

Assessment of Nurse-Midwife's Knowledge and Performance Regarding Immediate Newborn Care in Delivery Rooms at Maternity Hospitals in Baghdad City

تقييم معارف وأداء الممرضة - القابلة فيما يتعلق بالرعاية الفورية لحديثي الولادة في صالات الولادة في مستشفيات بغداد للولادة

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المستخلص

الأهداف: تقييم معارف وأداء الممرضات - القابلات فيما يتعلق بالرعاية الفورية لحديثي الولادة في صالات الولادة، والتعرف على العلاقة بين معارف وأداء الممرضات - القابلات ومتغيراتهم الديموغرافية والمهنية فيما يتعلق بالرعاية الفورية لحديثي الولادة.

المنهجية: أجريت دراسة وصفية خلال الفترة من 1 تشرين الأول، 2019 ولغاية 20 تشرين الأول 2020 في ثلاث مستشفيات للولادة في مدينة بغداد/ دائرة صحة بغداد الرصافة: مستشفى العلوية للولادة التعليمي ومستشفى فاطمة الزهراء (ع) للولادة والاطفال ومستشفى الزعفرانية العام. شملت العينة غير الاحتمالية (الغرضية) لجمع البيانات (40) مشاركة (ممرضات - قابلات) أعتبرت عينة الدراسة.

النتائج: أشارت نتائج الدراسة الى ان تقييم معارف وأداء الممرضات - القابلات كان كالاتي: مستوى المعارف متوسط، بمتوسط الدرجات (1.63)، ومستوى الأداء غير مقبول بمتوسط الدرجات (1.59) فيما يتعلق بالرعاية الفورية لحديثي الولادة في صالة الولادة. المتغيرات الديموغرافية والمهنية لم يكن لها تأثير بارز على معارف واداء الممرضات - القابلات. **الاستنتاجات:** استنتجت الدراسة إلى أنه يجب تحسين معارف الممرضات - القابلات وأدائهم، وهذا سيساعد في تقليل الأداء الغير مقبول للعناية بالوليد، مما يمكن الممرضة - القابلة من تقديم رعاية مثالية للوليد فوراً بعد الولادة.

التوصيات: أوصت الدراسة بأن جميع الممرضات - القابلات في غرف الولادة يجب زيادة معرفتهن، ويمكن تدريبهن على كيفية تقديم رعاية فورية لحديثي الولادة خلال دورات تجهز من قبل وزارة الصحة، ويمكن وضع سياسات يجب أن تكون الرعاية الفورية لحديثي الولادة ضمن استراتيجياتها.

الكلمات المفتاحية: الرعاية الفورية لحديثي الولادة، أداء، الممرضة - القابلة، تقييم، صالات الولادة، معارف

Abstract

Objectives: To assess nurses-midwives knowledge and performance regarding immediate newborn care in delivery rooms, and to identify the relationship between nurses-midwives knowledge and performance and their socio-demographic and professional variables regarding immediate newborn care.

Methodology: A descriptive study was conducted from 1st of October, 2019 to 20TH of October, 2020 at three maternity teaching hospitals in Baghdad city/Al-Russafa Health Directorate: Al-Elwiya Maternity Teaching Hospital, Fatema Al- Zahra Maternity and Pediatric Hospital, Al- Za'faraniyah General Hospital. Non-probability (purposive sample) included to collect the data from (40) participant (nurses-midwives) that considered as study sample.

Results: The results of study indicated that the assessment of nurses– midwives' knowledge and performance as follows: moderate level of knowledge at mean of scores (1.63), and unacceptable level of performance at mean of scores (1.59) regarding immediate newborn care in delivery room. Socio- demographic and professional variable were no significant effect on nurses-midwives knowledge and performance.

Conclusions: The study concluded that should be improving nurses- midwives knowledge and their performance, and this will help to reduce the unacceptable performance of newborn care which enabling nurse-midwife to provide perfect newborn care immediately after delivery.

Recommendation: The study recommended that all nurses- midwives' in labor rooms should increase their knowledge, and can train how to provide immediate newborn care through courses provided by The Ministry of Health, and can make policies that immediate newborn care within their strategies.

