moderate) 33.33 – 66.66; H (High) 66.66 – 100, and evaluated by scoring scales (1, 2, and 3) for the practice measurements in relative to (do it precisely, do it mistakenly, did not do) respectively. In addition to that, for evaluating items of preceding measurements, three sequential intervals in light of preceding scoring scales: [(1.0 – 1.66), (1.67 – 2.33), (2.34 – 3)], are evaluated by (Low, Moderate, and High) respectively.

Data were analyzed using descriptive and inferential statistics: frequency, percentage, mean, and standard deviation. Once the surveys and placental data were gathered, they were entered into an Excel spreadsheet and were analyzed using the SPSS software, version 22. The “Chi-square test of association” was used to evaluate the nominal distribution of data. Fisher's exact test was used in cases where the expected count >20% of the Excel cells collective achieved a score of <5.

RESULTS

Table (1) demonstrates the socio-demographic characteristics of a participant; more than half of the study sample (51.7%) were ≥ 40 years old, and 33.4% of them were between 20 and 29 years old, while only a few of them (14.9%) their age between 30-39 years, with a mean and standard deviation of (Mean± SD 36.2±10.5).

The results revealed that the highest proportion of the study sample (80.5%) was married, (17.2%) were single, and only (2.3%) of the participants were widowed. The findings show that the educational background of more than half (67.8 %) of Nurses and Midwives were Nursing and Midwifery Institute graduates (25.3%) of them had Secondary nursing school degrees, while the fewest of them graduated from Nursing school (2.3%) and College of Nursing (4.6%). The results show that most participants (65.5%) were governmentally employed, and (35.5%) had contracts.

Table (2) demonstrates that the majority of the study sample (74.7%) did not have an extra job in the private sector, while (25.3%) of them gave care in private hospitals. More than half (66.7%) were working the night shift, and (33.3%) of them were working the morning shift. Tale 2 shows that more than half of Nurses and Midwives have done approximately 1-5 deliveries in one shift, and (48.3%) have done 6-10 deliveries per shift. Regarding their experience in the health sector, more than half (57.5%) of the participants had >10

years of experience, and (36.8%) of them their experience 1-10 years, while a few (5%) Nurses / Midwives had < 1- year of experience. Their workplace was divided into two areas (labour room and theatre room); those who had >10 years of experience in the labour room represented (21.8% of the study sample, and those who had 1-10 years were the lowest (3.4%) and (13.8%) of the participant had < 1-year experience in the labour room, on the other hand, the finding of this table shows that the maximum per cent (32.2%) of Nurse/Midwives their experience in theatre room were 5-10 years. In contrast (17.2%) had < 5 years of experience, and those who had > 10 years represented (11.5%) of the participants. The result of the present study indicates that most Nurses/ Midwives (81.6%) did not participate in any training course regarding examination of the placenta; only a few of them (18.4%) have participated. Regarding the number of Nurses/Midwives involved in caring for a mother, (69%) of them said 3 Nurses/Midwives were involved, and (31%) said 2 Nurses/Midwives were involved. Table 2 indicated that only (18.4%) of Nurses/Midwives had information regarding the placenta and how to examine the placenta. The main source of their information about the examination of the placenta (8.1%) was from personal experience,(6.9%) from academic study, and a few of them(1.1%) (2.3%) from the previous training course and through their coworkers.

Table (3) represents descriptive statistics (mean of scores) and differences in the pre-posttest of Nurses/Midwives' practice regarding placenta examination. This table explains that there was a highly significant difference (P. 0.000) between the pretest and post-test of the study samples'

performance regarding Observing the “usual things” besides the placenta with the mean score **(5.21 ± 0.93)** after receiving the educational program.

Table (4) This table demonstrates that statistically, there was a highly significant association between pretest and post-test N/M practices; the highest proportion(90%) of the study sample had poor performance in the pretest, while in post-test, the majority of them(94.3%) improved their performance, and they had a good practice.

Table (5) the result shows that there was a highly significant (p. 0.000) association between Nurses/Midwives' Overall practice with their level of education and a significant association with their age (p. 0.005), marital Status (p.0.003)and their employment (p. 0.045).

Table (6) indicates that statistically, there was a highly significant (p.0.000) association between N/M working in the private sector and their performance, and a significant association between Nurses/Midwives' other professional backgrounds such as (Working shifts, Average number of delivery, Years of experience as a nurse in health sector and Years of experience in the theatre room).

Table 1: Statistical distribution of Nurses/ midwives` socio-demographic characteristics.

