

Assessment of Nurse-Midwives Knowledge and Practices for the Third Stage of Labor in Delivery Rooms at Maternity Hospitals in Thi-Qar Governorate.

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Abstract

Objectives of the study

To assess nurse-midwives knowledge and practices during the third stage of labor, the relationship between sociodemographic of nurse-midwives, a knowledge and practices.

Methodology:

A non-probability (purposive) sampling of one hundred and eighty five (185) nurse-midwives from five MaternityHospitals, who are working and available in BintAl-HudaTeachingHospital, Al-HabobyTeachingHospital, Soq Al-ShukhHospital, Al-RefaeHospital, and Al-Shatrahospital. Data collection was performed through the use of a structured self-administrative questionnaire for nurse-midwives' knowledge and an observational checklist for their practices through a direct interview with each nurse-midwives' in the study using, adapting, and developing questionnaire format. Data were collected through interviewing techniques from September 10 to January 20, 2024.

Results of the Study:

Upon analyzing the demographic profile of the one hundred and eighty five participating nurse-midwives in this study, several noteworthy trends emerged. A significant majority (69.7%) had attained their qualifications from institutes. Marital status was prevalent among the participants, with 76.8% being married. In light of the statistical mean of scores, the results suggest that nurses-midwives demonstrated a low responses regarding the third stage of labor ($M.s \leq 1.66$) across all items of the scale except items(1, 3, and 7 respectively : "The third period begins with the birth of the fetus and ends with the birth of the placenta," "The bottom of the uterus is rounded and hard and rises in the abdomen to the level of the navel," and "A full bladder affects uterine contraction and leads to bleeding") .The responses were moderate ($M_s = 1.67-2.33$).The findings reveal a noteworthy positive relationship between the nurses-midwives practices regarding labor care and their education level ($r = 0.147$; $p < .005$), years of experience in midwifery ($r = 0.134$; $p < .005$), and number of training courses ($r = 0.137$; $p < .005$).

Conclusion:

At the end of this study, it was concluded that midwives have knowledge during the third stage of labor.A positive correlation is observed between the level of knowledge among nurses and midwives and factors such as education level, years of experience in nursing and midwifery, and participation in training courses. This underscores the importance of continuous learning and professional development in improving the quality of

care provided during labor. A positive relationship between the nurses-midwives practices regarding labor care and their education level, years of experience in midwifery, and number of training courses. These gaps suggest a need for targeted education and training to enhance the quality of care provided during childbirth. Given the observed deficiencies in both knowledge and practices, there is a clear need for comprehensive training programs tailored to the specific needs of nurses-midwives.

Keywords: nurse-midwives, knowledge and practices, the third stage of labor

Introduction

The hospital in Iraq has the second highest maternal mortality ratio in the area, standing at 84 per 100,000 births. This places Iraq among a group of 68 nations worldwide that together contribute to 97% of all maternal and child fatalities. Mainly, this is the outcome of inadequate birthing procedures. Source: UNCTI (2014)

Despite the life-saving benefits of obstetric interventions in life-threatening emergencies, the inappropriate and excessive use of these procedures can heighten the likelihood of illness and death for both the mother and the infant. (Caughey et al, 2014)

Nurse-midwives play a crucial role during childbirth to prevent problems and guarantee the best possible outcome. Expert management and prompt intervention of difficulties during labor and delivery alone can prevent roughly 50 percent of neonatal mortality and 45 percent of fatalities occurring during the postpartum period. Nevertheless, by providing sufficient postnatal care, it is possible to avert 75% of the current premature fatalities. [WHO,2014]

Midwives' roles and activities throughout this crucial phase of a woman's life can result in a wide range of outcomes, spanning from survival to mortality and from well-being to physical harm, which can have profound impacts on the mental and emotional well-being of both the mother and an infant. (Sehhat e, et al,2014)

Currently, the scope of certified nurse-midwives (CNMs) and certified midwives (CMs) encompasses a wide range of settings, including public maternity, family planning, and primary care facilities, as well as private obstetrics and gynecology practices, managed care organizations (health maintenance organizations), independent midwifery practices, and birth centers that may be mutually owned by physicians or have a contractual or collaborative relationship with a physician. (Joyce Roberts,2002)

Childbirth is often accompanied by physical discomfort, psychological strain, potential bodily harm, and in rare cases, mortality. The primary responsibility of midwives is to provide care and assistance during the birth of mothers. Key determinants of delivery outcomes include the quality and the manner in which midwifery care is delivered. (Sehhat e, et al,2014).

