



## **Impact of the training program on Nurse Midwives Knowledge regarding newborn resuscitation**

**تأثير البرنامج التدريبي على معرفة و ممارسة القابلات حول انعاش الطفل الوليد**

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## **Abstract**

The first 24 hours after birth are the most critically. It has been found that at least one half of newborn deaths occur within this time. Quite a number of these deaths have a component of asphyxia or respiratory depression. How an infant will do in the long-term is dependent upon managing asphyxia effectively in the first few minutes of life. That all nurse midwives should be known newborn resuscitation. This an interventional hospital based study was conducted at Wad Medani Obstetrics and Gynecology teaching hospitals aimed at assessing the effect of the training program on nurse midwives' knowledge, regarding newborn resuscitation concerning when decided newborn need resuscitation, Steps of newborn resuscitation, Equipment and supply need in newborn resuscitation, The ratio of ventilation to compression in newborn resuscitation and Technique of chest compression in newborn. . The sample size consisted of (49) nurse midwives that constituted the total coverage of study population during the period of the study from February 2016 to July 2018. The data were collected using a questionnaire designed for the study. The data was analyzed using statistical package for social sciences (SPSS). The study results showed that the nurses knowledge in regard to when decided newborn need resuscitation, Steps of newborn resuscitation, Equipment and supply need in newborn resuscitation, The ratio of ventilation to compression in newborn resuscitation and Technique of chest compression in newborn had been significantly improved from (24.5%), (12.2%), (34.7%), (24.5%) and (30.6%) before training program and was elevated to (73.5%), (67.3%), (79.6%), (85.7%) and (87.8%) respectively, after conduction of the training program.

Before training program the nurse midwives had a little knowledge regard to newborn resuscitation but after implementation of the program the knowledge was significant improved.



### المستخلص

تعتبر الساعات ٢٤ الاولى من حياة الطفل حديث الولادة اهم مرحلة فى حياته حيث وجد ان نصف وفيات الاطفال حديثى الولادة تحدث فى هذه الفترة و ربع هذه الوفيات يحدث نتيجة الاختناق او ضائقة التنفس. لذلك يجب على القابلات معرفة و ممارسة انعاش الوليد. أجريت هذه الدراسة التداخلية بمستشفى التوليد وأمراض النساء التعليمى. هادفة إلى تقييم أثر البرنامج التدريبي على معرفة القابلات لانعاش الطفل الوليد وشملت الدراسة متى تقرر ان الطفل يحتاج الى انعاش، خطوات انعاش الطفل الوليد، الادوات المستخدمة فى انعاش الطفل الوليد، معدل التنفيس الى معدل الضغط على قلب الطفل الوليد اثناء ممارسة العملية و طريقة الضغط على القلب للطفل حديث الولادة. تتكون العينة من (٤٩) ممرضة وهن اللائى يمثلن العينة المتاحة للممرضات أثناء فترة الدراسة من فبراير ٢٠١٦ – يوليو ٢٠١٨م. تم جمع المعلومات باستخدام استمارة استبيان صممت من اجل الدراسة.. تم تحليل البيانات باستخدام برنامج الحزمة الاحصائية للعلوم الاجتماعية . اظهرت الدراسة ان معرفة القابلات تجاه متى تقرر ان الطفل يحتاج الى انعاش، خطوات انعاش الطفل الوليد، الادوات المستخدمة فى انعاش الطفل الوليد، معدل التنفيس الى معدل الضغط على قلب الطفل الوليد اثناء ممارسة العملية و طريقة الضغط على القلب للطفل حديث الولادة اظهرت تقدم واضح من (24.5%)،(12.2%)،(34.7%)،(24.5%) و (30.6%) قبل البرنامج التدريبي الى (73.5%)، (67.3%)، (79.6%)، (85.7%) و (87.8%) على التوالي بعد البرنامج التدريبي.

قبل البرنامج التدريبي لا تملك القابلات اى معلومات صحيحة حول انعاش الطفل الوليد بعد البرنامج التدريبي تحسنت معرفة القابلات.



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**Back ground:**

Oxygen is important to every part of the human body. During pregnancy a baby receives oxygen from the mother's blood through the placenta. After birth, the baby gets oxygen through the lungs by breathing. For most babies this change happens without any problems; some babies, however, need help to start or continue breathing. This help is called resuscitation. (1)

If the baby is not breathing, is breathing less than 30 breaths per minute, or is gasping, he needs resuscitation. In that case, quickly clamp or tie and cut the cord, leaving a stump at least 10 cm long. Put the baby on a flat, warm surface and start resuscitation quickly. Call for help because a second person is needed to care for the mother.(2)

For most babies, the immediate care you give at the moment of birth is enough to stimulate the baby to start breathing. Remember to always:

- Thoroughly dry and stimulate the baby, rubbing him all over, especially up and down the back or trunk with a warm, dry cloth. Flicking the soles of the feet may also help. Other forms of stimulation may be harmful.
- Discard the wet cloth and wrap the baby quickly in another warm, dry cloth to keep him warm.
- Look at the baby to see if he is breathing or crying.
- Decide if the baby needs resuscitation. If he is not breathing, is breathing poorly (less than 30 breaths per minute), or is gasping, he needs resuscitation.(3)

**Important of research:**

Two complications of pregnancy that require resuscitation by skilled personnel are prematurity and airway problems. It has been stated that approximately sixty percent of newborns that are asphyxiated can be predicted before they are born, and the other newborns that remain may not be identified until they are born. Also, at least 80% of low-birth weight infants often need resuscitation at delivery.