Key words: Assessment, Delivery rooms, immediate newborn care, Knowledge, Nurse-midwife, Performance

Introduction

In the first month of life globally 2.5 million newborns babies were died, and one million on the first day of their lives. Mostly, neonatal mortality was occurred in low and moderate income countries, causing an increase in the number of children mortality under the age of five ⁽¹⁾. In 2019 estimates newborns deaths which are generally avoidable, account for 46% of all deaths among children under the age of five, and it was higher in the first days of life. This necessitates a greater emphasis on neonatal care than ever before. Four million newborns each year die before they reach age of month. More than 98% of these deaths occur in developing countries ⁽²⁾. Immediate newborn care (INC) is

important for a baby growth and healthy life. Nurses' midwives have important role at birth to help avoid complications and ensure survival. Skilled care with timely control of complications alone during labor and birth will avoid around 50 percent of newborn mortality and 45 percent of intrapartum stillbirths. 75 % of existing neonatal deaths can be prevented in tandem with adequate postnatal care ⁽³⁾. In low and moderate income countries most newborns do not receive appropriate care. Studies were showed that newborn death can be avoided by using procedures involving simple equipment provided by a professional nurse-midwife who cares for the neonate ⁽⁴⁾. The care offered to babies in the first few hours after they are born is

important to their survival. Their survival is contingent on the nurse-midwife knowledge and performance to supply proper newborn care. The care was provided to newborns babies immediately during the first hours after delivery is crucial for their survival, and depends on the nurse-midwife knowledge and performance. To minimize neonatal morbidity and death, health care providers' knowledge and performance in early newborn care are critical. Nurses-midwives must have the necessary knowledge and performance to conduct rapid newborn care interventions ⁽⁵⁾. Immediate newborn care is very important for a newborn baby growth and healthy life, the care takes place shortly after birth, during the transitional period and during the postnatal period. Maintaining and enhancing newborn care requires active participation of all in the health care system to meet the needs for assessing health care as a whole and to assess if appropriate and sufficient care has been given ⁽⁶⁾. Professional care at birth is crucial for both the newborn baby and mother. Nurses- midwives are regularly placed in the care of newborns admitted to formal health care facilities. Improving their knowledge and skills are very important aspects of these health facilities ⁽⁷⁾. The key to making labor safer for

mothers and their newborn is to have skilled care at every birth. Globally, skilled birth attendance is one of the most important interventions for lowering mother and newborn death and morbidity. A major impediment to attaining this is a lack of properly trained and qualified personnel ⁽⁸⁾.

Methodology

A descriptive study was conducted throughout the present study on nurses-midwives knowledge and performance regarding immediate newborn care for study sample during the period from 1st of October, 2019 to 20th of October, 2020. Non-probability (purposive sample) used to collect the data from subjects (nurses-midwives) who work at three maternity teaching hospitals in Baghdad city/Al-Russafa Health Directorate: Al-Elwiya Maternity Teaching hospital, Fatema Al-Zahra Maternity and Pediatric Hospital, Al- Za'faraniyah General Hospital. (45) nurses-midwives were selected; five participants were dropped out from the entire sample. The sample was (40) nurses-midwives. The criteria for selecting the study sample are: nurses –midwives who are working in the morning and night shifts in delivery rooms, and in different educational levels, nursing experience, and who agree to participate in the study. The

questionnaire and checklist were instrument of study consisted of three main parts which includes: part one/ socio demographic and professional variables, part two/ nurse- midwife knowledge regarding immediate newborn care that consisted of (67) items were designed as multiple choices, The rating score of response options were (two) for correct answer and (one) for incorrect answer with cut-off point (1.5). Part three/ nurse-midwife performance regarding immediate newborn care that consisted of (96) items. The rating score of checklist was (three) for always implemented, (two) for some times implemented and (one) for never implement with cut-off point (two). The questionnaire sheet was consisted of (14) main domain, which consists of (67) items. The checklist sheet was consisted of (14) main domain, which consists of (96) items. Content validity is determined through panel of (17) experts. A pilot study was conducted before starting actual data collection on (10) nurses- midwives who work at Baghdad Teaching Hospital/

Maternity department/delivery room. The reliability of instrument was determined through the test and re-test approach, with distance period two weeks between these tests. To analyze the data, statistical procedures were used as descriptive statistic and inferential statistic with a p-value equal or less than (0.05) were considered significant.