The nurse in the delivery room must possess expertise and familiarity with the process of labour and delivery. Expertise, information, and methodologies are required to diagnose and treat pregnant women, as well as understanding of principles and procedures for delivering care services to pregnant women and assessing maternity satisfaction. (Bradley et al., 2017).

The third phase of labor starts with the birth of the baby and concludes with the expulsion of the placenta. The duration of this procedure may extend up to 20 minutes. During this period, the nurses' focus is split between providing care for newborns and mothers. (Littleton et . al.,2005)

The third stage of labor, known as placental stage, consists of two distinct phases: placenta separation and placental ejection. Following the delivery of a newborn, a uterus can be felt as a solid, round lump located immediately below the umbilicus. Following brief periods of inactivity, uterine contractions resume, causing the organ to adopt a discoid silhouette. The structure maintains its new form until the placenta has detached,

around 5 minutes after the newborn's delivery (Rose , 2003) .

An important consequence of the third stage of labour is postpartum haemorrhage (PPH).

(WHO,2009)

Hemorrhage occurring after childbirth is a significant contributor to maternal mortality and morbidity, especially in underdeveloped nations, where the majority of fatalities due to pregnancy are linked to hemorrhage. This condition may arise due to insufficient contraction of the uterus(**Eman W, 2018**).

The objective of treatment during a normal delivery is to attain optimal health for both the mother and the fetus while minimizing levels of intervention that are in line with safety standards. Hence, the objective of this study was to elucidate the understanding and behaviors of midwives in the delivery room pertaining to the provision of care in the third stage of labor.

Methodology:

An analysis using a descriptive cross-sectional design was conducted. The study included a non-probability (purposive) multicenter sample of 185 nurse-midwives from Bint Al-Huda Teaching Hospital, Al-Haboby Teaching Hospital, Soq Al-Shukh Hospital, Al-Refai Hospital, and Al-Shatra Hospital. The sample was purposefully selected based on the age, social status, and instructional level of the nurse-midwives working in the obstetrics and gynecology department (labor room, maternal ward, and maternity intensive care unit). A questionnaire structure was developed and implemented based on a comprehensive analysis of literature, prior research, and prior field experience. The research instrument was designed based on the specific goals of the investigation. This study involved the development of two questionnaires: one completed by midwives to assess their understanding of the phases of the third stage of labour, and another completed by the researcher to evaluate the midwives' practices during the same stages. Regarding the questionnaire completed by the midwife, it was distributed as follows: **Demographic and general information** includes age, educational attainment, marital status, and details on years of experience in general and midwifery, as well as tenure and location of work practice.

Questions related to the nurse-midwife's knowledge about the third stage of labor consisted of five items concerning the third stage faced at(Definition of the third stageof labor, symptoms and signs of placental Separation, considerations in the third stageof labor, delivery of placenta, and pharmaceuticals),and with regard to this part, summary statistics are included, such as observed frequencies, percentage, mean of score, standard deviation, and relative sufficiency for assessing the nurse-midwife's knowledge during the third stage of labor. That are measured throughout the scoring scale (Yes, No, and Not sure) correspondingly, in comparisons of scales 1, 2, and 3. Furthermore, three consecutive periods are evaluated to determine the estimations of relative sufficiency based on the ranking scales (33.33 – 55.55, 55.55 – 77.77, 77.77 – 100) categorized as High, Moderate, and Low, respectively.

A questionnaire filled out by the researcher: **Practices Assessment Checklist During the third stage of labor practices:**

Concerning this part of assessing the practices of nurses midwives working in delivery rooms in maternity hospitals, the third stage involves 11 items that the researcher observes 2-3 times. These practices are assessed using a scoring scale ranging from "always" to "never" in contrast to scales of 1, 2, and respectively.

Data Collection:

The data collecting process involved the use of a structured, self-administered questionnaire to assess the knowledge of nurse-midwives, as well as an observational checklist to evaluate their practices. This was done through direct interviews with each nurse-midwife in the study, using a newly developed questionnaire format. Data was gathered using the interview research method between September 10, 2023, and January 20, 2024.

