Assessment of Nurse–Midwives' Knowledge and Practices toward Second Stage of Labor

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الخلاصة

الهدف: تقييم معارف وممارسات الممرضات–القابلات فيما يتعلق بالعناية خلال الدورالثاني للولادة وإيجاد العلاقة بين معارف وممارسات الممرضات- القابلات خلال الدور الثاني للولادة والمتغيرات الديموغرافية الاجتماعية وسنوات العمل والخبرة .

المنهجية: دراسة وصفية أجريت خلال المدّة من ٢٢ آذار ولغاية ٣٠ حزيران- ٢٠٠٨. تكونت عينة البحث من (٧٥) ممرضة–قابلة تمّ اختيارهن بصورة عمدية من (٦) مستشفيات في مدينة بغداد. الاستمارة الاستبيانية تكونت من جزءين (المعلومات الديموغرافية وأداة تقييم معارف الممرضات- القابلات والممارسات التي قمن بها) تمّ تحديد ثبات ومصداقية الاستمارة من خلال العيّنة الاستطلاعية وعرض الاستمارة على الخبراء، حيث كان ثبات أداة المعلومات (٠.٩٠) والممارسات (٠.٨٤). تمّ جمع العيّنة من خلال المقابلة فيما يتعلق بالمعلومات والملاحظة فيما يتعلق بالممارسات. كما تمّ تحليل النتائج باستعمال الإجراءات الإحصائية الوصفية والاستنتاجية.

النتائج: أشارت نتائج الدراسة إلى وجود متوسطات عالية في معارف الممرضات- القابلات ومتوسطات واطئة في الممارسات فيما يخص الدورالثاني للولادة .كما بيّنت النتائج وجود علاقة ذات دلالة إحصائية بين ممارسات الممرضات- القابلات والتحصيل الدراسي ومعدل عدد الولادات.

التوصيـات: أوصى الباحثون بضرورة إنشاء أو بناء برنامج تعليمي للممرضات–القابلات لرفع تقنياتهن الضرورية لتقييم وتقويم وتحسين نوعيّة العناية المقدّمة للماخض، والتأكيد على وزارة الصحة لإقامة دورات تدريبيّة دوريّة لغرض تغيير الممارسات الخاطئة بممارسات صحيحة وتحديث معلوماتهن مع الإشراف المستمر على أدائهن.

Abstract

Objective: To assess the nurses-midwives' knowledge and practices regarding the management of second stage of labor and to find out the association between their knowledge and practices and socio-demographic characteristics and working years and experience.

Methodology: A descriptive study was carried out from March 22nd, 2008 through 30th June, 2008. A purposive sample of (75) Nurse-Midwives which was selected from (6) hospitals. A questionnaire was comprised of two parts: (socio-demographic characteristics and the assessment tool for Nurse-Midwives' knowledge and health practices performed by them). The questionnaire validity was determined by experts and its reliability was determined through a pilot study. The correlation coefficient was (0.90) for knowledge and (0.83) for practices. Data were collected through interview and observational tool and analyzed through the application of descriptive and inferential statistical approaches.

Results: The study findings indicated that there was a high mean of scores in Nurse-Midwives' knowledge and a low mean of scores for their practices in most of the items regarding second stage of labor. The study findings also indicated that there is a significant association between nurses-midwives' practices and their educational level, and birth number average.

Recommendations: The study recommends that; installing in-service educational program for Nurse-Midwives to upgrade the techniques necessary to assess, evaluate and improve the quality of care rendered to laboring women, and to put an emphasis on the Ministry of Health to conduct training course for the Nurse-Midwives in order to change their malpractices and updating their knowledge with regular supervision on their performance.

Keyword: Assessment; Nurse-Midwives' Knowledge; Practices; Second Stage of Labor

Introduction:

Every year, more than 200 million women become pregnant. Most pregnancies end with the birth of a live baby to a healthy mother. For some, however, childbirth is not the joyous event; it is a time of pain, fear, suffering and even death. Because of difficulties associated with human birth, women often require assistance during delivery. Childbirth may be surrounded by traditions, many of which are beneficial, but others may be harmful [1].

