

Effectiveness of Education Program on Nurse-Midwife's Performance Regarding Immediate Newborn Care in Delivery Rooms at Maternity Hospitals in Baghdad City/Iraq

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Abstract

Background: Immediate newborn care is the care given to newborns in the transitional period (immediately after birth) which crucial to their survival. Nurses- midwives require adequate knowledge and skills to provide immediate newborn care. The study was aimed at determining the effectiveness of an educational program on nurses- midwives' performance regarding immediate newborn care in delivery room among study sample.

Methods: Quasi-experimental study was conducted from 1st October 2019 to 20th January 2021 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 (Convenient sample) used to collect the data from (40) participant (nurse-midwife) that considered as study sample. **Conclusions:** The results of study indicated that nurses– midwives' performance assessment before the implementation of educational program was unacceptable related to immediate newborn care in delivery room for study sample. There were high significant differences in participants' performance at pretest and posttest before and after the implementation of an educational program for study sample. Socio- demographic and professional variable were no significant effect on their performance. The study findings showed that program had been an effective method of improving the nurses- midwives' performance regarding immediate newborn care in delivery room.

Key words: Delivery rooms, Education, Effectiveness, Immediate newborn care, Nurse-midwife, Program, Performance

INTRODUCTION

Globally 2.5 million newborns were died in the first month of life, and one million was died on the first day of life. Most of the neonatal deaths occurred in low and middle income countries, accounting for a rising proportion of under-five mortality⁽¹⁾. Deaths in the first 28

days of life which are mostly preventable, represent 46% of total deaths among children under five (2019 estimates). Deaths among these children are more concentrated in the first days of life, this makes focus on newborn care more critically than ever before ⁽²⁾. Immediate measures in newborn care form are part of essential newborn care used to protect against newborn morbidity and mortality. Both mother and neonate experience a special and unique time and sensitive period which has been biologically programmed, particularly after vaginal birth, during this first hour after birth ⁽³⁾. Immediate newborn care is very important for a newborn baby's 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 ⁽⁴⁾. Such care is an important part of regular childbirth care. Immediate care measures to minimize morbidity and mortality involves: drying the newborn with warm towels or clothes while putting it on the abdomen of the mother or between breasts, rapid drying and heating, including skin to skin, clean cord care, newborn resuscitation with birth asphyxia, and early exclusively breastfeeding for all newborns ⁽⁵⁾. Increased emphasis on improving the quality of newborn care within the health care system, as well as formulating and enforcing health policy was important. One of the crucial steps in the development cycle was quality newborn care to recognize deficiencies and barriers in facilities ⁽⁶⁾. Quality of care during labor and after delivery contributes to proper newborn care performances ⁽⁷⁾. Immediate care time is crucial to the newborns for subsequent well-being and adaptation. Skilled care during labor and childbirth can prevent about 50% of newborn mortality. Continuation of adequate newborn care in the postnatal period can prevent 75% of current newborn deaths Nurses-midwives routinely care of newborns, therefore enhancement of their performance are very vital aspects ⁽⁸⁾. Skilled care at every birth is the key to making childbirth safer for women and their newborns. Skilled birth attendance is key strategies for reducing maternal and newborn mortality and morbidity globally. Lack of adequately trained competent staff is a key barrier to achieving this ⁽⁹⁾.

MATERIALS AND METHOD

A quasi experimental design one group "pre/post intervention" approach was conducted throughout the present study with the application of pretest and post-test approach on nurses-midwives performance regarding immediate newborn care for study sample during the period from 1st October 2019 to 20th January 2021. Non-probability (convenient 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 entire sample. The criteria for selecting the study sample are: nurses –midwives who are working in the morning and night shifts in delivery rooms, different educational levels, and who agree to participate in the study. The sample (40) nurses-midwives were exposed to pretest to assess performance, and then the implementation of educational program was carried out by the researcher and posttest was applied for study sample. The questionnaire and checklist were instrument of study consisted of two main parts which includes: part one/ socio demographic and professional variables, part two/ 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 and (one) for never (don't implement) with cut-off point (two). The checklist sheet was consisted of (three) main domain, first domain/ nurse- midwife preparation in dealing with newborn care before delivery: Which was consist of (nine) items. Second domain/ immediate newborn care (within one hour of birth): Which was consists of (nine) items, includes (58) sub items. Third domain/ immediate newborn care (after one hour of birth): Which was consists of (four) items, includes (29) sub items. A program is constructed to contain three components: introduction, immediate newborn care within one hour of birth, immediate newborn care after one hour of birth /prior to discharge from delivery room. Instrument is constructed relative to program, to determine the effectiveness of the program on nurses-midwives' performance concerning immediate newborn care. The program and the instrument's 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. The result of the reliability was ($r_1 = 0.893$) with Pearson correlation coefficient was calculated ($r = 0.821$) for performance items. 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.