Results of the Study

Under the objectives of the current study findings, the descriptive and inferential statistical approach is organized as follows:

1. Sample Characteristics

Analysis of the demographic profile of the 185 nurses-midwives included in this study revealed some significant patterns. A substantial majority (69.7%) had obtained their credentials from educational institutions. A mean age of 28.36 ± 7.237 years was observed over the age range of 21 to 51 years. A significant proportion of the participants, namely 76.8%, were married. The span of professional experience in the nursing profession ranged from 2 to 23 years, with an average of 6.45 ± 5.197 years. Furthermore, the level of experience in midwifery varied from 1 to 12 years, with an average of 6.07 ± 4.512 years. In addition, the participants had successfully completed training courses ranging from 0 to 6 times, with an average frequency of 0.675 ± 1.419 times. The work shift distribution is as follows: 55.4% are morning shifts and 44.8% are evening shifts (**Table I**).

Table I. Distribution of Nurses-midwives by their Socio-Demographic Variables (SDVs)

SDVs	No.	%
Educational Attainment		
School nursing	18	9.7
High school nursing	19	10.3
High school midwifery	14	7.6
Institute	129	69.7
college	5	2.7
Marital status		
Single	31	16.8
Married	142	76.8
Divorced	7	3.8
Widow	5	2.7
Shift		
Morning	102	55.2
Evening	83	44.8

No. Number; %= Percentage

	Min-Max	Mean± SD
Age (years)	21–51	28.36 ± 7.237
Years Experience in Nursing Field	2–23	6.45 ± 5.197
Years Experience in Midwifery	1–12	6.07 ± 4.512
Number of Training Courses	0–6	0.675 ± 1.419

Based on the statistical mean of the scores, the results suggest that nurses-midwives demonstrated low responses regarding the third stage of labor ($M.s \leq 1.66$) across all items of the scale, except for three specific items. These items are: "The third period begins with the birth of the fetus and ends with the birth of the placenta," "The bottom of the uterus is rounded and hard and rises in the abdomen to the level of the navel," and "A full bladder affects uterine contraction and leads to bleeding," for which the responses were moderate ($M.s = 1.67-2.33$) (Table II).

Table II. Distribution of nurse’s knowledge regarding Third Stage of labor

ON	Third stage of labor Items	No		Not sure		Yes		M.s	Ass.
		No.	%	No.	%	No.	%		
1	The third period begins with the birth of the fetus and ends with the birth of the placenta	10	5.4	140	75.7	35	18.9	2.14	M
2	The bottom of the uterus is rounded and hard and rises in the abdomen to the level of the navel	110	59.5	7	3.8	68	36.8	1.77	M
3	Umbilical cord elongation	167	90.3	3	1.6	15	8.1	1.18	L
4	There is a spurt of blood when the placenta separates	166	89.7	6	3.2	13	7.0	1.17	L
	Considerations in the thirdstage								
5	This session ranges from 5 to 10 minutes or may last up to 30 minutes	157	84.9	6	3.2	22	11.9	1.27	L
6	A full bladder affects uterine contraction and leads to bleeding	112	60.5	16	8.6	57	30.8	1.70	M
7	The presence of placental tissue, membranes, and blood masses affects uterine contraction	172	93.0	1	.5	12	6.5	1.48	L
8	The uterus must be massaged after the placenta Separation	165	89.2	6	3.2	14	7.6	1.27	L
9	Do not attempt to deliver the placenta unless the placenta is completely separated	169	91.4	8	4.3	8	4.3	1.14	L
10	Do not put pressure on the uterus and try to push it down with the intention of expelling the placenta	168	90.8	7	3.8	10	5.4	1.18	L
11	Using the umbilical cord tightening procedure with the uterus supported over the pubic area	172	93.0	1	.5	12	6.5	1.13	L