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Birth is a risky event for babies too. The complications that cause the deaths and disabilities for mothers also damage the infants they are carrying. These perinatal and neonatal deaths are largely the result of the same factors that cause the deaths and disabilities for mothers [2]. Human birth is a normal physiological process and as such should not be life threatening to the women who experience it. However, in developing countries where pregnancy is complicated by the harsh realities of malnutrition, poverty and the disease associated with them, giving birth dire consequences for mother and child. As a result of child birth, half a million women worldwide die annually [3].

There are four main components to prenatal care in developing countries: risk screening to identify those women most likely to have poor outcomes of pregnancy and childbirth, the detection and management of associated diseases, the maintenance of maternal nutrition and health, and health education about safe delivery and the early recognition and management of complications [4,5].

The risks of adverse outcome in mother and baby are usually highest during the intra-partum period. Even though health experts have long appreciated this fact, prioritization of this element of safe motherhood is comparatively recent. Much has been written both on this shift in emphasis and on the underlying rational, as well as on what skilled attendance at delivery should comprise [6].

The health of mothers and babies is a human right needs to be underpinned by policies and laws that increase access to information and good quality; affordable health services [7]. A positive policy environment is crucial for promoting maternal health and reducing the burden of maternal and perinatal conditions [8].

The risks of adverse outcome to the mother and baby are usually highest during the intra-partum period. Even though health experts have long appreciated this fact, prioritization of this element of safe motherhood is comparatively recent. Much has been written both on this shift in emphasis and on the underlying rational, as well as on what skilled attendance at delivery should comprise [6].

Importance of the Study:

During labor and delivery, the Nurse–Midwives should administer a sensitive and appropriate care, based on the particular needs of the client and her family. They require two fold effort to assess labor progress and use personal skills to assess the client and family's needs during this physically and emotionally stressful time. The aim of the care in normal birth is to achieve a healthy mother and fetus with least possible level of interventions that is compatible with the safety [9].

Human labor is surprisingly hazardous. Evolution ought to favor those mothers who deliver without problems and yet, for those without access to good medical care, the lifetime risk of dying from labor may be 10% or more [10].

Nurses can help the nation to achieve these goals by closely monitoring women during labor and birth and by teaching women as much as possible about labor, so that they are able to use as little analgesia and anesthesia as possible [11].

The investigator tries to highlight the Nurse-Midwives role in the delivery room toward using proper and healthy practices compatible with good knowledge throughout stages of labor.

Objectives of the Study:

1. To assess the Nurse–Midwives' Knowledge and Practices regarding the management throughout the 2nd stage of labor.
2. To find out the relationship between nurses–midwives' knowledge and practices and certain variables such as age, educational level, marital status, experience in delivery room and attending midwifery training courses.

Methodology:

A descriptive study was conducted by using assessment as an approach for identification of the nurse–midwives' knowledge and practices throughout 2nd stage of labor. The study was carried out for the period of March 22nd 2008 through June 30th, 2008. A purposive "non-probability" sample of (75) Nurse–Midwives who were working at the delivery room in six hospitals at Baghdad city was selected. For the purpose of data collection, an assessment tool was constructed for nurse–midwives' knowledge and observational tool for their practices concerning the 2nd stage of labor. A pilot study was conducted for the determination of the reliability and a panel of experts for the content validity of the assessment tool. The data were collected through the utilization of the observational assessment tool and the interview techniques. Assessment of nurse-midwives' knowledge regarding care in delivery room throughout second stage of labor is employed. The instrument was constructed through the use of 3-point Likert scale. The rating score of the instrument was (3) for "I know", (2) for "Uncertain" and (1) for "I don't know", with a cut-off point =2.

