NURSES-MIDWIVES AWARENESS CONCERNING GESTATIONAL AGE ESTIMATION OF NEONATE AT BINT AL-HUDA HOSPITAL IN AL-NASIRIYA CITY

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ABSTRACT

Objective of study: To find out the nurses-midwives awareness concerning gestational age estimation of neonate.

Methodology: Between December 13th, 2020 to January 28th, 2021, a cross sectional descriptive analysis of (50) nurses-midwives of this category of maternity nurse-midwives was carried out in separate units of the Bint Al-Huda hospital. Validity and reliability of questionnaire are determined through pilot study. Used descriptive statistical procedures deductive data analysis, and collected data using interview technique, constructed questionnaire was designed and developed for the purpose of the study, data was analyze using the SPSS version (20).

Results: The findings revealed that fewer than half of the research participants were aware of the meaning, timing, and significance of gestational age assessment. The majority of them were well-versed in age-related issues in newborns, and they demonstrated that nurses-midwives conduct gestational age assessments less often than physicians, and that doctors often perform gestational age assessments.

Recommendation: This study proposed that leaders implement an in-service instructional curriculum for nurse-midwives to update the procedures used to identify, review, and enhance the standard of treatment, as well as a focus on nurse training courses to keep their skills up to date with daily performance supervision. Perform a postnatal gestational appraisal within 12 hours of birth using a scoring instrument like the New Ballard Score, and classify the neonate as small for gestational age (SGA), suitable for gestational age (AGA), or high for gestational age (LGA) (LGA).

Keywords: Nurses-Midwives, Awareness, Gestational Age, Neonate.

I. BACKGROUND

An examination of different physical signs and neuromuscular characteristics) that differ according to fetal age and maturity determines gestational age. Physical requirements include improving the firmness of the pinna of the ear, increasing the size of the breast tissue, reducing fine, premature lanugo hair over the back, and decreasing the opacity of the skin as the fetal age progresses. Increased flexion of the knees, hips, and arms, increased tone of the neck flexor muscles, and decreased laxity of the joints are all neurologic requirements that mature with gestational age. These symptoms are identified and scored on the first day of life (Lee et al., 2016).

The number of weeks after the first day of an expecting mother’s last menstrual cycle has historically been used to measure this. This dating approach suggests that the mother has a 28-day period of ovulation on the 14th day of the menstrual cycle while measuring planned baby growth at a certain stage in pregnancy. From the start of the last menstrual cycle until delivery, the normal pregnancy with this measurement method lasts about 40 weeks.
The gestational age of an infant refers to the age of the child when still in the womb. Weeks and days are used to calculate it. The date of your last menstrual cycle is most often used (Weinstein et al., 2018).

Birth damage is more likely with a baby that is tall for gestational age. Low blood sugar after delivery may also cause complications. LGA is described as a birth weight that is greater than the 90th percentile for the child's age. However, it has been proposed that the term be limited to babies with birth weights higher than the 97th percentile standard deviations from the mean, since this more precisely reflects infants who are more at risk of perinatal morbidity and mortality. Infants born at 40 weeks gestation at the 90th percentile had birth weights greater than 4000 g, and those at the 97th percentile had birth weights greater than 4400 g, according to a national reference focused on single live births in the United States (Reis, et al., 2017).

There are a variety of reasons why knowing a due date and how far along a pregnancy is significant. - Certain things are predicted at certain weeks of birth, such as hearing the baby's pulse for the first time (by the provider using a stethoscope) and watching the baby move for the first time (Reis, et al., 2017).

According to Alexander and Allen (1996), gestational age must be assessed within the first four hours after birth in order to identify age-related complications and facilitate proper treatment. The most widely used method is the New Ballard Score. External physical features and neuromuscular maturity are the two components. If the results of the neuromuscular competence test do not match the results of the exterior physical characteristics test, a second evaluation can be done within 24 hours. The normal estimation of gestational age is based on subjective factors such as the last menstrual date, ultrasound, and postnatal physical and neurological evaluation (Jeng et al., 2002).

The total score is linked to a gestational period, which is normally within two weeks of the actual date. The measurement of gestational age allows for the identification of premature fetal growth rates, as well as the prediction of neonatal conditions associated with largeness or smallness for gestational age. Infants who are born weighing more than the 90th percentile for their age are classified as overweight (LGA). All of the dangers that a diabetic mother's baby faces, as well as risks associated with post-maturity, are among the risks associated with being LGA. IUGR is a condition in which an infant is born with a weight that is less than the 10th percentile for their age (SGA). Congenital malformations are among the issues that SGA babies face (Reis, et al., 2017).

II. METHODOLOGY:

Design of the Study:

A descriptive analytic study design was carried and to identify the nurses-midwives awareness concerning gestational age estimation of neonate at Bint Al-Huda Hospital in Al-Nasiriya City.

Settings of the Study:

The current research was making on Thi-Qar province. Bint AL- Huda Educational Hospital.

