

Effect of Training Program on Midwives Practice Regarding Immediate Care of Newborn on in Governmental Hospitals Sinnar state. Sudan, 2022

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ABSTRACT

Immediate newborn care is the care given to newborns in the transitional period (immediately after birth) which crucial to their survival. Midwives require adequate training practice and skills to provide immediate newborn care. The study was aimed to assist the midwives working in labor room unit in Obstetrics and Gynecology Teaching Hospital to gain skills needed in the immediate care of the newborn. Quasi-experimental design study was conducted from February to July 2020 at Sinnar State in governmental hospitals. The sample size consisted of (96) midwives. Data were collected by using observation checklist to monitor midwives performance pre and post intervention to determine their practice regarding immediate care of newborn. Data analysis was performed by statistical package for social sciences (SPSS) (Version 26) presented in tables and figure. The results of study indicated that midwives'

practice assessment before the implementation of training program for study sample was moderate related to immediate newborn care. All the study group were labor room and female, they had got diploma certificate. Majority(44.8%) of the study samples were ranged between (41-50) years. The highest percentage (52.5%) of study sample were attended training program in neonatal care. The total mean score of post midwives practice were (79.2%, 13.5% and 7.3%) for the done correctly, done not correctly and not done respectively. The results of the study indicated that (14.5%) of the midwives showed a good performance and after implementation practice program and conducting the post-test, the midwives expressed good performance (80.8%). There were high significant differences ($P \leq 0.01$) in midwives' practice at pretest and posttest before and after the implementation of practice program for study sample. The study findings showed that program had been an effective method of increasing the midwives' practice about immediate newborn care.

Key words: *Midwives, implementation Practice, Immediate newborn care, Sudan.*

INTRODUCTION

Essential newborn care is the care providing to the newborn babies after labor within the labor room by practiced workers which includes drying and motivating, evaluating breathing air , cord care, skin to skin contact, initiating

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exclusive breastfeeding, eye care, vitamin k providing, place of identification band and weighing (Lazzerini, *et al.*,2019).A comparative study was done on essential newborn care practice in hospital and home deliveries in 2005 in Medan, Pakistan. This study highlighted the deficiencies in the newborn care.Both hospital practices and traditional ones neglected the basic principles of newborn cleanliness, early breast feeding, eye care and cord care(WHO.2017).Essential newborn care has standardized and active practical steps: drying and motivating, evaluating breathing, care of umbilical cord, protection the newborn warm (preventing hypothermia), starting breastfeeding within the first hour, managing eye drops / eye ointment, administering vitamin K intramuscularly, newborn identification straps, weighing the newborn, when stable and warm, write all notes and treatments, delay bathing the baby for 24 hours after birth (Roué,*et al.*, 2017). The majority of healthcare practitioners do not practice in a proper manner. Many neonatal deaths can be avoided if necessary newborn care is provided (Arba, 2022).The World Health Organization recommends that improving ENC be emphasized as a priority activity around the time of birth in order to substantially reduce newborn mortality. Despite the implementation of many efforts to improve vital infant care, only 16.4% and 13% of newborns received skilled health workers during delivery and the postnatal period, respectively (Abdu, *et al.*, 2019).

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The majority of neonatal deaths occur in the first week of life, with asphyxiation at delivery (47.5 %), neonatal infections (34.3 %), and prematurity accounting for 93 % of NMR instances (11.1 %) (WHO,2017).According to certain research, 25 % of health care providers do not have sufficient knowledge of essential newborn care, 28 percent do not have effective essential newborn care practices, and only 9.8 % of participants in the study are informed about infant resuscitation(Berhe, *et al.*, 2017).One technique for improving infant health outcomes is to promote ENC. This necessitates health care systems that can provide continuum of care from the onset of pregnancy (and even before), through professional competent childbirth care, and into the postnatal period. However, the standardized technique for obtaining ENC is not widely used. One of the most important parts of health systems in terms of adhering to ENC standards is knowledge (Koru, 2013).

New born mortality in Sudan is estimated at (61 per 1 000). The high figure is attributed to poor neonatal care resources, and shortage of staff trained in new born care. Midwives are the first line staff to deal with neonates requiring urgent help. Neonatal care training is deficient in midwifery schools. Also there is lack of in-service training m neonatal care for hospital midwives newborn care services in Sudan have not progressed well over the years. Medical and nursing staff involved in newborn care in the delivery rooms or special care

baby units have not gained much experience in proper newborn care. The midwives are the first contact of the newborns so we need them to be knowledgeable and aware about initial care and assessment of the neonate to decrease incidence of mortality and morbidity rate by using standard process for the immediate care of newborn. For this reasons this study is conducted to provide a training program on midwives practice regarding immediate care of the newborn.

