Available online at: http://www.iajps.com   *Research Article*

KNOWLEDGE AND AWARENESS OF APGAR SCORE AMONG NURSES OF JINNAH HOSPITAL LAHORE

[1]Saba Akbar, [2]Sobia Arshad, [3]Tahira Shaheen
[1]Charge Nurse, Jinnah Hospital Lahore, Email ID: sabaakbara@gmail.com
[2]Staff Nurse, Mayo Hospital Lahore, Email ID: arshadsobia42@gmail.com
[3]Nursing Instructor, Post Graduate College of Nursing Punjab, Lahore,
Email ID: ushnahumna@gmai.com

Abstract:
*Introduction: The prospects of this study is to ascertain the knowledge and awareness of nurses towards the practical application of APGAR score. Methodology: A descriptive study was conducted in the labor room of Jinnah Hospital Lahore, Pakistan during August 2019 to December 2019. The data was collected through purposive sampling strategy through a self-framed questionnaire comprising PART I: sociodemographic details of the participants and the PART II: (25) items related to the nursing practices. 3- Point Rating Scale as (always, sometimes, never) was applied and scored as (3 for always, 2 for sometimes, 1 for never). A pilot study was conducted to establish the reliability of data and validity was confirmed a team of experts. The data was analyzed by using the statistical tests of SPSS 21. Discussion: Our findings indicate that there was no statistical correlation between the practice of nurses and their data, qualification, years of working in the delivery room and nursing experience. Conclusion: It was observed that the nurses have poor practices about application of Apgar scores for the assessment of new born in the labor room. It is highly recommended comprehensive educational programs, updating of the curricula, regular evaluation and tutorials should be organized to improve the nursing knowledge and awareness.
Key wards: Evaluation, Nurses' Practices, Apgar scores*

Corresponding author:
Saba Akbar,
Charge Nurse,
Jinnah Hospital Lahore,
Email ID: sabaakbara@gmail.com

QR code

INTRODUCTION:

The Apgar score is a structured method consisting of a standardized protocol of risk assessment to evaluate the newborn's condition objectively and for rapid interpretation of the response to resuscitation to increase the chance of survival just after birth [1]. The score is named after the veteran American Anesthesiologist Dr. Virginia Apgar who devised a quantification method for the swift assessment and interpretation of the clinical status of the newborn within 1 minute after birth so that live saving measure can be instituted [2]. It is in use globally and requires evaluation at 1 minute and 5 minutes interval to establish how well the newborn tolerated the labor and how well the newborn is adapting to its environment respectively [3].

Out of five the three features: respirations, heart rate, and color decides the timing to kick off resuscitation methods, whereas the other two elements, muscle tone According to Haddad, et al (2000) the score of seven to 10 is normal and suggests the good condition of the newborn. [6].

10 score is less likely because all the babies lose one point for blue discoloration of extremities. For scores less than seven the need for the life saving measures become inevitable to assist the transit from the womb to the world. Other stages include 5-7 mild asphyxia, 3-5moderate asphyxia and 0-3 sever asphyxia. The nurse should keep a record of all the events related to birth. The Apgar score should be applied every 5 minutes for 20 minutes to assess the outcome of the intervention [7].

TABLE.1 APGAR SCORE

Score			
Sign	**0**	**1**	**2**
Heart rate	Absent	Slow (< 100 beat/min)	>100 beat/min
respirations	Absent	Slow, irregular	Good, crying
Muscle tone	Limp	Some flexion	Active motion
Reflex irritability	No response	grimace	Cough, sneeze, cry
Color	Blue or pale	Pink body, blue extremities	Completely pink

METHODOLOGY:

A descriptive study was conducted in the labor room of Jinnah Hospital Lahore, Pakistan during August 2019 to December 2019. The data was collected through purposive sampling strategy through a self-framed questionnaire comprising PART I: sociodemographic details of the participants and the PART II: (25) items related to the nursing practices. The attending nurse is required to document these areas and sum up the total. The scale of 0, 1, or 2 is used for each item.3-Point Rating Scale as (always, sometimes, never) was applied and scored as (3 for always, 2 for sometimes, 1 for never). Data was collected through interview-based technique to obtain data.