12	Preventing rupture of the membranes surrounding the placenta by either wrapping the placenta around itself or holding the membranes with forceps.	142	76.8	8	4.3	35	18.9	1.15	L
13	Do not pull the umbilical cord and deliver the placenta forcefully	137	74.1	17	9.2	31	16.8	1.14	L
14	Examine and inspect the placenta and membranes and ensure their integrity or absence of defects	138	74.6	6	3.2	41	22.2	1.42	L
15	Ensure that the uterus is empty and clean	142	76.8	8	4.3	35	18.9	1.43	L
16	Make sure the uterus is contracting	146	78.9	2	1.1	37	20.0	1.48	L
17	Pitocin works to contract the uterus and accelerate the delivery of the placenta	130	70.3	44	23.8	11	5.9	1.41	L
19	Pitocin works to reduce the amount of blood lost	127	68.6	2	1.1	56	30.3	1.45	L
20	Pitocin is given after the placenta is delivered to help the uterus contract	147	79.5	8	4.3	30	16.2	1.36	L
21	Pitocin works after two and a half minutes when given intramuscularly?	162	87.6	8	4.3	15	8.1	1.62	L
22	The Methergine works after 6-7 minutes when given intramuscularly	163	88.1	11	5.9	11	5.9	1.37	L
23	Methergine works to stop bleeding	172	93.0	1	.5	12	6.5	1.18	L
24	It is not recommended for use in mothers with high blood pressure or heart disease	165	89.2	6	3.2	14	7.6	1.18	L

Ass: Level of Assessment (Low [L]=1-1.66; Moderate [M]=1.67-2.33; High [H]=2.34-3)

the Overall Nurses-midwives Knowledge, In light of the statistical mean of scores, the results suggest that nurses and midwives demonstrated poor responses regarding knowledge during the third stage (Table III).

Table III.Overall Nurses-midwives Knowledge

Scale	M ± SD	Score	No.	%
Knowledge of Third Stage of Labor	1.32 ± 0.405	Poor	138	74.6
		Moderate	39	21.1
		Good	8	4.3

M: Mean of score, SD=Standard Deviation; No.= Number; %= Percentage

Level of assessment (Poor=1-1.66; Moderate=1.67-2.33; Good= 2

the results suggest that nurses-midwives demonstrated low responses regarding performance during the third stage (M.s≤ 1.66), as observed across all items on the scale except for items 2 and 3(Change gloves when cutting the umbilical cord, Milking the umbilical cord), where the responses were moderate (M.s = 1.67–2.33) (Table IV).

Table IV. Distribution of nurses practices regarding performance during third stage

ON	Performance during third stage Items	Never		Sometime		Always		M.s	Ass.
		No.	%	No.	%	No.	%		
1	Give Oxytocin	138	74.6	39	21.1	8	4.3	1.30	L
2	Change gloves when cutting the umbilical cord	8	4.3	161	87.0	16	8.6	2.04	M
3	Milking the umbilical cord	40	21.6	137	74.1	8	4.3	1.83	M
4	Using aseptic technique when cutting umbilical cord	131	70.8	38	20.5	16	8.6	1.38	L
5	Observe the signs of the placenta separation	146	78.9	23	12.4	16	8.6	1.30	L
6	Conduct active management in the third stage of labor	146	78.9	31	16.8	8	4.3	1.25	L
7	Check the perineum area	145	78.4	32	17.3	8	4.3	1.26	L
8	Check the bladder	154	83.2	23	12.4	8	4.3	1.21	L
9	Check placenta and membranes	154	83.2	23	12.4	8	4.3	1.21	L
10	Cleaning the perineum and put clean pad	154	83.2	23	12.4	8	4.3	1.21	L
11	Stay with mother and not leave	139	75.1	30	16.2	16	8.6	1.34	L

Level of Assessment (Low [L]=1-1.66; Moderate [M]=1.67-2.33; High [H]=2.34-3)

The findings reveal a noteworthy positive relationship between the nurses-midwives knowledge about labor care and their education level (r = 0.901; p <.001), years of experience in the nursing field (r = 0.677; p <.001), years of experience in midwifery (r = 0.703; p <.001), and number of training courses (r = 0.726; p <.001) (Table V).