The knowledge was rated as follow:

Unsatisfactory = less than the cut-off-point (<2)

Satisfactory = equal or more than cut-off-point (≥2)

Assessment tool was designed to observe the nurse-midwives' practices regarding their management of second stage of labor. Each nurse-midwife was observed for five times each, (4-5) times considered as always, (1-3) considered as sometimes, and (zero) as never. The rating score for the instrument was (3) for always, (2) for sometimes, and (1) for never, with cut-off-point =2

The practices were rated as follow:

Inadequate = less than the cut-off-point (<2)

Adequate = equal or more than cut-off-point (≥2)

The data were analyzed through the use of descriptive data analysis approach that included (frequency, percentage, and mean of score, standard deviation) and inferential statistical data analysis approach that included chi-square and Guttman Split-half correlation coefficient for illustrating reliability estimate.

Results:

Table 1. Distribution ofparticipants regarding Socio-Demographic Characteristics

Variables		Frequency	Percent
1-	**Age (years)**		
	18 -22	2	2.7
	23 - 27	4	5.3
	28 - 32	9	12.0
	33 - 37	17	22.7
	38 - 42	18	24.0
	43 +	25	33.3
	Total	75	100
	(X́ 38.9 ± 9.4)		

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Table 1. (Continued)

	Variables	Frequency	Percent
2-	**Educational Level**		
	Nursing Course graduate	1	1.3
	Nursing school graduate	25	33.3
	Secondary Nursing school graduate	12	16
	Midwifery school graduate	37	49.4
	Total	75	100
3-	**Marital status**		
	Married	57	74.7
	Single	12	17.3
	Widow	4	5.3
	Divorced	2	2.7
	Total	75	100
4-	**Inheritance of Midwifery**		
	Yes	12	16
	No	63	84
	Total	**75**	**100**

X̌= **Mean**

Table (1) illustrates that the highest percentage (33.3%) of the nurse-midwives ages was (43) years and more, (49.4%) of them was midwifery school graduates, (74.7%) of them was married, and (16%) of them has inherited the midwifery from their mothers.

Table 2. Distribution of participants regarding their experience and attendance of midwifery courses

	Variables	Frequency	Percent
1-	**Duration of Nurses experience in Maternity hospital**		
	< 1 year	1	1.3
	1 - 5 years	13	17.3
	6 – 10 years	21	28
	11 – 15 years	16	21.3
	16 – 20 years	14	18.7
	21 – 25 years	5	6.7
	26 +	5	6.7
	X̌ (13.1 ± 9.4)		
	Total	**75**	**100**
2-	**Duration of experience in delivery rooms**		
	< 1 year	4	5.3
	1 - 5 years	24	32
	6 – 10 years	19	25.3
	11- 15 years	14	18.7
	16 – 20 years	8	10.7
	21 – 25 years	2	2.7
	26 +	4	5.3
	X̌ (10.3 ± 8.9)		
	Total	**75**	**100**

Table 1. (Continued)

Variables		Frequency	Percent
3-	**Number of training course in Midwifery**		
	None	23	30.7
	1	20	26.7
	2	19	25.3
	3	9	12
	4	2	2.7
	5	2	2.7
	Total	**75**	**100**
4-	**Duration of training course**		
	None	23	30.7
	One week	29	38.7
	Two weeks	13	17.3
	One month	9	12
	More than One month	1	1.3
	Total	**75**	**100**
5	**Working shifts**		
	Day shifts	32	42.7
	Night shifts	22	29.3
	Day and Night shifts	21	28.0
	Total	**75**	**100**
6	Birth average/ shift		
	1-5	11	14.7
	6-10	39	52.o
	11-15	19	25.3
	16 +	6	8.0
	Total	**75**	**100**

X́= **Mean**

Table (2) presents that the highest percentage (28 %) of participants having experience in maternity hospitals between (6–10) years, (32 %) of them having (1–5) years in delivery rooms, (30.7 %) of them do not having any training courses during their experiences, (38.7 %) of them having at least one week duration course, (42%) of them working at day shift and (52%) of them their birth average per shift were (6-10) deliveries.

Table 3. Distribution of participants' knowledge items mean of scores regarding second stage of labor

	Items related to 2nd stage of labor	I know	Uncertain	I don't know	MS
1-	Definition of 2nd stage of labor	51	21	3	2.64
2-	Signs and symptoms of 2nd stage of labor				
	1- Increase duration and intensity of Uterine Contraction	74	1	0	2.98
	2-Showing	74	1	0	2.98
	3- Mother bearing down	75	0	0	3
	4- Perineum bulging	75	0	0	3
	5- urge to defecation	74	0	1	2.97
3-	**Episiotomy**				
	1- Prevent laceration and tear	74	1	0	2.98
	2- Widen Perineal opening and facilitate delivery	74	1	0	2.98
	3- Easy to repair and healing	74	1	0	2.98
	4- Increase probability of infection	72	2	1	2.94
4-	**Conduct of Delivery**				
	1- Fundus pressure lead to uterine rupture	60	6	9	2.68
	2- Support for perineal area prevent lacerations	74	1	0	2.98
	3- Slow delivery of head with uterine Contraction prevent lacerations	60	3	12	2.64
	4- Delivery of anterior then posterior shoulder prevent lacerations	60	5	10	2.66
5-	**Cord clamping and cutting**				
	1- Consist of (1) vein and (2) arteries	63	11	1	2.82
	2- Early clamping minimize duration of 3rd stage	40	25	10	2.4
	3- Early clamping decrease Hb in newborn	55	10	10	2. 6

MS= Mean of Scores

Table (3) presents high mean scores participants' knowledge regarding second stage of labor in all items, definition, signs and symptoms, episiotomy and its benefits, conduct of delivery, and cord clamping and cutting.

Table 4. Distribution of participants' practice items mean scores regarding the second stage of labor

	Items related to 2nd stage of labor	Always	Sometimes	Never	MS
1-	**Episiotomy**				
	1- Prepare sterile equipment necessary for this procedure	18	14	43	1.67
	2- Inform the woman the need for an episiotomy and what she feels.	1	6	68	1.10
	3- Using local anesthesia if available.	2	34	39	1.50
	4- Insert two fingers of the left hand in the vagina to protect the fetal head.	10	17	48	1.49
	5- Make sure and check the needle that inserted to blood vessels	21	14	40	1.74
	6- Wait for 1/ m. to allow the anesthetic to make effect and check if it has worked	20	18	37	1.77

Table 4. (Continued)

		Items related to 2nd stage of labor	Always	Sometimes	Never	MS
2-		**Cleanliness and sterilization**				
		1- Ensure what the place for delivery is clean	0	14	61	1.18
		2- Cleaning the perineum with safe water	1	28	46	1.4
		3- Clean hands using soap and safe water and dry them thoroughly	8	44	23	1.8
		4- Once the baby is born, cover incision with sterile pad, until baby resuscitated	43	18	14	2.39
		5- Using sterile sharp scissor cutting the cord.	43	6	26	2.22
3-		**Conduct of actual delivery**				
		1- Encourage women in 2nd stage to bear down as she desire when fetal head is visible	68	5	2	2.88
		2- Avoid manually stretching the perineum	72	1	2	2.93
		3- Allow delivery of the head slowly, preferably between contractions	72	0	3	2.92
		4- Once the head is delivered, allow the shoulders to rotate spontaneously	0	0	75	1

MS= Mean of Scores

Table (4) shows that there were low mean of scores in most of the items regarding participants' practices regarding second stage of labor, while there were high mean of scores in participants' practices in delivering the head between contraction, avoid perineal stretching, encourage woman bearing down, using sharp scissor for cutting the cord, and replace clean pad on incision in case of episiotomy.