RESULTS AND DISCUSSION

Analysis of demographic variables indicated that the mean ($\pm$ SD) age was (37.18 ± 10.65), majority (22.5%) were ranged between (36- 40) years. This results was disagreed with Abdu et al., (2019) concluded that the mean ($\pm$ SD) age for the study sample was $29.9 (\pm 3.4)$ years, the majority (68%) were ranged between (25- 29) years ⁽¹⁰⁾. The highest percentage (85%) of the subjects in the study sample was graduated from midwifery secondary school. This result was agreed with Jamsheer & Shaker (2018) who revealed that the highest percentage (40%) of the nurse- midwife was graduated from preparatory midwifery school ⁽¹¹⁾. The highest percentage (47.5%) of study sample was married. This result was disagreed with Yemaneh & Dagnachew (2017) who showed that only (26.1%) of nurses their marital status was married ⁽¹²⁾. The mean ($\pm$ SD) nursing experience of study sample was (9.55 ± 7), the majority (40%) were ranged between (6-10) years. And mean ($\pm$ SD) experience in delivery room was (6.53 ± 5.94), the majority (52.5%) were ranged between (1- 5) years. This result was agreed with Traore (2018) who revealed that the study sample have more than five years of professional experience in midwifery ⁽¹³⁾. The highest percentage (67.5%) of study sample has training courses in immediate newborn care. This inconsistent with those of Devi et al., (2017) who stated that majority (83%) of the staff nurses were not exposed to any other additional courses of immediate newborn care ⁽¹⁴⁾. The highest percentage (100%) of study sample (nurses- midwives) interest to work in midwifery. This result was agreed with Arba & Zana (2020) who stated that all participants interest to work in delivery room ⁽¹⁵⁾. As shown in table (1). The findings were revealed that (68%) of participants (nurses- midwives) had unacceptable level of performance in all domains: Preparation in dealing with newborn care before delivery; immediate newborn care within one hour of birth; and immediate newborn care after one hour of birth in pretest before the implementation of an educational program. On the other hand the grand mean score (GMS) and relative sufficiency (RS) was higher in posttest in comparison with pretest before and after the implementation of an educational program. This result was agreed with NasorTaha (2013) who found that participants in study have unacceptable level of performance about immediate newborn care ⁽¹⁶⁾. As shown in table (2). The finding of current study showed that a significant improvement in the nurses- midwives performance after the implementation of an educational program regarding immediate newborn care in delivery room at ($P \leq 0.05$). And there was a high significant correlation between pretest and posttest (before and after the implementation of an educational program for study sample. As shown in table (3) by using

of paired samples t-test and figure (1). So the researcher accepted the alternative hypothesis and rejected the null hypothesis which means that the mean posttest performance score for nurses- midwives' who attend education program regarding immediate newborn care in delivery room have significant higher than their mean pretest performance score (Mean pre $\neq$ Mean post) at p-value ≤ 0.05 . This finding was agreed with study conducted in Egypt who revealed that after the implementation of an educational program immediately and 3 months later the post program; there were a significant improvement of performance among the studied nurses- midwives regarding the immediate postpartum care and the immediate newborn care compared to preprogram. Training programs for all nurses-midwives working in the delivery room and postpartum wards regarding the importance of the first two hour immediately postpartum must be conducted in order to improve their performance and ultimately improving the quality of health care (El-Khawaga et al., 2019) ⁽¹⁷⁾. Agbéko (2017) revealed that nurses-midwives have the advantage from receiving modules on immediate newborn care during their initial training. Training of the nurses- midwives was crucial to improve quality of care and to decrease newborn mortality ⁽¹⁸⁾. The finding was revealed that the age, nursing experience, experience in delivery room, educational level, social status, training courses variables have no association with nurses-midwives performance before and after implementation of an educational program regarding immediate newborn care in delivery rooms among study sample. This result was agreed with Studies were done in eastern Tigray who revealed that there was no a significant association between their nursing experience and immediate newborn care performance ⁽¹⁹⁾.