Table V. Relationship between Nurses-midwives Knowledge and their Socio-demographic Characteristics

Correlation		1	2	3	4	5	6	7	8
1.Knowledge	Pearson	1							
	Sig.								
2.education	Pearson	.901**	1						

	Sig.	.000							
3.MaritalStatus	Pearson	-.114-	-.126-	1					
	Sig.	.123	.086						
4. Age	Pearson	-.090-	-.102-	-.012-	1				
	Sig.	.224	.165	.872					
5.Years of experience	Pearson	.677**	.591**	-.014-	.047	1			
	Sig.	.000	.000	.855	.521				
6.Experience in midwifery	Pearson	.703**	.658**	-.054-	.046	.679**	1		
	Sig.	.000	.000	.464	.534	.000			
7. Number of training	Pearson	.726**	.597**	.058	.013	.547**	.638**	1	
	Sig.	.000	.000	.431	.863	.000	.000		
8.work shift	Pearson	.002	.278**	.008	.023	.077	.218**	.081	1
	Sig.	.981	.000	.44	.687	.275	.000	.061	

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed)

Discussion

Socio-Demographic Characteristics of the Nurses-midwives

A significant majority (69.7%) had attained their qualifications from institutes. This finding aligns with the general trend in healthcare professions, where individuals often pursue formal education from institutes to gain necessary qualifications and certifications (Sethi et al., 2018). The reliance on institutional education underscores the importance of accredited training programs in shaping the skillset and knowledge base of nurses-midwives.

Marital status was prevalent among the participants, with 76.8% being married. This high percentage of married individuals within the cohort may reflect the socio-cultural norms prevalent in the region where the study was conducted. Previous research has indicated that marriage can influence career choices and job satisfaction among healthcare professionals (Lu et al., 2019). Therefore, understanding the marital status of nurses-midwives can provide valuable insights into their personal circumstances and potential work-life balance considerations.

A mean age of 28.36 ± 7.237 years was observed over the age range of 21 to 51 years. This broad age range exemplifies the varied age composition inherent in the nursing-midwifery profession. Younger persons may be drawn to the profession because of its perceived prospects for professional growth and employment security, while senior practitioners may contribute meaningful expertise and sagacity to their practice (Gorman, 2017). The mean age of the cohort is within the usual range for early to mid-career professionals, suggesting that it may include both inexperienced and seasoned practitioners.

The span of professional experience in the nursing profession ranged from 2 to 23 years, with an average of 6.45 ± 5.197 years. Furthermore, the level of experience in midwifery varied from 1 to 12 years, with an average of 6.07 ± 4.512 years.

Furthermore, participants had undergone training courses spanning from 0 to 6 times, with an average frequency of 0.675 ± 1.419 times. Participation in training courses indicates a commitment to continuous professional development and skill enhancement among nurses-midwives. Ongoing training and education are essential for keeping abreast of advances in healthcare practices and technology (Bowen & Taylor, 2017). However, the relatively low average frequency of training courses suggests potential areas for improvement in promoting lifelong learning and professional growth within the nursing-midwifery community.

The demographic profile of nurses-midwives in this study reflects a diverse and experienced cohort with a strong emphasis on institutional education and a significant proportion of married individuals. The findings underscore the importance of considering socio-demographic factors, such as age, marital status, and professional experience, in understanding the composition and dynamics of the nursing-midwifery workforce. Additionally, the participation in training courses highlights a commitment to lifelong learning and professional development among nurses-midwives, although opportunities for further training may need to be optimized to ensure continuous improvement in clinical practice and patient care.

Knowledge in terms of Third Stage of Labor

The findings reveal that a significant 74.6% of nurses-midwives possess poor knowledge regarding the third stage of labor underscore a critical issue within the healthcare system. This lack of understanding among essential healthcare providers could potentially lead to suboptimal patient care and adverse outcomes for both mothers and infants. As highlighted by **Finlayson et al. (2019)**, inadequate knowledge among healthcare professionals regarding the stages of labor may result in delays in crucial interventions, such as the administration of uterotonic agents to prevent postpartum hemorrhage, which remains one of the leading causes of maternal mortality globally. Therefore, addressing the gaps in knowledge concerning the third stage of labor among nurses-midwives is imperative to enhance the quality of maternal healthcare delivery and mitigate the risks associated with childbirth complications.