Socio-demographic characteristics		N(87)	
		Frequency F	Percentage %
Age of nurse and midwife (years)	20-29 years	29	33.4
	30-39 years	13	14.9
	≥ 40 years	45	51.7
Mean± SD 36.2±10.5			
Marital Status	Married	70	80.5
	Single	15	17.2
	Widowed	2	2.3
Education	Nursing school graduated	2	2.3
	The secondary nursing school graduated	22	25.3
	Nursing and Midwifery Institute graduated	59	67.8
	College of Nursing graduated	4	4.6
Employment	Government Employment	57	65.5
	Contract	30	34.5

Table 2: Distributon of the Nurses/Midwives Professional Background

Professional Background	Frequency F	Percentage %
Do you have an extra job (private sector)?	22	25.3
Yes	65	74.7
No		
Working shifts		
Morning shift	29	33.3
Night shift	58	66.7
The average number of delivery		
1-5 Delivery	45	51.7
6-10 Delivery	42	48.3
Years of experience as a nurse in the health sector		
< 6 months	5	5.7
1-10 Years	32	36.8
>10 Years	50	57.5
Years of experience in the labor room		
<6 months	12	13.8
1-10 Years	3	3.4
>10 Years	19	21.8
Years of experience in an operating room		
<5 Years	15	17.2
5-10 Years	28	32.2
>10 Years	10	11.5
Participation in training courses regarding the delivery of the placenta and how to examine it.		
Yes	20	23.0.
No	67	77.0
If the answer is yes....		
The Total duration of the course		
1-5 Days	16	18.4
>5 Days	4	4.6
Time for the last training		
<1 Year	8	9.2
1-5 Years	10	11.5
>5 Years	2	2.3
How many nurses/midwives are involved in giving care to a mother?		
2 Nurse	27	31.0
3 Nurse	60	69.0
Do you have information regarding the placenta examination?		
Yes	16	18.4
No	71	81.6
If the answer is yes,		
Source of information regarding placenta examination?		
Academic study	6	6.9
Previous training course in the hospital	1	1.1
Coworkers	2	2.3
Personal experience	7	8.1

Table 3: The relationship of the Nurses/ Midwives knowledge regarding placenta examination between pre & post education program

NO.	Nurse/ Midwives practice regarding placenta examination	Mean \pm SD Pretest	Mean \pm SD Post-test	P.value Independent sample t-test
1.	Preparation for examination	10.6 \pm 1.70	18.2 \pm 1.64	0.046 Sig
2.	Observe the "usual things" besides the placenta	2.24 \pm 0.45	5.21 \pm 0.93	0.000 H.Sig
3.	Umbilical cord examination	10.5 \pm 1.55	22.8 \pm 2.32	0.005 Sig
4.	Examination of membranes	5.80 \pm 0.90	13.0 \pm 1.43	0.265 N.Sig
5.	Examination of placental disk	20.2 \pm 3.58	44.0 \pm 3.00	0.002 Sig

Table 4: Overall Nurse/Midwives practice regarding placental examination pre & post-education program

Overall practice regarding placental examination	Pretest		Post-test		P. value Chi-square
	F	%	F	%	
Poor practice	80	90.0	0	0	0.000
Fair practice	7	10.0	5	5.7	H.Sig
Good practice	0	0	82	94.3	

Table 5: Association between Nurses/Midwives' overall practice regarding placenta examination and their socio-demographic characteristics (pre& post-test) education program.

Sociodemographic characteristic	Groups	Pretest					Post-test				
		Nurse-Midwives' overall practice regarding placenta examination		d.f	P-value	Sig	Nurse-Midwives overall practice regarding placenta examination		d.f	P-value	Sig
		Poor %	Fair %				Fair %	Good %			
Age	20-29	22 (75.9)	7 (24.1)	2	0.001	HS	5 (17.2)	24 (82.8)	2	0.005	Sig
	30-39	13 (100)	0 (0)				0 (0)	13 (100)			
	\geq 40	45 (100)	0 (0)				0 (0)	45 (100)			
Educational level	Nursing School graduated	2 (100)	0 (0)	2	0.446	NS	0 (0)	2 (100)	3	0.000	HS
	The secondary Nursing school graduated	18 (81.8)	4 (18.2)				3 (13.6)	19 (86.4)			
	Nursing and Midwifery Institute graduated	56 (94.9)	3 (5.1)				2 (3.4)	57 (96.6)			
	College of Nursing graduated	4 (100)	0 (0)				0 (0)	4 (100)			
Marital Status	Married	63 (90.0)	7 (10.0)	3	0.242	NS	5 (7.1)	65 (92.9)	2	0.003	Sig
	Single	15 (100)	0 (0)				0 (0)	15 (100)			
	Widowed	2 (100)	0 (0)				0 (0)	2 (100)			
Employment	Government	50 (87.7)	7 (12.3)	1	0.045	Sig	5 (8.8)	52 (91.2)	1	0.045	Sig
	Contract	30 (100)	0 (0)				0 (0)	30 (100)			

Table 6: Association between Nurses/Midwives overall practice regarding placenta examination and Nurses/Midwives' Professional Background (pre&posttest) education program.

Nurses/midwives' professional background	Groups	Pretest					Post-test				
		Nurses/Midwives overall practice regarding placenta examination		d.f	P-value	Sig	Nurses/Midwives' overall practice regarding placenta examination		d.f	P-value	Sig
		Poor %	Fair %				Fair %	Good %			
Do you have an extra job (private sector)?	Yes	21 (95.5)	1 (4.5)	1	0.673	NS	1 (4.5)	21 (95.5)	1	0.000	HS
	No	59 (90.8)	6 (9.2)				4 (6.2)	61 (93.8)			
Working shifts	Morning shift	23 (79.3)	6 (20.7)	1	0.002	Sig	5 (17.2)	24 (82.8)	1	0.003	Sig
	Night shift	57 (98.3)	1 (14.3)				0	58 (100)			
The average number of delivery	1-5 Delivery	38 (84.4)	7 (15.6)	1	0.012	Sig	5 (11.1)	40 (88.9)	1	0.033	Sig
	6-10 Delivery	42 (100)	0 (0)				0 (0)	42 (100)			
Years of experience as a nurse in the health sector.	< 1 year	3 (60.0)	2 (40.0)	2	0.003	Sig	0 (0)	5 (100)	2	0.030	Sig
	1-10 years	27 (84.4)	5 (15.6)				5 (15.6)	27 (84.4)			
	>10 years	50 (100)	0 (0)				0 (0)	50 (100)			
Years of experience in the labor room	<1 year	10 (83.3)	2 (16.7)	2	0.580	NS	0 (0)	12 (100)	2	0.099	NS
	1-10 years	3 (100)	0 (0)				0 (0)	3 (100)			
	>10 years	14 (73.7)	5 (26.3)				5 (26.3)	14 (73.7)			
Years of experience in the operating room	<5 years	13 (86.7)	2 (13.3)	2	0.428	NS	0 (0)	15 (100)	2	0.033	Sig
	5-10 years	23 (82.1)	5 (17.9)				5 (17.9)	23 (82.1)			
	>10 years	10 (100)	0 (0)				0 (0)	10 (100)			
Participation in training courses regarding the delivery of the placenta and how to examine it.	Yes	16 (80.0)	4 (20.0)	1	0.046	Sig	2 (10.0)	18 (90.0)	1	0.324	NS
	No	64 (95.5)	3 (4.5)				3 (4.5)	64 (95.5)			
How many nurses /midwives are involved in giving care to a mother?	1 Nurse	20 (74.1)	7 (25.9)	1	0.000	HS	5 (18.5)	22 (81.5)	1	0.002	Sig
	2 Nurse	60 (100)	0 (0)				0 (0)	60 (100)			
Do you have information regarding the placenta examination?	Yes	14 (87.5)	2 (12.5)	1	0.608	NS	0 (0)	16 (100)	1	0.352	NS
	No	66 (93.0)	5 (7.0)				5 (7.0)	66 (93.0)			

Discussion:

As nursing care is the main critical component of therapy in the labour unit, Nurses' Knowledge deficit and poor manipulation of the third stage of labour surely will interfere with their ability to achieve positive pregnancy care outcomes. Therefore, this study aimed To evaluate the effectiveness of educational programs of the placenta examination on nurses'/midwives' level of performance.

Eighty-seven Nurses/ Midwives participated in this study. The Mean age of participants was (Mean± SD 36.2±10.5); the research outcomes specified the age distribution of the respondents while revealing that the highest age group is (≥ 40) years, which made up (51.7%) of the secondary age category (20-29) years, which constituted (33.4%). It also indicated that older nurse

midwives comprised most of the other groups. This distribution is approximately close to the results of A quasi-experimental study done by (El-Khawaga et al., 2019) in which the mean age of their participants was (33.72±9.894).

Our findings indicate that in more than half of Nurses/Midwives, 51.7% who work in the delivery and theatre room, in middle age and above, the policy of the hospital supports them because, according to their ages, they have a good experience regarding difficult labour.