Results and Findings:

Table-2 is showing that (40%) of nurses at age (30-39 years), (40%) of nursing college graduate, (50%o) were married, (80.0%) lived center of Baghdad, (35.0%) have 16 years and more practices in delivery room, and (40%) of them had (11 – 15) years of employment in nursing., 75.0 have information about Apgar score, 40% of them the source of information about Apgar score from academy study. Table-3 shows the frequencies (F) and percentages (%) of nurses' practices toward application Apgar score.

No statistically significant association between nurse's practices with their demographic characteristics (P value > 0.05).

TABLE.2 SOCIO-DEMOGRAPHIC DATA OF PARTICIPANTS

No.	Demographic characteristics	Nurses' Distribution	
1.	Age (years)	Frequency	Percentage %
	Less than 20	4	10.0
	20 - 29	12	30.0
	30 - 39	16	40.0
	40 and more	8	20.0
	Total	40	100
2.	Level of education		
	Midwifery school	12	30.0
	Institute of graduate	12	30.0
	Nursing college graduate	16	40.0
	Total	40	100
3.	Marital status		
	Single	6	15.0
	Married	20	50.0
	Divorced	6	15.0
	Widowed	8	20.0
	Total	40	100
4.	Residence		
	Lahore	32	80.0
	Others	8	20.0
	Total	40	100
5.	Years of experience in delivery room		
	>1	2	5.0
	1 - 5	6	15.0
	6 – 10	10	25.0
	11 – 15	8	20.0
	16 years and more	14	35.0
	Total	40	100
6.	Years of nursing profession		
	Less than 1 year	2	5.0
	1 - 5	6	15.0
	6 – 10	4	10.0
	11 – 15	16	40.0
	16 and more	12	30.0
	Total	40	100
7.	Do you think you have sufficient knowledge regarding Apgar score ?		
	Yes	30	75.0
	No	10	25.0
	Total	40	100
8.	Source of information on Apgar score		
	Medical magazines & Books	4	10.0
	Workshops	6	15.0
	Academy study	16	40.0
	Video & Films	8	20.0
	Internet	6	15.0
	Total	40	100

TABLE.3 NURSES PRACTICES TOWARD APPLICATION OF APGAR SCORE

Items		F	Percentage %
1. Apgar score is an objective method of quantifying the newborn's condition is use at 1, 5 and 10 minutes after birth	Never	12	30.0
	Sometimes	16	40.0
	Always	12	30.0
Total		40	100
2. Apgar score is a significant tool for the interpretation of newborn's clinical status and response to resuscitation	Never	10	25.0
	Sometimes	20	50.0
	Always	10	25.0
Total		40	100
3. Apgar score including five signs must be measurement & evaluate, the score 0, 1, or 2.	Never	14	35.0
	Sometimes	20	50.0
	Always	6	15.0
Total		40	100
3.1.Measure 0 (Very weak)	Never	14	35.0
	Sometimes	18	45.0
	Always	8	20.0
Total		40	100
3.2.Measure 1 (Mild to moderate)	Never	20	50.0
	Sometimes	10	25.0
	Always	10	25.0
Total		40	100
3.3. Measure 2 (Good condition)	Never	18	45.0
	Sometimes	12	30.0
	Always	10	25.0
Total		40	100
4. The five signs or category, must be checked:			
4.1 Respirations			
4.1.1 Not breathing = 0	Never	14	35.0
	Sometimes	16	40.0
	Always	10	25.0
Total		40	100
4.1.2. Weak cry, irregular breathing = 1	Never	12	30.0
	Sometimes	16	40.0
	Always	12	30.0