Furthermore, the high prevalence of poor knowledge regarding the third stage of labor among nurses-midwives suggests a need for targeted educational interventions and continuous professional development programs within the nursing and midwifery workforce. As emphasized by **Black et al. (2017)**, ongoing education and training play a pivotal role in ensuring that healthcare providers remain updated with evidence-based practices and guidelines related to maternal health. By investing in comprehensive educational initiatives, healthcare institutions can empower nurses-midwives with the necessary knowledge and skills to effectively manage the third stage of labor, thereby improving maternal outcomes and reducing the burden of maternal morbidity and mortality. Additionally, fostering a culture of lifelong learning within the healthcare workforce can facilitate the dissemination of best practices and contribute to the overall improvement of maternal healthcare delivery.

Relationship between Nurses-midwives Knowledge and their Socio-demographic Characteristics

The findings of the study underscore a significant positive correlation between the knowledge of nurses-midwives regarding labor care and their educational attainment. The correlation coefficient ($r = 0.901$; $p < .001$) suggests a strong relationship between these variables. This result aligns with existing literature indicating that

higher levels of education among healthcare professionals often correspond to greater competence and knowledge in their respective fields (Assefa et al., 2022). Nurses-midwives with advanced degrees may have undergone more extensive training, enabling them to acquire comprehensive knowledge about labor care, which ultimately enhances their performance in clinical settings.

Moreover, the study reveals a substantial positive association between years of experience in the nursing field and nurses-midwives' knowledge about labor care ($r = 0.677$; $p < .001$). This finding echoes previous research emphasizing the role of experiential learning in enhancing clinical expertise and proficiency among healthcare practitioners (Obead & Abbas, 2021). With increased exposure to diverse patient cases and clinical scenarios over time, nurses-midwives develop a deeper understanding of labor care practices, which positively impacts their knowledge base and decision-making abilities during patient care.

Additionally, the results indicate a noteworthy positive correlation between the years of experience in midwifery and nurses-midwives' knowledge about labor care ($r = 0.703$; $p < .001$). This correlation underscores the significance of specialized experience in midwifery in augmenting professionals' understanding of the intricacies involved in managing labor and childbirth (Rodríguez-García et al., 2023). Nurses-midwives who have accrued substantial experience in midwifery are likely to possess a more nuanced understanding of physiological processes, obstetric interventions, and complications associated with labor, thereby enhancing their overall competency in providing optimal care to expectant mothers.

Furthermore, the findings reveal a substantial positive relationship between the number of training courses undertaken by nurses-midwives and their knowledge about labor care ($r = 0.726$; $p < .001$). This correlation underscores the efficacy of continuous professional development initiatives in enriching healthcare professionals' knowledge and skills (Memon et al., 2022). Participation in training courses enables nurses-midwives to stay abreast of recent advancements, evidence-based practices, and guidelines pertinent to labor care, thereby fostering ongoing learning and professional growth. Additionally, these courses may offer opportunities for hands-on training, case discussions, and interdisciplinary collaboration, all of which contribute to enhancing nurses-midwives' proficiency in managing various aspects of labor and childbirth effectively.

Relationship between Nurses-midwives Practices and their Socio-demographic Characteristics

The findings of this study underscore a significant positive correlation between the practices of nurses-midwives concerning labor care and their educational attainment ($r = 0.147$; $p < .005$). This correlation suggests that as the education level of nurses-midwives increases, there is a tendency for their practices in labor care to improve. This aligns with existing literature indicating that higher education levels among healthcare professionals often result in better patient outcomes and adherence to evidence-based practices (Li et al., 2018). Nurses-midwives with advanced education may possess a deeper understanding of complex medical concepts, enabling them to make more informed decisions and provide higher quality care during labor and childbirth.

Furthermore, the study reveals a positive association between the years of experience in midwifery and the practices of nurses-midwives in labor care ($r = 0.134$; $p < .005$). This finding suggests that as nurses-midwives accumulate more years of experience in their field, their proficiency in providing labor care tends to increase. This is consistent with previous research highlighting the importance of experience in healthcare professions, where practitioners develop clinical intuition, refined skills, and a deep understanding of patient needs over time (Begum et al., 2021). Experienced nurses-midwives are likely to possess a wealth of practical knowledge and expertise, enabling them to navigate various labor scenarios effectively and provide holistic care to women during childbirth.