METHODOLOGY

A quasi-experimental design analytic study conducted to assess midwives' practice and to evaluate midwives' practices regarding immediate new born care for the study population using, the study was started at (October 2019 to August 2022). The study was performed in the labor room of Sinnar city, Obstetrics and Gynecology Teaching Hospital. The study's sample included (96) midwives who work in the labor room at the Obstetrics and Gynecology Teaching Hospital and were participating in the assessment. The samples were chosen based on the midwives who worked in the labor rooms at Sinnar city, Obstetrics and Gynecology Teaching Hospital. Inclusion criteria was all midwives working in labor room in Obstetrics and Gynecological Hospital at governmental hospital during the period of the study. An observational checklist

was developed by the researcher to observe the actual midwives performance before and after the training program. It included all midwives care and practices needed for the immediate care of the newborn. Data collected by self-administer questionnaire and checklist by researcher a questionnaire sheet was designed by the researcher in Arabic language. The questionnaire consists of two main parts includes the following:

Part I: consists of midwives' demographic characteristics such as (midwives age, level of education, number of years' service in a hospital, number of years' experience in midwifery, whether they have completed a training course for immediate newborn care, the number of training courses they have completed, and the location of their participation.).

Part II: Including the checklist concerning midwives' practices about immediate care for newborns. Consist of (17) items were divided to (5) mean group relating to midwives' practice of providing immediate care to newborns such as maintain airway clearance: (oral suctioning, nasal suctioning, and apgar score). Umbilical cord such, skin and eye: (umbilical cord, skin to skin contact, skin care, and eye care). Initiation of early breast feeding, given vitamin K: (Initiation of early breast feeding and given vitamin K). Measuring vital signs: (assess body temperature by rectal, assess heart rate and assess respiratory rate). Measuring head and chest: (head circumference, chest circumference, weight and length).

Training program including theory and practice session (stimulation). The post questioner provided immediately conducting the education program, pre

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and post questioner are same, and checklist used for measuring the practice.

In the evaluation. The practice scenario conducted for the participant and registered in with video and checked the errors together, and deleted for those they do not want. During training program hand learning material distributed .at the end of the best participants done to handle the continues training program .follow up done after four months and post questioner applied to the participants.

Approval from University of Bahri faculty of postgraduates studies, permission of ministry of health and approval from all hospitals. Verbal informed consent was obtained from the participants, confidentiality of response to both questionnaire and personal data sheet was assured. The participant were provide essential information for consent form and their signatures taken on consent form. The participant have right to with draw from the study at any time and that there would be no potential physical economical or legal harm to the participants. The result available and given the hospital.

SPSS (Statistical Package for Social Sciences) version 26.0 and excel is used to examine the data. It includes: data of this study analyzed descriptive by identifying the change and the percentage, frequency, standard deviation and mean of score. Also means determining the outcome. And Inferential Statistical Tests (t-test and repeated measure ANOVA).

RESULTS

Table (1): Demographic characteristics of study group n=96

<i>Items</i>	<i>Frequency</i>	<i>Percent</i>
Age		
20-30 years	05	4.2%
31-40 years	27	28.1%
41-50 years	42	44.8%
More than 50years	22	22.9%
Total	96	100%
Gender		
Female	96	100%
level of qualification		
Diploma	96	100%
Field of study		
Midwifery	96	100%
years of experience		
6 - 11 Years	34	35.4%
11 - 15 Years	12	12.5%
More than 15 Years	50	52.1%
Total	96	100%
Unite of work		
Labor room	96	100%
Last attended training and participation in training courses in neonatal care		
Yes	50	52.5%

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No	46	47.5%
Total	96	100%

The table showed that all the study group were got diploma certificate, labor room and female. Majority(44.8%) were ranged between (41-50) years. The highest percentage (52.1%) of study sample has training courses in immediate newborn care.