Table 5. Association between participants' knowledge regarding second stage of labor and their socio-demographic characteristics

Variables		Knowledge		χ2	Sig.	P-value
		Unsatisfactory	Satisfactory			
Age	18-22 years	0	2	4.267	NS	>0.05
	23-27 years	0	4			
	28-32 years	0	9			
	33-37 years	1	16			
	38-42 years	3	15			
	43+ years	1	24			
Total =75		5	70	**df**=5		
Educational level	Nursing course	0	1	0.534	NS	>0.05
	Nursing school graduate	1	24			
	Secondary Nursing school	1	11			
	Midwifery School	3	34			
Total =75		5	70	**df**=3		
Marital status	Married	5	52	1.692	NS	>0.05
	Single	0	12			
	Widow	0	4			
	Divorced	0	2			
Total =75		5	70	**df**=3		

Table 5. (Continued)

Variables		Knowledge		χ2	Sig.	P-value
		Unsatisfactory	Satisfactory			
Working shifts	Day shifts	2	30	0.444	NS	>0.05
	Night shifts	1	21			
	Day and Night	2	19			
Total =75		5	70	**df**=2		
Birth average/ shift	1-5	2	9	4.283	NS	>0.05
	6-10	1	38			
	11-15	2	17			
	16+	0	6			
Total =75		5	70	**df**=3		

df= degree of freedom; P-value= probability level; NS= Not significant; Sig.= Significance; χ2= Chi-square observed value

Table (5) shows that there is no significant difference between participants' knowledge regarding 2nd stage of labor and their socio-demographic characteristics.

Table 6. Association between participants' practices regarding second stage of labor and their socio-demographic characteristics

Variables		Practices		χ2	Sig.	p<
		Inadequate	Adequate			
Age	18-22 years	2	0	7.423	NS	>0.05
	23-27 years	3	1			
	28-32 years	9	0			
	33-37 years	10	7			
	38-42 years	11	7			
	43+ years	14	11			
Total =75		49	26	**df**=5		
Educational level	Nursing course	0	1	10.21	HS	0.017
	Nursing school graduate	13	12			
	Secondary Nursing school	12	0			
	Midwifery School	24	13			
Total =75		49	26	**df**=3		
Marital status	Married	35	22	2.110	NS	>0.05
	Single	9	3			
	Widow	3	1			
	Divorced	2	0			
Total =75		49	26	**df**=3		
Working shifts	Day shifts	18	14	5.396	NS	>0.05
	Night shifts	13	9			
	Day and Night	18	3			
Total =75		49	26	**df**=2		
Birth number average/shift	1-5	1	10	18.495	HS	0.000
	6-10	28	11			
	11-15	15	4			
	16+	15	1			
Total =75		49	26	**df**=3		

df= degree of freedom; HS= Highly significant; P-value= probability Level; NS=Not significant; Sig.= Significance; χ2= Chi-square observed value

Table (6) shows that there is a highly significant difference between participants' practices regarding 2nd stage of labor and their educational level and birth number average.

Discussion

It was revealed from (Table 1) that the higher percentage (32%) of participants' ages was (43 years) and over and the lowest percentage (2.7%) of them was in age group (18-22) years, with a mean of (38.9 ± 9.4). Regarding the level of education, the highest percentage (49.4%) of the study participants was midwifery school graduate.

The nurse- midwife is a person who is qualified to practice midwifery, attending normal delivery, and having a lot of training to conduct normal deliveries on their responsibilities and caring for newborn, and fulfill the requirements of the newly delivered mother and her fetus and monitoring the progress of their health after delivery [12].

Regarding marital status, the majority (74.7%) of the participants was married. This is something that can be expected with such population due to the nature of their profession as female oriented. The study demonstrated that (16%) of the study sample has taken the midwifery from their mothers, which means that they have a desire in the profession and the tendency to practice it and having their experience from their relative mothers, sisters and others.