Total		40	100
4.1.3. Strong cry = 2.	Never	10	25.0
	Sometimes	14	35.0
	Always	16	40.0
Total		40	100
4.2. Heart rate			
4.2.1. Absent heartbeat = 0.	Never	16	40.0
	Sometimes	14	35.0
	Always	10	25.0
Total		40	100
4.2.2. Slow heartbeat (less than 100 beats per minute) = 1.	Never	10	25.0

	Sometimes	16	40.0
	Always	14	35.0
Total		40	100
4.2.3. Adequate heartbeat (more than 100 beats per minute) = 2.	Never	20	50.0
	Sometimes	14	35.0
	Always	6	15.0
Total		40	100
4.3. Muscle tone	Never	10	25.0
	Sometimes	20	50.0
	Always	10	25.0
Total		40	100
4.3.2. Some flexing or bending = 1.	Never	20	50.0
	Sometimes	12	30.0
	Always	8	20.0
Total		40	100
4.3.3. Active body movements = 2.	Never	14	35.0
	Sometimes	14	35.0
	Always	12	30.0
Total		40	100
4.4.Reflex response			
4.4.1. No response = 0.	Never	20	50.0
	Sometimes	14	35.0
	Always	6	15.0
Total		40	100
4.4.2. Grimace = 1.	Never	22	55.0
	Sometimes	14	35.0
	Always	4	10.0
Total		40	100
4.4.3. Vigorous cry or withdrawal = 2.	Never	20	50.0
	Sometimes	12	30.0
	Always	8	20.0
Total		40	100
4.5 Skin Color			
4.5.1. Pale or blue = 0.	Never	10	25.0
	Sometimes	16	40.0
	Always	14	35.0
Total		40	100
4.5.2. Normal color body but blue extremities= 1.	Never	12	30.0
	Sometimes	14	35.0
	Always	14	35.0
Total		40	100
4.5.3. Normal color = 2.	Never	10	25.0
	Sometimes	12	30.0
	Always	18	45.0
Total		40	100
5. The nurse integrates and sums the best possible score totalling 10.	Never	20	50.0
	Sometimes	10	25.0

	Always	10	25.0
Total		40	100
6.1. 0-3 Severe Birth Asphyxia requiring resuscitation steps	Never	14	35.0
	Sometimes	14	35.0
	Always	12	30.0
Total		40	100
6.2. 4-6 Mild to Moderate Asphyxia warranting simple resuscitation measurement	Never	16	40.0
	Sometimes	12	30.0
	Always	12	30.0
Total		40	100
6.3. 7+ Normal no need for resuscitation	Never	12	30.0
	Sometimes	14	35.0
	Always	14	35.0
Total		40	100

DISCUSSION:

This study focused on the nurses working in the labor room of Jinnah Hospital Lahore.

According to table 2, the age of (40%) of the nurses were (30-39 years), (40%) of the participants had bachelor's degree, thus suggesting that the qualification have some influence on the standard of care of the newborns. The nurse should be well-versed with the application of APGAR score.

The score is the first line of management and mobilization of cardiovascular response team. (50%) of nurses are married, (80%) lived in Lahore which shows the deficiency of trained health care professionals for the rural population.

As far as the nursing experiences of the participants is concerned (35.0%) spent above 16 years in labor room, and (40%) of them had (11–15) a total aggregate of years of employment in nursing.

The findings of this study revealed that (75.0%) had orientation related to application of Apgar score, (40%) had gained the knowledge from academic sources. [10]. It is imperative that nurses should possess the minimum possible training and competence for the assessment of newborns to combat the morbidity and mortality associated with the birth asphyxias.

Table-2 shows that there are differences in their scores in frequencies and percentages of nurses 'practices toward neonate assessment by Apgar score. [11]

The Apgar score has certain limitations because it can't predict the onset of birth asphyxias and the neurologic deficits and the scores during resuscitation and normal spontaneous breathing are not equivalent.