Ethical Consideration

Written consents were obtained from each nurse- midwife who agrees to participate in the study. The participants were informed that they might join and withdraw at any moment during the study and using of numbers instead of participants names for coding the questionnaire and maintaining the confidentiality of the information provided by the respondents as well as their information disclosed just for research purpose. The researcher discussed the study aims, the relevance of the research, and the study usefulness to the participants.

Results

Table (1): Distribution of Study Sample According to the Socio- Demographic and Professional Variables

Socio- Demographic and Professional Variables	Study sample (n=40)		
	F.	%	Cumulative Percent
Age / years			
21-25	8	20	20
26-30	7	17.5	37.5
31-35	2	5	42.5
36-40	9	22.5	65
41-45	3	7.5	72.5
46-50	7	17.5	90
51 and above	4	10	100
$\bar{x} \pm SD$	37.18 \pm 10.65		
Educational level			
Midwifery secondary school graduate	34	85.0	85
Medical technical institute graduate	1	2.5	87.5
High health institute graduate	5	12.5	100
Social status			
Married	19	47.5	47.5
Widow	3	7.5	55
Divorced	6	15	70
Single	12	30	100
Nursing Experience/ years			
less than one year	1	2.5	2.5
1-5	11	27.5	30
6-10	16	40	70
11-15	6	15	85
16 years and more	6	15	100
$\bar{x} \pm SD$	9.55 \pm 7		
Experience in delivery room/ years			
less than one year	5	12.5	12.5
1-5	21	52.5	65
6-10	6	15	80
11-15	5	12.5	92.5
16 years and more	3	7.5	100
$\bar{x} \pm SD$	6.53 \pm 5.94		
Participated in training courses			
Yes	27	67.5	32.5
No	13	32.5	100

F. = Frequencies, % = Percentages, SD = Standard Deviation, \bar{x} =Mean

Table (1) refers to an assessment of the study sample socio-demographic and professional data. The study results indicates that (22.5%) of study sample within age groups (36 – 40) years, (85%) of the study sample was graduated from midwifery secondary school, (47.5%) of the nurses- midwives were married, (40%) of the study sample had (6–10) experience years, and (52.5%) of the study sample had (1–5) experience years in delivery room, The highest percentage (67.5%) of the nurses- midwives had training courses regarding newborn care.

Table (2): Assessment of Nurses- Midwives' Knowledge regarding Immediate Newborn Care for Study Sample

Main Domains	Study sample (n=40)		
	GMS	RS	Ass.
General Knowledge about Newborn Care	1.68	84	M
Clearing the Airway and Establish Respiration	1.48	74.07	L
Thermal Care	1.58	79.14	M
Newborn Assessment / Apgar Score	1.60	79.81	M
Umbilical Cord Care	1.60	80.13	M
Eye Care	1.78	88.9	H
Initial Physical Examination	1.63	81.33	M
Newborn Identification	1.50	75.17	M
Newborn Monitoring	1.48	74	L
Initiation of Breast Feeding	1.78	88.83	H
Vitamin K injection	1.55	76.36	M
Newborn weighting	1.69	84.5	M
Newborn Birth Record	1.88	94	H
Mother Education (instructions and advice)	1.65	82.63	M
Overall Domains of Knowledge	1.63	81.63	M

GMS = Grand Mean Score RS = Relative Sufficiency Ass. = Assessment
L. = Low: less than 75 M. =Moderate: 75 % - 87.5% H. = High 87.6% – 100%

Table (2) explains that an assessment of the nurses-midwives knowledge regarding immediate newborn care was moderate at overall domains of knowledge.