It was revealed from (Table 2) that the highest percentage (28%) of them was employed for (6-10) years. While, (32%) of them spent between (1-5) years of employment in midwifery. This study was in agreement with another one which aimed to assess nurse-midwives' practices regarding prolonged labor in Babylon City which reported that (22.8%) of them having between (6-10) years of experience in nursing. While, (40.4%) had spent less than (5) years of their employment in midwifery [13].

Regarding training courses in midwifery, the highest percentage (69.4%) of them has the opportunity to be enrolled or participated in training courses ranging between (1-5) courses, with a duration ranging from one week to more than one month. While, one third of them do not have any training courses. It was found that in-service training is essential to ascertain that midwives' skills and their understanding quality of care have been updated to maintain high quality in their nursing and midwifery practices and give them the opportunity for high quality of performance [14].

The results presented a high mean of scores in nurse-midwives' knowledge regarding the second stage of labor in all items, such as definition, signs and symptoms, episiotomy and its benefits, conduction of delivery, and cord clamping and cutting (Table 3). It was stated that nurses' knowledge is vital at all levels of nursing practices [15]. Knowledge and their impact on interactions with health care of women in delivery room are essential to prevent complications of labor. Labor support is an important part of this experience, since it influences women's classification of the birth experience as a positive or negative. By understanding professional labor support, intrapartum nursing knowledge can be advanced and help professional labor support interventions which can enhance the delivery process for all women [16].

It was recognized that the second stage of labor has led to reconsideration of the influence of maternal bearing down efforts on fetal/newborn status, as well as on maternal pelvic structural integrity. The evidence that the duration of active pushing is associated with fetal acidosis and denervation injury to maternal perineal musculature, the basis for the recommendation that the early phase of active pushing is shortened by strategies to achieve effective, but non detrimental pushing effort is reviewed. The rational includes an emphasis on the obstetric factors and observation of maternal behaviors, particularly evidence of an

involuntary urge to push, and maternal positions that will promote fetal descent, as well as reduce maternal pain [17]. The results presented a low mean of scores in most of the items regarding nurse-midwives' practices regarding second stage of labor. While, there was a high mean of scores in nurse-midwives' practices in delivering the head between contractions, avoiding perineal stretching, encouraging women bearing down, using sharp scissor for cutting the cord, and replacing clean pad on incision (Table 4).

This study was in agreement with study regarding nurse-midwives' practices in nursing interventions in second stage of labor, concerning their performance in perineal preparation and cleanliness and sterilization during actual conduct of delivery [13].

It was found that one of the key tasks midwives described was assisting birthing women to develop and negotiate satisfactory birth narratives that could encompass the intense and sometimes difficult experience of birth. Midwife informants offered strategies for developing such narratives as a part of their professional and personal labor in the birth room [18].

It was revealed from (Table 6) that there was a high significant association between nurse-midwives' practices regarding 2nd stage of labor and their educational level and birth number average. The adoption of knowledge was influenced by the desire of the midwife to apply the research-based knowledge in the practice. The midwives who read had adopted more knowledge than the others [19]. Also, it was found that the birth attendance in all educational levels needs educational and training courses for providing high quality of care at delivery units to prevent maternal and fetal mortality rate [20]. Nurse's competence differs according to the educational preparation they are given for nursing practice. This nursing practice has a wide range of functions that lacks a clear definition of the nurse's role which may lead to overlap with the roles of others [21].

Recommendations:

1- Installing in-service education programs with efficient training courses to upgrade the techniques necessary to assess, evaluate, and improve the quality of care rendered to laboring woman throughout stages of labor and provide the nurses-midwives with efficient training courses, regarding the proper practices to be hold in delivery room to take care of the laboring women and updating their knowledge.

2- Implementation of the partograph in delivery room after conducting an educational training courses for the nurse-midwives for how to use it.

3- Ensuring of the qualification of the nurse-midwives who conduct the care in delivery room.

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