An expanded Apgar score version can provide a practical solution to these limitations [12].

The findings in this study advocate that most of the respondents possessed sufficient knowledge. But identification, assessment, care of newborns, decision making and initiating the plan of actions during application of Apgar was low. There is still a big room for improvement for the nurses regarding health care provision about application of Apgar scores through electronic, print media and tutorials.

CONCLUSION:

Hence it is concluded that there exists no statistically significant relation between nurses' practice and their demographic characteristics.

The study highlighted that the knowledge and awareness of nurses in the labor room towards application of Apgar scores for the newborns was unsatisfactory.

Recommendations:

It is highly recommended comprehensive educational programs, updating of the curricula, regular evaluation and tutorials should be organized to improve the nursing knowledge and awareness.

REFERENCES:

1- Kattwinkel, J. Textbook of Neonatal Resuscitation. 5th ed. American Academy of Pediatrics and Heart Association. 2006. Pp: 89-99.
2- Vander, H. and Philine, A. Assessment of neonatal resuscitation skills: A reliable and valid scoring system. Journal of Resuscitation. 2006. Vol. 4 (9). Pp: 213- 216.

3- Davis, D. J. How aggressive should delivery room cardiopulmonary resuscitation be for extremely low birth weight neonates. Journal of Pediatrics. 2006. Vol. 92 (22). Pp: 448-452.

4- Jukkala, A.; Susan, J.; Henly, L. and Lindeke, L. Rural Hospital Prepared ness for Neonatal Resuscitation. Journal of Rural Health. 2008. Vol. 24 (4). Pp: 423-428.

5- Gelbart, B.; Hiscock, R. and Barfield, C. Assessment of neonatal resuscita tion performance using video recording in a perinatal centre. Journal of Pediatrics and Child Health. 2010. Vol. 46 (22). Pp: 378-380.

6- Haddad, B.; Mercer, B. M. and Livingston, J. Outcome after Successful Resuscitation of Babies with Agar Scores of 0 at both 1 and 5minutes. Journal of Obstetric Gynecology. 2000. Vol. 182 (11). Pp: 12121215.

7- Stark, M. and Ann, R. The Apgar score. Journal of Pediatrics. 2006. Vol. 98 (1). Pp: 141.

8- Verklan, T. Malpractice and the Neonatal Intensive Care Nurse. Journal of Clinical Issues. 2003. Vol. 33 (1). Pp: 116-120. Ogunlesi, A. and Tinuada, L. Neonatal resuscitation knowledge and practice of nurses in western Nigeria. Journal of child Health.2008. Vol. 2 (1). Pp: 24-26. Kattwinkel, J.; Chair, C. and Jeffrey,

9- M. Special Report Neonatal Resus-citation: 2010 American Heart Association Guidelines for Cardiopul monary Resuscitation and Emergency Cardiovascular Care. Journal of Pediatrics. 2010. Vol. 126 (5). Pp: 1401-1409.

10- Kattwinkel, J. and Perlman, J. M. Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Journal of Pediatrics. 2011. Vol. 126 (5). Pp: 1400-1409.

11- Velaphi, S. Intrapartum and Post delivery Management of Infants Born to Mothers with Me conium-Stained Amniotic Fluid: Evidence-Based Recommendations. Journal of Neonatal Nursing. 2006. Vol. 33 (11) Pp: 229-240.

12- Shauq, A. H. Assessments of nurses' knowledge about the nosocomial infection in the neonatal intensive care units of Baghdad. Unpublished thesis, department of pediatric nursing. College of nursing, university of Baghdad, 2008.

13- Iriondo, M.; Thio, E.; Buro, S.; Salguero, J. and Aguayo, V. A survey of neonatal resuscitation in Spain: gaps between guidelines and practice. Journal of Pediatrics and Child Health. 2009. Vol. 98 (5) Pp: 786– 791.