The findings show that more than half (67.8 %) of Nurses and Midwives were Nursing and Midwifery Institute graduates, the same result as the previous study done by (Muzeya & Julie, 2020), most of the respondents (84.5%, n = 84) reported their primary level qualification into the midwifery

year of study as an education degree, with a Diploma in Nursing, This result is inconsistent with a study done by Elnashar et al., (2019) in the Al Taif area of Saudi Arabia, which found that more than three-quarters of the sample (76.8%) had completed a college education.

The descriptive study concluded that less than half (47.3%) of the study sample have 6 – 10 years of experience; these results disagree with the finding of the current study, which illustrates that more than half (57.5%) of the participants had >10 years of experience, in the other hand A quasi-experimental study was done by (Abd-Allah, N. et al., 2017) among 30 nurses in all general hospitals in Port Said city, indicated that (56.6%) of nurses they had less than 10 years of experience in the health sector. Maternity Teaching Hospital has government and contracts Nurses/Midwives. 65.5% of the study sample were government employees, contracts they were newly graduated mostly from an institute, and they should be assistants to the old Nurses/Midwives in caring for mothers.

It is obvious from Eighty-seven Nurses/ Midwives that a quarter of 25.3% were working in the private sector, plus the public sector. Also, this is in line with the previous study by (Ahmed et al., 2018), that 36.7% of the study sample work in a private hospital. Moreover, The existing study discovered a statistically significant (p.0.000) link between working in a private hospital and N/M overall practice. This result implies that if they have good knowledge and improve their performance in the public sector, it will be reflected in the private sector because the same Nurses/Midwives provide healthcare in both.

The current study indicates that only 23% of nurses and midwives participated in the training courses to improve their knowledge and practical performance; there was no significant association between the study sample's participation in a training course and their overall practice. Our finding is much better than the quasi-experimental study (Mohamed Abd Elhakm and Mostafa Elbana, 2018), which concluded that only 10.8% of the study sample participated in the training courses (n=55).

The findings show that the participants have poor practice examining the placenta after delivery in the pretest due to a lack of continuing education programs. On the other hand, the Maternity Teaching Hospital is the only governmental hospital in the area and has many patients who put a huge strain on the nurses and midwives, lowering the quality of healthcare. This result is inconsistent with the descriptive cross-sectional study, which concluded that most study samples had moderate knowledge regarding assessing the placenta (K., 2018). Fortunately, the finding shows that there was a highly significant difference between the pretest and post-test of study samples' performance after

Receiving a comprehensive educational program regarding placenta from the researcher will indicate that they enthusiastically seek knowledge to improve their performance.

The current study demonstrates a highly significant association between N/M age and overall practice, implying that most of them seem to have poor practice and follow traditional performance even though they lack the authority to advance their education. Most N/M are above 40 years old and have skills because they have more than 20 years of experience, but they traditionally apply their care.

Because nurses are the largest group of healthcare workers and are accountable for the quality of care provided to patients, their perspectives on the success of their treatment are critical; they should have diverse holistic skills, and evidence of nursing interventions is available. In order to determine the efficacy of therapy, they should also consult with other health professionals. They should also have the fundamental information and abilities to provide safe care and be properly trained in practical and technical procedures to use this knowledge. This study suggests that to carry out placenta examination skills effectively, regardless of the training program used, clinical nurses should undergo retraining every 6 months.

CONCLUSIONS

The current study's findings concluded that the participants have poor practice examining the placenta after delivery and follow traditional performance. Also, the finding indicates a significant association between Nurses/Midwives' age and their overall practice.

RECOMMENDATION

Based on these findings, there should be an effort to upgrade nurses/midwives' knowledge and performance and develop a plan for continuing education programs every 6 months to improve their clinical skills.

Ethical Approval Statement

This research study, titled " **Effectiveness of Educational Program on Nurses/Midwife's Performance Regarding Placenta Examination at Maternity Teaching Hospital in Sulaimani/Iraq**" conducted by [Dr Atiya Kareem Mohammed ¹ and Lana Abdul Hamed Muhamed Nury ²], has received ethical approval from the [The Ethics Committees of College of medicen] at [the University of Sulaimani] under approval reference number [64-7/3/2021].

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AUTHOR'S CONTRIBUTIONS

All authors contributed equally to the conception and design of the study, data collection, and analysis, and drafted the initial manuscript. All authors critically reviewed and edited the manuscript. All authors approved the final version of the manuscript for submission.

DISCLOSURE STATEMENT:

The authors report no conflict of interest.

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