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

	Study sample		
	(n=40)		
Socio- Demographic and Professional Variables	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
SD	10.65		
	37.18		
Educational level			
Midwifery secondary school graduate			
	34	85	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
5-Jan	11	27.5	30
10-Jun	16	40	70
15-Nov	6	15	85
16 years and more			
	6	15	100
$\bar{x}$	9.55		
SD	7		
Experience in delivery room/ years			

less than one year	5	12.5	12.5
5-Jan	21	52.5	65
10-Jun	6	15	80
15-Nov	5	12.5	92.5
16 years and more	3	7.5	100
SD	6.53		
	5.94		
Participated in previous training courses			
Yes	27	67.5	32.5
No	13	32.5	100

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

Table (2): Assessment of Nurses - Midwives' Performance regarding Immediate Newborn Care Before and After the Implementation of an Educational Program for Study Sample (n=40)

Main Domains	Study Sample (pretest)			Study Sample (posttest)		
	GMS	RS	Ass.	GMS	RS	Ass.
Preparation in dealing with Newborn Care before Delivery	1.93	64.33	UA	3	100	G
Immediate Newborn Care Performance Within One Hour of Birth	1.62	54	UA	2.9	97	G

Immediate Newborn Care Performance After One Hour of Birth	1.61	53.77	UA	2.58	86	A
Overall Domains of Performance	1.72	57.37	UA	2.83	94.33	G

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

Figure (1): Illustrates the Mean Scores and Improvement of Nurses- Midwives' Performance at Overall Periods.

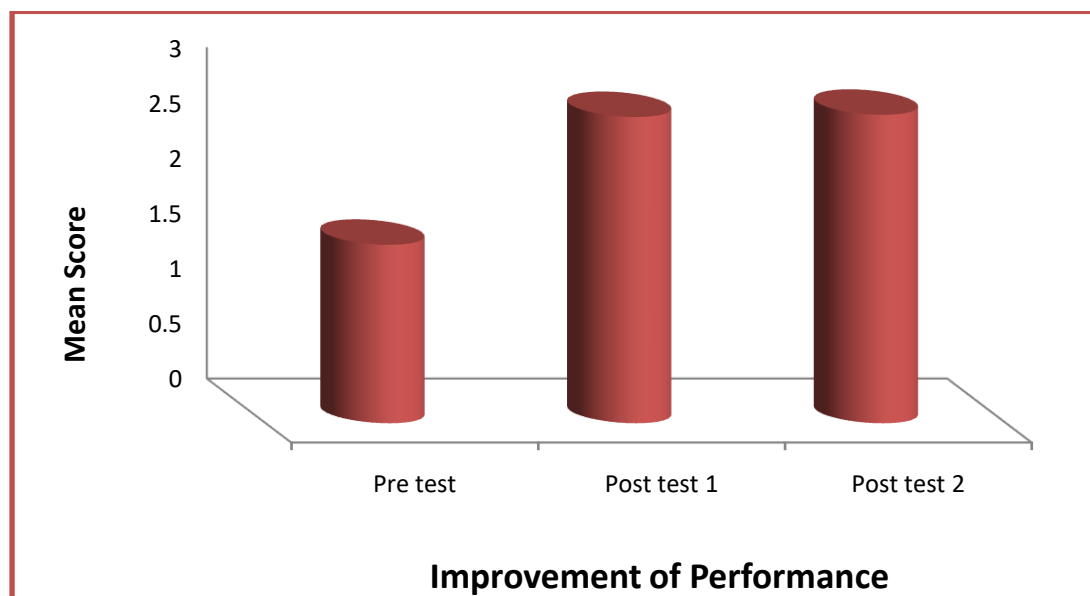


Table (3): Effectiveness of an Educational Program regarding Immediate Newborn Care in Delivery Rooms on Nurses -Midwives' Performance at Overall Periods (n= 40).

Paired Sample Test								
Nurses- Midwives' Performance at Overall Periods	Paired Differences					t	df	Sig. (2- tailed)
	Mean of Difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Upper	Lower			
Pre- Post 1 Test	-111.275	11.245	1.778	-107.678	-114.871	-62.582	39	0.00
Post1- Post2Test	-1.200	2.747	0.434	-0.321	-2.078	-2.762	39	0.00
Pre- Post2 Test	-112.475	10.867	1.718	-108.999	-115.950	-65.457	39	0.00

t = t-test, df= degree of freedom Sig. =Significant at p-value = ≤ 0.05

CONCLUSION

The study findings showed that the educational program regarding immediate newborn care contributes in improving nurse- midwife's performance. The educational program had been an effective method of increasing the nurses– midwives' performance regarding immediate newborn care.

RECOMMENDATIONS

The study were recommended that an educational program can be presented to all nurses- midwives' in labor rooms to improve their performance and can train how to provide immediate newborn care through courses provided by Ministry of Health and, make policies that immediate newborn care can be within their strategies.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the Ministry of Health, Iraq and all experiments were carried out in accordance with approved guidelines.

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