Table (3): Assessment of Nurses - Midwives' Performance regarding Immediate Newborn Care for Study Sample

Main Domains	Study sample (n=40)		
	GMS	RS	Ass.
Preparation in dealing with Newborn Care before Delivery	1.93	64.33	UA
Clearing the Airway and Establish Respiration	1.58	63.99	UA
Thermal Care	1.58	52.67	UA
Newborn Assessment / Apgar Score	1.81	60.17	UA
Umbilical Cord Care	1.78	59.29	UA
Eye Care	1.05	34.99	UA
Initial Physical Examination	1.65	54.83	UA
Newborn Identification	2.1	70	NI
Newborn Monitoring	1.39	46.16	UA
Initiation of Breast Feeding	1.26	41.86	UA
Newborn weighting	1.37	45.5	UA
Newborn Birth Record	1.95	64.83	UA
Mother Education (instructions and advices)	1.28	42.68	UA
Overall Domains of Performance	1.59	53.95	UA

Mean Score **RS = Relative Sufficiency** **Ass= Assessment** **UA. = Unacceptable: Less than 66.66**
NI. = Need for Improvement: 66.66 -77.77 **A. =Acceptable: 77.78-88.89** **G. = Good: 88.90-100**

Table (3) explains that an assessment of the nurses-midwives performance regarding immediate newborn care was unacceptable at overall domains of performance.

Table (4A): Effect of Certain Socio-Demographic and professional Variables on Nurses-Midwives Overall Knowledge and Performance regarding Immediate Newborn Care in Delivery Rooms (n=40).

Socio-Demographic and Professional Variables	Total Knowledge score			Total Performance score		
	R	Sig.	C.S	R	Sig.	C.S
Age (years)	- 0.115	0.478	NS	- 0.203	0.209	NS
Number of experience years	- 0.118	0.468	NS	- 0.109	0.501	NS
Number of experience years in delivery room	- 0.019	0.906	NS	- 0.097	0.552	NS

R= Correlation, Sig. =Significant at P- value ≤ 0.05 , C.S = Comparison Significant. NS= None Significant

Table (4A) focuses on the effect of nurses-midwives knowledge and performance regarding immediate newborn care in delivery rooms on their socio-demographic and professional data by using of person correlation test. The study results indicate that the age, number of experience years, and number of experience years in delivery room variables have no effect on participants' knowledge and performance.

Table (4B): Effect of Certain Socio-Demographic and Professional Variables on Nurse-Midwives Overall Knowledge and performance regarding Immediate Newborn Care in Delivery Rooms (n=40)

Socio-Demographic and Professional Variables	ANOVA Test							
	Periods	S.O.V	Sum of Squares	Df	Mean Square	F	P-Value	Sig.
Educational Level	knowledge	Between Groups	218.504	2	32.315	0.600	0.554	NS
		Within Groups	4839.271	37	53.818			
		Total	5057.775	39				
	performance	Between Groups	218.504	2	109.252	0.835	0.442	NS
		Within Groups	4839.271	37	130.791			
		Total	5057.775	39				
Social Status	knowledge	Between Groups	233.518	3	77.839	1.538	0.221	NS
		Within Groups	1822.382	36	50.622			
		Total	2055.900	39				
	performance	Between Groups	138.200	3	46.067	0.337	0.799	NS
		Within Groups	4919.575	36	136.655			
		Total	5057.775	39				

Continued table (4B)

Socio-Demographic and Professional Variables	ANOVA Test							
	Periods	S.O.V	Sum of Squares	df	Mean Square	F	P-Value	Sig.
Training Courses	knowledge	Between Groups	11.740	1	11.740	0.218	0.643	NS
		Within Groups	2044.160	38	53.794			
		Total	2055.900	39				
	performance	Between Groups	135.838	1	135.838	1.049	0.312	NS
		Within Groups	4921.937	38	129.525			
		Total	5057.775	39				

S.O.V= Source of Variance, df= Degree of freedom, F= Calculated F Value Sig. =Significant at P- value ≤ 0.05 , NS= None Significant

Table (4B) focuses on the effect of nurses-midwives knowledge and performance regarding immediate newborn care in delivery rooms on their socio-demographic and professional data by using of Analysis of variance (ANOVA) test. The study results indicate that the educational level, social status, and training courses variables have no effect on participants' knowledge and performance.