Sample of the study: which include:-

1-The inclusion criteria are:

A purposive sample of (50) nurse-midwives was chosen on a non-probability basis. These nurse-midwives serve in the maternal section at Bint Al-Huda hospital during the morning and evening shifts.

2-Exception standard are:

All of the nurse-midwives work in the pediatric section.

Instrument that Used for Data Collection:

The research tool consisted from Three (3) sections make up the questionnaire: Part 1 was created to collect information about socio demographics and contains four (4) questions, part 2 was created to collect information about nurse-midwives awareness of gestational age assessment and contains ten (10) questions, and part 3 was created to collect information about nurse success of gestational age assessment and contains eight (8) questions.

Obtaining information:
From December 13th, 2020 to January 28th, 2021, data was collected using a standardized self-administrative questionnaire for nurse-midwives' awareness and a direct interview with each nurses-midwives in the research sample using an adopting and evolving questionnaire format.

**Considerations of Ethics**

After describing the thesis and its goals, the researcher obtained verbal consent from nurse-midwives. Confidentiality was taken into account, and the material was primarily provided for testing purposes.

**III. RESULTS:**

**Figure (1): Nurse-Midwives Age**

![Nurse-Midwives Age Graph](image1)

Figure (1) revealed that the higher percentage (43%) of the study sample were at age group 20-25-years, while the lowest percentage for those who age 41-45-years were (6.0%).

**Figure (2): Nurse-Midwives Social status**

![Nurse-Midwives Social Status](image2)

Figure (2) shows that more than a half (52%) is married of study sample, while the lowest percentage is (2%) who is separated.

**Figure (3): Nurse-Midwives Education Level**

![Nurse-Midwives Education Level](image3)

Figure (3) shows that more than a half (52%) of study sample were at age group 20-25-years, while the lowest percentage for those who age 41-45-years were (6.0%).
Figure (3) revealed that one third (32%) of study sample were nursing school graduates while the lowest percentage (10%) of them hold diploma in nursing.

Figure (4): Nurse-Midwives Years of Experience

<table>
<thead>
<tr>
<th>Nurse-Midwives Years of Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>%36</td>
</tr>
<tr>
<td>%18</td>
</tr>
<tr>
<td>%14</td>
</tr>
</tbody>
</table>

years 10 ≤ years 10-8 years 7-5 year 1

Figure (4) shows that more than a one third (36%) of study sample had 10 years or more, while the lowest percentage (14%) had one years of experiences.

Table (1): Distribution of the study sample according to their Nurse-Midwives Awareness about Gestational Age

<table>
<thead>
<tr>
<th>Items</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition of Gestational Age</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Baby age                                                              | 16  | 32%
| Maturity                                                              | 20  | 40%
| Delivery                                                              | 14  | 28%
| The significance of determining gestational age                       |     |    |
| Unless there are complications                                        | 18  | 36%
| Assist in the creation of a treatment plan.                          | 22  | 44%
| Calculate the weight of the fetus at birth                           | 10  | 20%
| Assessment of gestational age at a certain point in time              |     |    |
| First day                                                             | 25  | 50%
| Second day                                                            | 4   | 8%
| After weeks                                                           | 21  | 42%
| Assessment of gestational age status                                  |     |    |
| AGA                                                                   | 5   | 10%
| LGA                                                                   | 3   | 6%
| All in the following                                                 | 42  | 84%
| Issues associated with SGA                                            |     |    |
| Hyper bilirubinemia                                                  | 5   | 10%
| Respiratory distress syndromes                                       | 15  | 30%
| Hypoglycemia                                                         | 3   | 6%
| All of the above                                                     | 27  | 54%
| Issues associated with LGA                                           |     |    |
| Malformations that occur at birth                                    | 9   | 18%
Table (1) the results revealed that half of nurse-midwives knew about the concept of gestational age, that the majority of nurse-midwives (44%) knew about the relevance of gestational age assessment, that (50%) of nurses knew about the time of gestational age assessment, and that (84%) of nurse-midwives knew about the classification of gestational age assessment.

More than half of nurses (54%) are aware of the problems associated with small for gestational age, (58%) are aware of the problems associated with big for gestational age, and (80%) are aware of the aspect of gestational age evaluation.