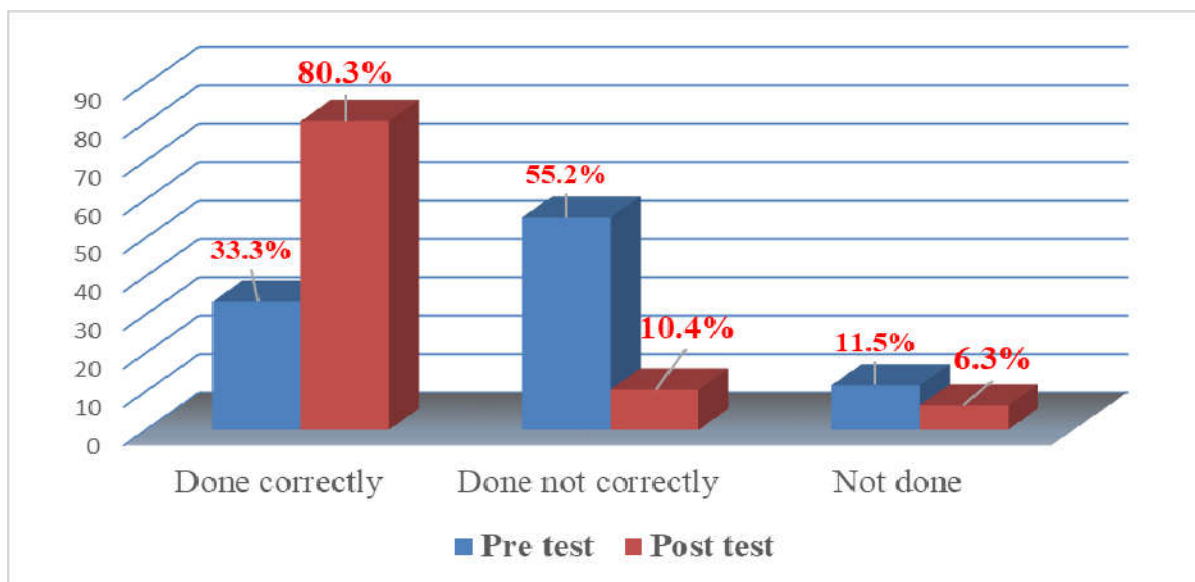


Fig. (1). Performance of study group during Maintain dry and warm for the newborn after birth n= 96

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Data in fig (1). Midwives practice during maintain dry and warm for the newborn after birth were (80.3%, 10.4% and 6.3%) for the done correctly, done not correctly and not done respectively.

Table (2). Performance of study group during midwives practice items in immediate care of newborn pre and post n=96

Done correctly answers	Pre test		Post test	
	f	%	f	%
Maintain airway clearance				
Oral suctioning	13	13.5%	73	76%
Nasal suctioning	10	10.4%	71	70.4%
Apgar score	10	10.4%	71	70.4%
Mean score	11	11.3%	72	74.3%
nursing care (umbilical cord, skin and eye)				
Umbilical cord	09	9.4%	79	82.2%
Skin to skin contact	12	12.5%	83	86.5%
Skin care	15	15.6%	80	83.3%
Eye care	18	18.8%	82	85.4%
Mean score	14	12.9%	81	79.5%
nursing care (Initiation of early breast feeding, given vitamin K)				

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Initiation of early breast feeding	19	19.8%	78	81.4%
Given vitamin K	43	44.8%	85	88.5%
Mean score	31	23.3%	82	84.9%

Whereas, f= frequency, %= percent.

This table presents that the mean scores midwives practice for pre and post-test about immediate newborn care; the mean score indicate that midwives practice were increased from (11.3%, 12.9% and 23.3%) to (74.3%, 79.5% and 84.9%) for maintain airway clearance, umbilical cord, skin and eye and Initiation of early breast feeding, given vitamin K respectively.

Table (3). Performance of study group during midwives practice items in immediate care of newborn pre and post n=96

Correctly answers	Pre test		Post test	
	F	%	f	%
measuring vital signs in immediate care of newborn				
Assess body temperature by rectal	10	10.4%	78	81.3%
Assess heart rate	15	15.6%	78	81.3%
Assess respiratory rate	07	07.5%	81	84.4%
Mean score	11	11.7%	80	82.3

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measuring head and chest circumference weight and length newborn after birth				
Head circumference	07	07.3%	78	81.3%
Chest circumference	08	08.3%	82	85.4%
Weight	18	18.6%	77	80.2%
Length	17	17.7%	81	84.4%
Means score	13	12.8%	80	82.8%

Whereas, f= frequency, %= percent.