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The first 24 hours after birth are the most critically. It has been found that at least one half of newborn deaths occur within this time. Many of these involve infants that are extremely premature. Quite a number of these deaths have a component of asphyxia or respiratory depression. How an infant will do in the long-term is dependent upon managing asphyxia effectively in the first few minutes of life. That all nurse midwives should be known newborn resuscitation.(4)

**Objectives:**

To assess the impact of training program on nurse midwives knowledge regarding newborn resuscitation.

**Methods:**

**Study design:**

This was an interventional hospital based study aimed at assessing effect of the Training Program on nurse midwives' knowledge regarding newborn resuscitation in Obstetrics and Gynecology Hospital in Wad Medani, Gezira State, Sudan (2016-2018).

**Study setting:**

This study was conducted at Wad Medani Town, capital of Gezira State. It is located on the western east of the Blue Nile and about 186 km south of Khartoum. It is located in Gezira Scheme which was the largest agricultural project in Sudan. Wad Medani is largest scheme in Gezira state, which has population of 211,000 people. It is benefits form availability of health services including general hospitals', specialized hospitals, health centers and primary care units.



**Sampling size:**

Total coverage was taken all available nurse midwives during the period of the study February 2016 to July 2018 in Wad medani obstetrics and gynecology teaching hospital. The total number was 49 nurse midwives.

**Data collection: as follows:**

- A questionnaire sheet was designed by the researcher in Arabic language included nurse midwives' knowledge was reviewed regarding newborn resuscitation.

This tool was used to measure the nurses' knowledge before and after the training program to evaluate the effect of the training program on their knowledge.

**Data analysis:**

The data were coded, entered, and analyzed using the statistical package for social science (SPSS) so as to show the result of the hypothesis of the study by using frequencies and percentages in tables, and figures, also P.value, Chi-square test to find the statically significant

**Ethical Consideration:**

- Permission from managers and matrons of obstetrics and gynecology hospitals was made through official letters and verbal acceptance was obtained from them.
- All nurse midwives in obstetrics and gynecology hospitals were informed about the aim of the study, it benefits and their acceptance and agreement was obtained from them.



### Results:

**Table (1) : Assess nurses midwives knowledge about newborn resuscitation**

NO	Statements	Sample	Correct Complete	Correct incomplete	Incorrect	Mean	Std.	P. value
1	When decided newborn need resuscitation	Pre	12 24.5%	14 28.6%	23 46.9%	1.27	0.57	0.000**
		Post	36 73.5%	11 22.4%	2 4.1%	2.10	0.74.	
2	Steps of newborn resuscitation	Pre	6 12.2%	16 32.7%	27 55.1%	1.22	0.42	0.000**
		Post	33 67.3%	11 22.4%	5 10.2%	1.92	0.81	
3	Equipment and supply need in newborn resuscitation are	Pre	17 34.7%	11 22.4%	21 42.9%	1.37	0.75	0.000**
		Post	39 79.6%	9 18.4%	1 2.0%	2.12	0.57	
4	The ratio of ventilation to compression in newborn resuscitation are	Pre	12 24.5%	7 14.3%	30 61.2%	1.77	0.46	0.000**
		Post	42 85.7%	7 14.3%	0 0%	2.82	0.63	
5	Technique of chest compression in newborn is	Pre	15 30.6%	19 38.8%	15 30.6%	1.87	0.46	0.000**
		Post	43 87.8%	6 12.2%	0 0%	2.85	0.63	

\*\* . Significant at the 0.01 level (2-tailed).

### Dissection:

This is an interventional hospital – based study aimed at assessing effect of a training program on nurse midwives' knowledge about newborn resuscitation at Wad medani obstetrics and Gynecology teaching hospitals during the period of the study from February 2016 to July 2018.



The result showed that the nurses' knowledge in regard to when decided newborn need resuscitation, Steps of newborn resuscitation, Equipment and supply need in newborn resuscitation, The ratio of ventilation to compression in newborn resuscitation and Technique of chest compression in newborn had been significantly improved from (24.5%), (12.2%), (34.7%), (24.5%) and (30.6%) before training program and was elevated to (73.5%), (67.3%), (79.6%), (85.7%) and (87.8%) respectively, after conduction of the training program.

Before training program the nurse midwives had a little knowledge regard to newborn resuscitation but after implementation of the program the knowledge was significant improved.

### **Conclusion and Recommendations:**

#### **Conclusion:**

Based on the results of the study, the study concluded that:

- Absence of knowledge regarding newborn resuscitation eg. Steps of newborn resuscitation and the ratio of ventilation to compression in newborn resuscitation.
- Comprehensive training program resulted in significant improvement in nurses' knowledge regarding newborn resuscitation.

#### **Recommendations:**

Based on the findings of this study the following recommendations are suggested.

- Collaboration and continuing education of the nursing staff are vital to improve the quality of knowledge for newborn resuscitation.
- Supervision system should be developed by the hospital to assess the competency of nurse midwives' practice and knowledge at periodic intervals.
- All equipment must be available in a labor room.



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