Discussion

Part I: Discussion of Nurses-Midwives Socio- Demographic and Professional Variables of the Study Sample

Analysis of demographic variables indicated that the mean and standard deviation (\pm SD) age was ($37.18 \bar{\pm} 10.65$). Majority (22.5%) of study sample were ranged between (36- 40) years. This result was disagreed with a Correlational Study who studied that more than half of the nurses-midwives' were aged between (22– 24) years⁽⁹⁾. The highest percentage (85%) of study sample that educational level was graduated from midwifery secondary school. This contradicts with a cross sectional study in Tigray who studied that majority (83%) of nurses-midwives was diploma graduated.⁽¹⁰⁾ the highest percentage (47.5%) of study sample was married. This result was disagreed with study in Ethiopia who showed that only (26.1%) of nurses their marital status was married⁽¹¹⁾. The mean (\pm SD) of nursing experience was ($9.55 \bar{\pm} 7$), the majority 40% were ranged between (6-10) years. And the mean (\pm SD) experience in delivery room was ($6.53 \bar{\pm} 5.94$), the majority (52.5%) were ranged between (1- 5) years. This result was agreed with a study who revealed that professional experience in midwifery for the study sample was more than five years⁽¹²⁾. The majority (67.5%) of study sample were received a training course

in newborn care. The finding was contrasted with a study in Pune city who stated that majority (83%) of the staff nurses were not exposed to any other additional courses of immediate newborn care⁽¹³⁾. The highest percentage (100%) of study sample (nurses-midwives) interest to work in midwifery. This result agreed with a cross-sectional study who stated that all participants interest to work in delivery room⁽¹⁴⁾.

Part II: Discussion of Assessment of Nurses- Midwives' Knowledge regarding Immediate Newborn Care for Study Sample

The findings revealed that participants (nurses- midwives) had different level of knowledge assessment regarding immediate newborn care, majority (38%) of study sample had moderate level of knowledge, and the same percentages (31%) had high level of knowledge, and low level of knowledge. All midwives in delivery room have moderate level of knowledge related immediate newborn care⁽¹⁵⁾. These results disagreed with a comparative study who found that 47 percent of sample had high level of knowledge regarding newborn care⁽¹⁶⁾. Health professional's knowledge level regarding essential newborn care is low⁽¹⁷⁾.

Part III: Discussion the Assessment of Nurses - Midwives' Performance regarding

Immediate Newborn Care for Study Sample

The findings of the present study were revealed that (68%) of participants (nurses-midwives) had unacceptable level of performance regarding immediate newborn care. The present study viewed that administer eye ointment/drop erythromycin or tetracycline and vitamin k injection were not applied by nurses-midwives whether in normal birthing room or isolated birthing room in hospitals because eye drop/ointment and vitamin K did not provided in delivery room in hospitals according to Ministry of Health policy. All participants in the study have unacceptable level of performance about immediate newborn care ⁽¹⁸⁾. This result was disagreed with a cross-sectional study who reported that (73%) had a good level of performance on immediate newborn care ⁽¹⁹⁾.

Part IV: Discussion the Effect of Socio-Demographic and Professional Variables on Nurse-Midwives Overall Knowledge and performance regarding Immediate Newborn Care in Delivery Rooms

The finding was revealed that the age, nursing experience, experience in delivery room, educational level, social status, training courses variables have no effect on nurses-midwives knowledge and performance regarding immediate newborn care in delivery

rooms among study sample. As shown in table (4A), and (4B).

This result agreed with a study in Erbil who reveals that there were no significant statistical associations between overall nurse-midwife's knowledge and performance regarding immediate newborn and education level, experience years and training course in newborn care ⁽²⁰⁾. No significant association was found between the knowledge of the staff nurse and other socio-demographic variables ⁽²¹⁾. Study was done in Uganda who revealed that there was no a significant association between their nursing experience and immediate newborn care performance ⁽²²⁾.

Conclusions

The study concluded that what should be improving nurse- midwife's knowledge and performance, and this will help to reduce the unacceptable performance which enabling nurse-midwife to provide perfect newborn care immediately after delivery.

Recommendations

The study recommended that all nurses-midwives in labor rooms should increase their knowledge and can train how to provide immediate newborn care through courses provided by Ministry of Health, and can make policies that immediate newborn care within their strategies.

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