This table presents that the mean scores midwives practice for pre and post-test about immediate newborn care; the mean score indicate that midwives practice were increased from (11.7% and 12.8%) to (82.3% and 82.8) for measuring vital signs in immediate care of newborn and measuring head and chest circumference weight and length newborn after birth respectively.

Table (4) Mean of performance of study group during nursing care pre and post n=96

Nursing practices	Pre test	Post test	t	Sig. (2-tailed)
	X±SD	X±SD		
Performance of study group during Maintain dry and	11.4±1.8	74.3±3.4	-28.5	0.00**

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warm, airway clearance and Apgar score				
Performance of study group during nursing care (umbilical cord, skin and eye)	12.9±6.0	79.5±2.4	-20.6	0.00**
Performance of study group during nursing care (Initiation of early breast feeding, given vitamin K)	23±17.6	84.9±5.1	-19.8	0.008*
Performance of study group during measuring vital signs	11.7±4.1	82.3±1.7	-27.5	0.00**
Performance of study group during measuring head and chest circumference weight and length newborn after birth	12.8±6.1	82.8±2.5	-21.5	0.00**

Whereas, \bar{X} = mean, $t = t$ -test, SD = standard deviation. Sig. =Significant at p -value = \square 0.05

Data in table (4), reveals that there was significant relationship between midwives’ pre and post practices with regard to their participation in training

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program about assessment of immediate newborn care at (Sig. (2-tailed) ≤ 0.01)).

Table (5): Comparing between pre and post training program regarding midwives immediate care of newborn n= 96

Item	X±SD	t	Sig. (2-tailed)
Pre total mean practice	14.5 ± 5.0		
Post total mean practice	80.8 ± 4.1	-22.3	0.00**

Whereas, X = mean, t = t-test, SD = standard deviation. Sig. =Significant at p-value = ≤ 0.05

Data in table (5), reveals that there was significant relationship between midwives’ pre and post practices with regard to their participation in training program about assessment of immediate newborn care at (Sig. (2-tailed) ≤ 0.01)).

Table (6): Distribution of study group according to their performance pre and post-testn= 96

Nursing performance	Level of performance	Pre test	Post test	t	Sig. (2-tailed)
		X±SD	X±SD		
Level of performance	Good	16.8±8.2	75.7±8.3	-	0.00**
	performance			11.3	

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	Satisfied performance	39.2±14.6	13.6±7.6	3.4	0.008**
	Poor performance	40.1±18.4	6.8±1.2	4.04	0.004**

Whereas X = mean, t = t-test, SD = standard deviation, $Sig.$ =Significant at p -value = \square 0.05,

Data in table (6), reveals that there was significant relationship between midwives’ performance from pre and post midwives practices with regard to their participation in training program about assessment of immediate newborn care at (Sig. (2-tailed) \square 0.001).

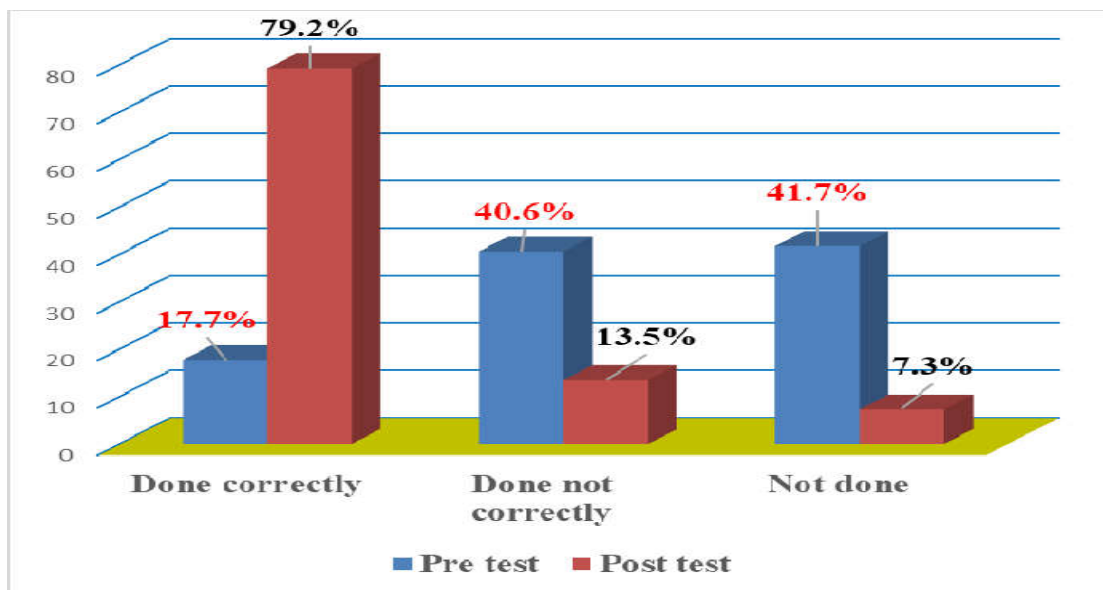


Fig (2). Total mean score of midwives practice for done correctly, done not correctly and not doe answers n= 96