Moreover, the study identifies a positive correlation between the number of training courses attended by nurses-midwives and their practices in labor care ($r = 0.137$; $p < .005$). This suggests that participation in additional training courses is associated with enhanced performance in providing labor care. Training courses may cover a range of topics, including advanced obstetric techniques, patient communication skills, and the latest evidence-based practices in midwifery care. By participating in these courses, nurses-midwives have the

opportunity to expand their knowledge base, refine their clinical skills, and stay abreast of advancements in their field (**Mohammed & Muhamed, 2023**). Consequently, nurses-midwives who engage in continuous learning through training courses are better equipped to deliver high-quality care to women during labor and childbirth.

The findings of this study underscore the importance of education level, years of experience, and ongoing training for nurses-midwives in enhancing their practices regarding labor care. These factors play complementary roles in shaping the competency and proficiency of nurses-midwives, ultimately contributing to improved outcomes for women and newborns during the childbirth process. Policymakers, healthcare institutions, and professional organizations should prioritize initiatives aimed at supporting the education, professional development, and continuous learning of nurses-midwives to ensure the delivery of optimal care in maternity settings.

Conclusion

1. Poor knowledge responses during the third stage of labor.
2. A positive correlation is observed between the level of knowledge among nurses and midwives and factors such as education level, years of experience in nursing and midwifery, and participation in training courses. This underscores the importance of continuous learning and professional development in improving the quality of care provided during labor.
3. A positive relationship between the nurses-midwives practices regarding labor care and their education level, years of experience in midwifery, and number of training courses.

Recommendations:

- In light of the conclusions reached by the study, the researcher recommends the following encourage nurses-midwives to join professional groups and follow reputable accounts on social media platforms like LinkedIn or Twitter that share evidence-based practices, updates in childbirth care, and opportunities for continuing education.
- Further directions and studies would be to conduct a longitudinal assessment of the effectiveness of tailored training programs for nurses-midwives. This study could evaluate the impact of comprehensive training initiatives on improving knowledge

References

- (1) Assefa, A., Getahun, D., Desalegn, N., Kefelew, E., Molla, W., Assefa, D. G., & Abebe, M. Perception of caring behavior and associated factors among nurses and midwives working in public hospitals in Southern Ethiopia. *International Journal of Nursing Sciences*, (2022). 9(4), 490-495.
- (2) Finlayson, K., Downe, S., Vogel, J. P., & Oladapo, O. T. What matters to women and healthcare providers in relation to interventions for the prevention of postpartum haemorrhage: a qualitative systematic review. *PloS one*, (2019). 14(5), e0215919
- (3) Begum, R., Riaz, S., Munir, A., Ghaffar, T., & Bibi, S. Examining the Knowledge, Attitudes, and Practices of Nurses and Midwives in Lahore, Pakistan for Immediate Newborn Care in Labour Rooms: Assessment of Knowledge, Attitude and Practices of Nurses Midwives. *NURSEARCHER (Journal of Nursing & Midwifery Sciences)*, (2021). 26-29.
- (4) Black, R. E., Taylor, C. E., Arole, S., Bang, A., Bhutta, Z. A., Chowdhury, A. M. R., ... & Perry, H. B. Comprehensive review of the evidence regarding the effectiveness of community-based primary health care in improving maternal, neonatal and child health: 8. summary and recommendations of the Expert Panel. *Journal of global health*, (2017). 7(1).

- (5) Bowen, R., & Taylor, W. Skills for Midwifery Practice E-Book: Skills for Midwifery Practice E-Book. Elsevier Health Sciences,(2021).
- (6) Bradley, J., Jayanna, K., Shaw, S., Cunningham, T., Fischer, E., Mony, P.,Blanchard, J. F. Improving the knowledge of labour and delivery nurses in India : a randomized controlled trial of mentoring and case sheets in primary care centres. BMC Health Services Research, (2017). 1–8. <https://doi.org/10.1186/s12913-016-1933-1>
- (7) Casey, M., Cooney, A., O'Connell, R., Hegarty, J. M., Brady, A. M., O'Reilly, P., ... & O'Connor, L. Nurses', midwives' and key stakeholders' experiences and perceptions on requirements to demonstrate the maintenance of professional competence. Journal of advanced nursing(2017)., 73(3), 653-664.
- (8) Caughey B .Aaron., Alison G. Cahill, Jeanne-Marie Guise, Dwight J. Rouse , ,Safe prevention of the primary cesarean delivery American Journal of Obstetrics and Gynecology(2014),Volume 210, Issue 3
- (9) Eman W. I Ragaa A. A Amal A.O Afaf M.ENursing Care of The Third and Fourth Stages of Labor : Protocol Of Care, Egyptian Journal of HealthCare, .(2018),Volume9,Issue1,march<https://doi.org/10.21608/ejhc.2018.11899>
- (10) Gorman, M. Development and the rights of older people. In The ageing and development report(2017). (pp. 3-21). Routledge.
- (11) Joyce E Roberts The “push” for evidence: management of the second stage ,Journal of Midwifery & Women's Health, ,(2002),Volume 47, Issue Pages2-15,ISSN1526-9523[https://doi.org/10.1016/S1526-9523\(01\)00233](https://doi.org/10.1016/S1526-9523(01)00233)
- (12) Li, S. A., Jeffs, L., Barwick, M., & Stevens, B. Organizational contextual features that influence the implementation of evidence-based practices across healthcare settings: a systematic integrative review. (2018). Systematic reviews, 7, 1-19.
- (13) Littleton,L. and Engebreston ,J,Maternity nursing care , 8 ed , Philadelphia , (2005) , p 17 , 97 , 505 , 537-8 , 555 , 562
- (14) Lu, H., Zhao, Y., & While, A. (2019). Job satisfaction among hospital nurses: A literature review. International journal of nursing studies, 94, 21-31.
- (15) Memon, S., Imdad, B., Aziz, A., Aziz, F., Memon, F., &Zafar, S. N. Assessing the Effectiveness of Training and Education on the Knowledge about active Management of 3rd Stage Labor by Nurses and Midwives. Journal of Liaquat University of Medical & Health Sciences, (2022). 21(04), 285-290
- (16) Mohammed, A. K., &MuhamedNury, L. A. H. Effectiveness of Educational Program on Nurses/Midwives Performance Regarding Placenta Examination at Maternity Teaching Hospital in Sulaimani/Iraq. Mosul Journal of Nursing, (2023). 11(2), 332-341.
- (17) Obead, B. T., & Abbas, I. MEffectiveness of an Educational Program on Nurses-Midwives Knowledge about Preterm Labor in Maternity Hospitals at Baghdad City. Indian Journal of Forensic Medicine & Toxicology, . (2021). 15(4).
- (18) Rodríguez-García, M. C., Martos-López, I. M., Casas-López, G., Márquez-Hernández, V. V., Aguilera-Manrique, G., & Gutiérrez-Puertas, L. Exploring the relationship between midwives' work environment, women's safety culture, and intent to stay. Women and Birth, (2023). 36(1), e10-e16.
- (19) Rose , D. John , E .: Normal labor , delivery , newborn care and puerperium . Scott , J. R. et . al . Danforth's Obstetrics & gynecology (9 ed) . philadelphia : Lippincott Williams and Wilkins , 2003 , p 505 , 508
- (20) Sehhatie, Fahimeh 1, Maryam Najjarzadeh1, Vahid Zamanzadeh2, Alehe Seyyedrasooli3Midwifery cononuing care on child birth outcomes, Iranian Journal of

- Nursing and Midwifery Research(2014), | May-June 2014 | Vol. 19 | Issue 3 Jenkis WM, Pritchard HM. Hypnosis: Practical applications
- (21) Sethi, A., Schofield, S., McAleer, S., & Ajjawi, R. (The influence of postgraduate qualifications on educational identity formation of healthcare professionals. *Advances in Health Sciences Education* 2018), 23, 567-585.
 - (22) UNCTI (United Nations Country Team Iraq). Maternal and child health. 2012. Available from: <http://uniraq.org/FlipNewsletter/UN%20Iraq%20Newsletter%20-%20March%202012/mobile/index.html#p=15>, *Accessed 19 Jun 2014+
 - (23) world Health organization Early essential newborn care: clinical practice pocket guide. Manila: WHO regional office for the western Pacific (2014). <http://iris.wpro.who.int/bitstream/10665.1/10798/3/978929061856-eng.pdf>
 - (24) World Health Organization. WHO guidelines for the management of postpartum haemorrhage and retained placenta. World Health Organization (2009).