



## **Impact of the training program on Nurse Midwives Knowledge regarding Apgar score**

تأثير البرنامج التدريبي على معرفة و ممارسة القابلات حول مقياس ابغار

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## **Abstract**

The Apgar score is a test given to newborns soon after birth. This test checks a baby's heart rate, muscle tone, and other signs to see if extra medical care or emergency care is needed. 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 Apgar score concerning Uses of Apgar score, component of Apgar score, Characteristics Apgar score and The time of evaluate Apgar score . 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 (0.0%) of nurse midwives had correct complete answers in regard to information about Uses of Apgar score, The component of Apgar score, Characteristics Apgar score and The time of evaluate Apgar score. These percentage increased to (85.7%), (79.6%), (77.6%) and (83.7%) respectively after conduction of the training program.

Before training program the nurse midwives hadn't knowledge regard to Apgar sore but after implementation of the program the knowledge was improved.



### المستخلص

مقياس ابقار هو مقياس يستخدم لتقييم حالة الطفل الصحية مباشرة بعد الولادة. يشمل المقياس فحص معدل ضربات القلب ، انقباض العضلات وغيرها من العلامات لتحديد ما اذا كان الطفل يحتاج الى تدخل طبي او تدخل طارئ بعد الولادة. أجريت هذه الدراسة التداخلية بمستشفى التوليد وأمراض النساء التعليمي. هادفة لتقييم أثر البرنامج التدريبي على معرفة القابلات لمقياس ابقار وشملت استخدام مقياس ابقار، مكونات مقياس ابقار، خصائص مقياس ابقار و زمن اخذ المقياس. تتكون العينة من (٤٩) ممرضة وهن اللاتي يمثلن العينة المتاحة للممرضات أثناء فترة الدراسة من فبراير ٢٠١٦ – يوليو ٢٠١٨ م. تم جمع المعلومات باستخدام استمارة استبيان صممت من اجل الدراسة. تم تحليل البيانات باستخدام برنامج الحزمة الاحصائية للعلوم الاجتماعية. اظهرت الدراسة ان ٠.٠% من العينة لم تحصل على اجابات صحيحة كاملة في المعلومات حول استخدام مقياس ابقار، مكونات مقياس ابقار، خصائص مقياس ابقار و زمن اخذ المقياس. ازدادت هذه النسب الى (٨٥.٧%)، (٧٩.٦%)، (٧٧.٦%) و (٨٣.٧%) على التوالي بعد البرنامج التدريبي. قبل البرنامج التدريبي لا تملك القابلات اى معلومات صحيحة حول مقياس ابقار بعد البرنامج التدريبي تحسنت معرفة القابلات حول مقياس ابقار.



**Back ground:**

The Apgar score is a test given to newborns soon after birth. This test checks a baby's heart rate, muscle tone, and other signs to see if extra medical care or emergency care is needed.

The test is usually given twice: once at 1 minute after birth, and again at 5 minutes after birth. Sometimes, if there are concerns about the baby's condition, the test may be given again. (1)

In the test, five things are used to check a baby's health. Each is scored on a scale of 0 to 2, with 2 being the best score: Appearance (skin color),Pulse (heart rate),Grimace response (reflexes),Activity (muscle tone) and Respiration (breathing rate and effort).(2)

Doctors, midwives, or nurses add up these five factors for the Apgar score. Scores are between 10 and 0. Ten is the highest score possible, but few babies get it. That's because most babies' hands and feet remain blue until they have warmed up.

**Apgar Scoring**

Signs	0 points	1 points	2 points
A Activity (muscles tone )	Limp	Some flexion extremities	Active motion
P Pulse (heart rate )	Absent	<100	>100
G Grimace (reflex irritability )	No response	Grimace	Sneeze, cough, pulls away
A Appearance (skin color )	Blue , pale	Body pink, extremities blue	Completely pink
R Respiratory	Absent	Slow irregular	Good crying

A baby who scores a 7 or above on the test is considered in good health. A lower score does not mean that your baby is unhealthy. It means that your baby may need some immediate medical care, such as suctioning of the airways or oxygen to help him or her breathe better. Perfectly healthy babies sometimes have a lower-than-usual score, especially in the first few minutes after birth. (3)



**Important of research:**

Apgar score is important to assess the health of the newborn at the time of the birth that all nurse midwives should be known Apgar score.

**Objectives:**

To assess the impact of training program on nurse midwives knowledge regarding Apgar score.

**Methods:**

**Study design:**

This was an interventional hospital based study aimed at assessing effect of the Training Program on nurse midwives' knowledge regarding Apgar score 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 Apgar score.

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, its benefits and their acceptance and agreement was obtained from them.



**Results:**

**Table (1) : Assess nurses midwives knowledge about Apgar score**

NO	Statements	Sample	Yes	No	Mean	Std.	P. value
24	Are you knowing Apgar score	Pre	0 0%	49 100%	1.16	0.51	0.000**
		Post	49 100%	0 0%	2.11	0.60	

**Table (2): Assess nurses midwives knowledge about Apgar score**

NO	Statements	Sample	Correct complete	Correct incomplete	Incorrect	Mean	Std.	P. value
25	Uses of Apgar score	Pre	0 0%	2 4.1%	47 95.9%	1.31	0.54	0.000**
		Post	42 85.7%	7 14.3%	0 0%	2.22	0.79	
26	The component of Apgar score	Pre	0 0%	0 0%	49 59.2%	0.63	0.50	0.000**
		Post	39 79.6%	9 18.4%	1 2.0%	1.75	0.72	
27	Characteristics Apgar score	Pre	0 0%	0 0%	49 100%	1.77	0.46	0.000**
		Post	38 77.6%	10 20.0%	1 2.0%	1.82	0.83	
28	The time of evaluate Apgar score	Pre	0 0%	0 0%	49 100%	1.31	0.55	0.000**
		Post	41 83.7%	8 16.3%	0 0%	2.22	0.82	



\*\* . 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 Apgar score at Wad medani obstetrics and Gynecology teaching hospitals during the period of the study from February 2016 to July 2018.

The result showed that table (1) illustrates (0.0%) of the study population were knew Apgar score. these percentage increased to (100%) there was much improvement showed in the statistically significant difference between the pre and post training program results.

Table (2) showed that (0.0%) of nurse midwives had correct complete answers in regard to information about Uses of Apgar score, The component of Apgar score, Characteristics Apgar score and The time of evaluate Apgar score. These percentage increased to (85.7%), (79.6%), (77.6%) and (83.7%) respectively after conduction of the training program.

Before training program the nurse midwives hadn’t knowledge regard to Apgar sore 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 Apgar score eg. Uses of Apgar score and component of Apgar score.
- Comprehensive training program resulted in significant improvement in nurses’ knowledge regarding Apgar score.





### **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 Apgar score.
- Supervision system should be developed by the hospital to assess the competency of nurse midwives' practice and knowledge at periodic intervals.
- Log book must be design for nurses and must be available in the hospital.

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