Data in fig (2). Showed the total mean score of midwives practice for done correctly, done not correctly and not doe answers for pre and post midwives practice. The total mean score of post midwives practice were (79.2%, 40.6% and 7.3%) for the done correctly, done not correctly and not done respectively.

DISCUSSION

According to their Demographic Characteristics

The current study showed that more than half of the participants (44.8%) were above forty years in age. Contradicted with findings were reported in other intervention study in Sudan, in Khartoum state (Rabab and Buthina. 2022) and found that the majority of their participants (74.5%) were aged 20-30 years.

Also Mohammad, (2020) who found the specified age distribution of the respondents while revealing that the highest age group is between (20 – 29) years which made up(44.7%)of the study sample. All participants in this study were female which is similar to the findings of another study in Sudan, which showed that all neonatal care nurses (100%) in the NICU were female. This can be attributed to hospital polices (Babeker, Z. A., 2015). The results show that all midwives had got diploma certificate. Contradicted with Mohammad, (2020) the results show that half of the study participants were graduates of a secondary midwifery school. The current study showed that the highest percentage (52.5%) of study sample were attended training program in neonatal care. Similar results was found by Ali, (2022), 86% of

nurse-midwives that they had taken training courses, 40 % was that they had taken 1-5 courses, and 24 % said they had taken 6-10 courses. While agreeing with Khudhair S.H.; (2014) who done studied of Evaluation Nurses' Practices, Neonatal Resuscitation in the Delivery Room,(100%) of the nurses in the study took Neonatal Resuscitation in the Delivery Room training courses in their own country. The majority (73.3 %) had attended training courses in labor and delivery care (Nuri and Ahmed, 2018). The study indicated the highest percentage is seen with more than 15 years among 52.5% of midwives while 35% have 6-11 years of experience. Nuriy and Ahmed,(2018) findings in Erbil's City Maternity Teaching Hospital. More than half of the nurse/midwives (53.3 %) had 1-9 years of experience in the labor room.

Assessment of Midwives' Practices about Immediate Care for Newborn

The results of the study about the assessment of midwives' practices showed that the total mean score of post midwives practice were (79.2%, 13.5% and 7.3%) for the done correctly, done not correctly and not done respectively. Moreover, after the training intervention, the newborn care practice was improved in different relevant areas such as; maintain dry and warm for the newborn after birth, oral suctioning, nasal suctioning and Apgar score. These results were in agreed to similar study from Ethiopia (Sintayehu,*et al.*, 2020) who reported that a considerable proportion of the nurses and midwives had

improved newborn practices and skills. However, the improvement in our study was greater than some other studies, for example, in India (6.3%) (Devi S. 2015). This might be due to the impact of the current focus of neonatal care service in the intervention material.

The results of the study indicated that (14.5%) of the midwives showed a good performance and after implementation practice program and conducting the post-test, the midwives expressed good performance (80.8%). The current study indicated that there were high significant differences ($P \leq 0.01$) in midwives' practice at pretest and posttest before and after the implementation of practice program for study sample. Whereas, the total means were (80.8%) for posttest, as for pretest (14.5%). This result was agree with (Taghreed, 2019) found that the mean percentage of posttest graduates' practices=88% and the pretest was at the moderate levels by (23.3%). And there was a high significant correlation between pretest and posttest (before and after the implementation of an educational and practice programs for study sample (Arba. A. Zana, 2020).

CONCLUSION

The study concluded that the midwives' practice showing poor to fair level skills before training practice program. However, after training program they showing good level practice skills regarding immediate care of newborn.

RECOMMENDATIONS

Based on the conclusion the study recommended the following:

- The researcher can conducted similar training program is required for midwives in-service education.
- The health care Providers should be encouraged to upgrade their training program level to build their skill retention and expose themselves to newborn care.
- Further, understanding factors affecting how midwives and nurses gain and retain skills using high-level methodology are essential

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