Table (2): Distribution of Nurse-midwives according to their Awareness about new Ballard score tools

<table>
<thead>
<tr>
<th>Items</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ballard's new score tools</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the most widely used instruments</td>
<td>25</td>
<td>50%</td>
</tr>
<tr>
<td>Tools that are not often used</td>
<td>20</td>
<td>40%</td>
</tr>
<tr>
<td>not commonly used instruments</td>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td><strong>A feature of neuromuscular function</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posture</td>
<td>7</td>
<td>14%</td>
</tr>
<tr>
<td>Square window</td>
<td>3</td>
<td>6%</td>
</tr>
<tr>
<td>Arm recoil</td>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td>Poplitel angle</td>
<td>3</td>
<td>6%</td>
</tr>
<tr>
<td>All of the above</td>
<td>32</td>
<td>64%</td>
</tr>
<tr>
<td><strong>Part of physical maturation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td>Langue</td>
<td>4</td>
<td>8%</td>
</tr>
<tr>
<td>Planter</td>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td>eye 'ear</td>
<td>3</td>
<td>6%</td>
</tr>
<tr>
<td>all of the above</td>
<td>33</td>
<td>66%</td>
</tr>
<tr>
<td><strong>Functional and neuromuscular signs are mixed together.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fetal age</td>
<td>15</td>
<td>30%</td>
</tr>
<tr>
<td>Age &amp; maturity</td>
<td>35</td>
<td>70%</td>
</tr>
</tbody>
</table>

*F = Frequency, % percentage
Table (2) The results revealed that more than half of the sample population (50%) knew about new Ballard score tools used in gestational age measurement, (64%) of nurse-midwives knew about component of neuromuscular characteristic, (66%) knew about component of physical maturity, and (70%) of nurses are aware of physical maturity and neuromuscular characteristics that differ depending on fetal age and growth.

<table>
<thead>
<tr>
<th>Gestational age success</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td>Some time</td>
<td>33</td>
<td>66%</td>
</tr>
<tr>
<td>Never</td>
<td>12</td>
<td>24%</td>
</tr>
</tbody>
</table>

In this table the result showed that (66%) of nurses have used GA assessment at least once, (24% have never used GA assessment, and (10%) have always used GA assessment).

IV. DISCUSSION:

The bulk of nurse-midwives are between the ages of 20 and 25, more than half are married, and more than a third have worked for ten years or more. This is due to the fact that the policy of nursing research is more common with females than males, and the credential was awarded to nursing school graduates due to the hospital's policy requiring professional nurses.

In addition, the study found that more than half of the participants were familiar with the description, timing, significance, and classification of gestational age evaluation. This finding is consistent with reference (Robert et al., 2007), which stated that gestational age is determined on the first day of birth, and the reference (Susan Scott and Terri Kyle, 2009) that was mentioned helps in predicting possible complications and determining a plan of treatment dependent on gestational age to decide whether the neonate is normal for gestational age (AGA), small for gestational age (SGA), or big for gestational age (LGA).

Furthermore, the report found that while more than half of the study group was aware about the spectrum of small and suitable for gestational age measurement, more than half of the study group was not. This finding is consistent with the comparison (Susan Scott and Terri Kyle, 2009) that was previously addressed. SGA (small for gestational age) refers to a child's weight being less than the tenth percentile on normal growth maps. Weight between the 10th and 90th percentiles is considered appropriate for gestational age (AGA). LGA (large for gestational age) is described as a weight that exceeds the 90th percentile on standard growth charts.

Furthermore, the study revealed that more than half of the participants were aware of the issues associated with small and big for gestational age. This finding is consistent with the relation (Adelle, 2010), which is discussed further below. Newborns who are heavy for gestational age (SGA) and have IUGR are at an elevated risk of birth injuries, according to comparison (Robert, 2007). Congenital malformations are among the issues that SGA babies face.

In addition, the report found that the majority of nurses are familiar with the components of gestational age assessment, and that more than half of the study population is familiar with the current Ballard method, which is the most widely used gestational age assessment tool. This finding is consistent with the relation (Robert, 2007) that was stated earlier. According to the guide (Lois et al., 2011) that was presented, gestational age is defined by an examination of different physical signs and neuromuscular characteristics. The most widely used method is the New Ballard Score.

The study also revealed that the majority of nurses are familiar with the components of physical and neuromuscular symptoms, which differ depending on the fetal age and maturity. This finding is consistent with the relation (Lois et al., 2011) that was previously mentioned. Starting with resting stance, the nurse should go on to the skin, lanugo, plantar creases, breast, eye/ear, and finally genitals. Square window, arm recoil, popliteal angle, scarf sign, and heel to ear are the five remaining neuromuscular characteristics to be assessed, according to reference (Carlo, 2011), which addressed physical signs and neuromuscular characteristics that differ according to fetal age and maturity.
In addition, the majority of nurses in the survey were aware of other methods for determining gestational age. This finding agrees with the reference (Boulet et al., 2003), which examined how the mother's menstrual history and prenatal ultra-sonography are used to determine the newborn's gestational era.

Finally, the study found that nurses are less likely to do gestational age assessments, while doctors are more likely to do so. This is due to the fact that nurses' leaders were unaware of gestational age assessment as a role apart.

Commendation:
A focus on conducting nurse preparation courses to keep their skills up to date with daily success supervision, and an in-service instructional curriculum for nurses to update the procedures used to measure, review, and enhance the standard of treatment

Financial disclosure
There is no financial disclosure.

Conflict of interest
None to declare.

Ethical Clearance
"All experimental protocols were approved under the Thi-Qar University and carried out in accordance with approved guidelines".

REFERENCES: