## *Original Research Article*

**Basis for Enhancement of Nursing Concept and Skills: Assessment of Knowledge, Attitude and Practices of Nurses on Essential Newborn Care**


**ABSTRACT**

**Background:** The World Health Organization (WHO) 2011 listed that 3.1 million neonates (first 28 days of life) die each year. (Chichiabellu et al., 2018). Half of these remarkably transpire in the first 24 h of delivery and 75% occur in the early neonatal period. One culprit for this event is when hospitals failed to practice the essential newborn care protocols. Saaka et al. (2018) also recounted that there was less than fitting development, especially in sub-Saharan Africa, with regards to child and maternal mortality targets of Millennium Development Goals (MDGs) 4 and 5. Philippine study revealed 3 in 4 birthing Filipino mothers (78%) seek to deliver in health facility, primarily in public sector facilities (PSA and ICF, 2018). Tosif et al. (2020) study presented that ENC coaching resulted in immediate improvements in knowledge and skills but declined over time. Healthcare workers who used the skills in regular practice garnered higher scores. Complementary quality improvement strategies are needed to sustain resuscitation skills following training over time.

**Purpose**: The main purpose of this study is to assess the level of knowledge, attitude and practice of Bulacan nurses on District hospitals on Essential Newborn Care to contribute to the nursing service in participating to updates and trainings of Essential Newborn Care. This study shall be significantly beneficial to the concerned health institutions in reviewing current hospital policies on essential newborn care to even the gap of the staff nurses handling such practices. This research shall also help medical personnel to understand each importance of the protocols for further improvement of the response they are taking in handling such cases

**Methods:** The descriptive correlation study was utilized in the study to determine the assessment on knowledge, attitude and practices of nurses regarding Essential Newborn Care protocol. A total of 146 participants of the study.

**Result:** The result shows that result is supported by Abrigo, et al, 2019 where in their study revealed that 60.2% of Filipino nurses age range around 20-29 years old. This age group are considered to be at their peak of searching for clinical experience and career enhancement opportunities. The lowest age group was 51 years old and above, which is considered almost as close to retirement age.

**Conclusion:** The level of Bulacan district nurses' Knowledge on Essential Newborn care and some of the vital aspects on it is low due to lack of proper training of the involved nurses. Though the Practice of Essential Newborn Care resulted as *Always* or highly being practiced, some unnecessary and deficient procedures need to be re-taught to achieve excellent execution of ENC protocol.



**Keywords:** Assessment of knowledge, attitude, practices of nurse, essential newborn care




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- The abstract should focus on your original research, not on the work of others.
- The abstract should be self-contained and fully understandable without reference to other sources.

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## BACKGROUND

The World Health Organization (WHO) 2011 listed that 3.1 million neonates (first 28 days of life) die each year. (Chichiabellu et al., 2018). Half of these remarkably transpire in the first 24 h of delivery and 75% occur in the early neonatal period. One culprit for this event is when hospitals failed to practice the essential newborn care protocols. Saaka et al. (2018) also recounted that there was less than fitting development, especially in sub-Saharan Africa, with regards to child and maternal mortality targets of Millennium Development Goals (MDGs) 4 and 5. Philippine study revealed 3 in 4 birthing Filipino mothers (78%) seek to deliver in health facility, primarily in public sector facilities (PSA and ICF, 2018). Tosif et al. (2020) study presented that ENC coaching resulted in immediate improvements in knowledge and skills but declined over time. Healthcare workers who used the skills in regular practice garnered higher scores. Complementary quality improvement strategies are needed to sustain resuscitation skills following training over time.

In reality, nursing shortage is still an existing concern in the Philippine healthcare industry. District Hospitals in Bulacan is not an exemption to this. For example, one district hospital only have 27 nurses, with impending 2 resigning nurses, during the time of data collection. Whereas the proposed plantilla is to have 34 nurses for their 30 bed capacity. This nursing staff shortage had made it difficult for the chief nurses to allot time for all the necessary trainings for nurses. Attitudes of healthcare workers also contribute to how one execute the Essential Newborn care. Liao & Manalon (2015) found out that not all steps in the Essential Newborn Care protocol were practiced because some staffs on the hospital believed that in the olden days without ENC, every newborn still survives ("*Noon naman walang ENC, buhay naman lahat*") . This implied that training alone cannot change an old attitude or habit for some healthcare workers.

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**OBJECTIVE:** The main purpose of this study is to assess the level of knowledge, attitude and practice of Bulacan nurses on District hospitals on Essential Newborn Care to contribute to the nursing service in participating to updates and trainings of Essential Newborn Care.The study intended to enumerate the identified gaps on knowledge and practice of ENC based on the DOH protocol AO 2009-0025, in order to give attention to these identified gaps for re-learning or re-training. This study shall be significantly beneficial to the concerned health institutions in reviewing current hospital policies on essential newborn care to even the gap of the staff nurses handling such practices. This research shall also help medical personnel to understand each importance of the protocols for further improvement of the response they are taking in handling such cases. Lastly, the study intended to contribute to the nursing service division on the ease of decking their staff nurses for Essential Newborn Care training scheduling by considering the demographic profile of the nurses.

## METHODS

### Research Design

This study shall be significantly beneficial to the concerned health institutions in reviewing current hospital policies on essential newborn care to even the gap of the staff nurses handling such practices. This research shall also help medical personnel to understand each importance of the protocols for further improvement of the response they are taking in handling such cases. Lastly, the study intended to contribute to the nursing service division on the ease of

decking their staff nurses for Essential Newborn Care training scheduling by considering the demographic profile of the nurses.

**Respondents of the Study**

The main participants of the study were the nurses employed in Bulacan District hospitals whose work involves the performance of ENC. There are five district hospitals around Bulacan. District Hospitals are Level I government hospitals that includes emergency room, operating room, recovery room, maternity facilities, isolation facilities, pharmacy, and clinical laboratory. A total of 146 respondents participated in the study. The researcher selected sample by purposive sampling based on the respondents' availability and willingness to participate. Purposive sampling is a non-probability sampling technique that make use of samples that are chosen by the judgement of the researcher. Due to the current health situation and strict health protocols imposed, the researcher had only gathered data from available district hospitals that had allowed the researcher during the time of data collection

**Instruments of the Study**

To assess the nurses' Knowledge of Essential Newborn Care, the researcher adapted DOH guideline and standardized study tool of Bayisa Bereka Negussie and company (2018) with reliability test done and Cronbach's alpha coefficient of 0.84. This is a 20 item multiple choice questions.

To assess the nurses' attitude towards the Essential Newborn Care, a 9 item structured questions based on the theory of Planned Behavior will be used, a tool adopted from literature by Horiuchi, S., Rattana et al (2018). This is a 5 point Likert scale with numbers coresponding as 5-Strongly Agree, 4-agree, 3-Undecided, 2-disagree and 1-strongly disagree.

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To properly assess the Practice of ENC among the hospitals, the researcher adapted the tool of WHO and contextualized by the Department of Health to the study. This is a 48-item standardized questionnaire with a 5 point Likert scale with numbers coresponding as 5-Always, 4-Very often, 3-Often, 2-Seldom and 1-Never

**Data Gathering Procedure**

The questionnaire method was the mode of data gathering. Each of the respondents was given a structured and standardized set of questions. In gathering the data, the researcher carried out the following procedure.(1)After the approval of Research Ethics Committee, the researcher secured a letter of permission from the hospital to conduct data gathering.(2)After the approval of the letter, the researcher waited for the data to be generated. (3)The study was conducted in district hospitals in Bulacan with approved permission letter on May 12 to 27, 2021. An approximate of 2 weeks' time was given by the researcher in order to achieve the desired number of respondents who will finish the questionnaires.(4)The answered questionnaires were collected by the chief nurses/head nurses and then handed to the researcher. Out of the targeted 146 respondents, a total of 125 completed questionnaires were returned to the researcher. After receiving the data, the researcher collated the data and handed it out to the research statistician.(5)The data were organized into tables and be removed of any confidential information, in accordance to the Data Privacy Act of 2012.(6)After the research, the researcher shall dispose of the data and inform the entities about the research outcome.

**Data Processing and Statistical Treatment**

The data collected was tabulated and processed with the help of Statistician and SPSS. To analyze and interpret the data gathered, the following statistical measures were used: (1)The sociodemographic profile of the nurses were described by means of frequency and percentage.(2)The level of nurses' performance to render ENC in terms of Knowledge of Essential Newborn care were described by means of frequency and percentage. And then, the computed mean score was also calculated.(3) Attitude towards Essential Newborn care were quantified using the following scale and were described by total average Mean.

**RESULTS AND DISCUSSION**

This chapter presents analyses and interprets the data collected in the study. For clarity of presentation and consistency in the discussion, the data are presented following the order and sequence of the questions raised in Chapter 1, to wit: (1) the demographic profile of the nurses in terms of age, area of specialization and number of ENC trainings attended (2) level of nurses' performance to render ENC in terms of Knowledge of Essential Newborn Care (3) level of nurses' performance to render ENC in terms of Attitude towards the Essential Newborn Care (4) level of nurses' performance to render ENC in terms of Practice of Essential Newborn Care (5) significant difference on the level of nurses' performance according to their demographic profile in terms of knowledge, attitude and Practices of Essential newborn Care.

**Demographic Profile of nurses**

*Table 1.Frequency and percentage distribution regarding age profile*

| Age Range | Frequency | Percent |
|---|---|---|
| Less than 20 years | - | 0 |
| 12 to 25 years old | 12 | 9.6 |
| 26 to 30 years old | 52 | 41.6 |
| 31 to 35 years old | 28 | 22.4 |
| 36 to 40 years old | 6 | 4.8 |
| 41 to 45 years old | 13 | 10.4 |
| | | |
| 46 to 50 years old | 10 | 8 |
| 51 and above | 4 | 3.2 |
| **Total** | **125** | **100** |

Table 1 present the frequency and percentage distribution regarding age profile ranging to 20 years up to 51 years and above. It can be deduced from the table that the highest frequency were those aged from 26 to 30 years with 52 nurse respondents or 41.6% of the population. It was followed by aged range of 31 to 35 years old with 28 nurse respondents or 22.4% of the population Third, was the aged range of 41 to 45 years old with 13 nurses or 10.4% of the total population. Moreover, no nurse respondents have been registered for aged less than 20 years old while the lowest among the age range was those with 51 years and above having 4 nurses or 3.2 % of the population and the 2nd lowest were those 36 to 40 years old with 6 nurse respondents or 4.8 % of the total population

Table 2.1.*Frequency and percentage distribution regarding the level of the nurse's performance to in rendering essential newborn care in terms of knowledge on immediate and thorough drying of newborn*

| VARIABLES | RESPONSES | FREQUENCY | PERCENT |
|---|---|---|---|
| When should the baby be first bathe? | Immediately | 26 | 20.8 |
| | Within 6h of birth | 40 | 32.0 |
| | At least 24hours after birth | 59 | 47.2 |
| How do you practice thermal protection of newborn? | Immediately dry baby after birth | 16 | 12.8 |
| | Allow skin to skin contact | 109 | 87.2 |
| | Immediately bath the baby | | |

In terms of the baby first bath, it can be deduced from the table almost half or 59 (47.2%) nurse respondents got the answer correctly that is should be at least 24 hours after birth while 40 (32%) chosen that bathing be done six hours after birth, and 26 (20.8%) nurse respondents tell that newborn should be bathe immediately.

In terms of knowledge on thermal protection of newborn, it is noted that 16 (12.8%) of the nurse respondents able to answered that it should immediately dry baby after birth while majority or 109 (87.2%) nurse respondents answered that it is skin to skin contact.

Table 2.2 *Frequency and percentage distribution regarding the level of the nurse's performance to in rendering essential newborn care in terms of knowledge on early skin-to-skin contact between mother and newborn*

| *VARIABLES* | *RESPONSES* | *FREQUENCY* | *PERCENT* |
|---|---|---|---|
| Where should you placed the baby after birth? | Beside the mother | 10 | 8.0 |
| | With someone else | - | - |
| | On mother's abdomen or chest | 111 | 88.8 |
| | On newborn table/bed | 4 | 3.2 |

On item where should you placed the baby after birth, It is noted that 111 (88.8%) nurse respondents able to get a correct answer of putting on mother's abdomen or chest while 10 (8.0%) have answered it should be beside the mother, and 4 (3.2%) said that the baby should be placed on newborn table/bed.

The Department of Health, (2015) had outlined in the implementation of Essential Newborn Care, that newborn should be placed prone on mother's abdomen or chest, skin-to-skin to facilitate bonding between mother and child and reduce likelihood of infection and hypoglycemia. Current evidence on WHO, (2017) indicated that skin-to-skin contact between mother and infant shortly after birth helps to initiate early breastfeeding and increases the likelihood of exclusive breastfeeding for one to four months of life as well as the overall duration of breastfeeding. Infants placed in early skin-to-skin contact with their mother also appear to interact more with their mothers and cry less.

Table 3.*Mean score and descriptive interpretation regarding the level of the nurse's performance in rendering essential newborn care in terms of attitude towards essential newborn care*

| **VARIABLES** | **Mean Score** | **Descriptive Interpretation** |
|---|---|---|
| For me, to provide the EENC for every newborn I assist birth in this hospital on a regular basis is beneficial. | 4.87 | Strongly Agree |
| My providing EENC for every newborn at this hospital on regular basis will result in preventing newborn morbidities and mortalities. | 4.40 | Agree |
| For me, preventing newborn morbidities and mortalities is extremely desirable. | 4.78 | Strongly Agree |
| My providing EENC for every newborn at this hospital on regular basis will result in improving my clinical skills on birth assistance. | 4.69 | Strongly Agree |
| For me to keep up with my skills on birth assistance is extremely desirable | 4.66 | Strongly Agree |
| My providing EENC for every newborn at this hospital on regular basis will result in getting trust from patients. | 4.07 | Agree |

| | | |
|---|---|---|
| I will want to provide full EENC for every newborn I assist birth on a regular basis | 4.18 | Agree |
| Whether or not I provide the EENC for every newborn I assist birth in this hospital on a regular basis is completely up to me | 3.86 | Agree |
| For me to provide the EENC for every newborn I assist birth in this hospital on a regular basis is extremely easy | 4.02 | Agree |
| **Total Average Mean** | **4.40** | **Agree** |

*Strongly agree 5.0-4.5, Agree 4.49 – 3.50, Undecided 3.49 – 2.50, Disagree 2.49 – 1.50, Strongly Disagree 1.49- 1.0

Table 3 present the mean score and descriptive interpretation regarding the level of the nurses' performance in rendering essential newborn care in terms of attitude towards essential newborn care. It can be noted that there are four variables having a descriptive interpretation of *"Strongly Agree"*. This includes the highest mean score of 4.84 that deals with *"for me, to provide the EENC for every newborn I assist birth in this hospital on a regular basis is beneficial"* followed by mean score of 4.78 that deals with *"For me, preventing newborn morbidities and mortalities is extremely desirable"* . Then a mean score of 4.69 that deals with *"My providing EENC for every newborn at this hospital on regular basis will result in improving my clinical skills on birth assistance"* and finally a mean score of 4.66 that deals with *"For me to keep up with my skills on birth assistance is extremely desirable".*

Table 4.1*Mean score and descriptive interpretation regarding the level of the nurse's performance in rendering essential newborn care in terms of practice of essential newborn care within the first 30 seconds of life*

| VARIABLES | Mean Score | Descriptive Interpretation |
|---|---|---|
| Baby dried thoroughly | 4.904 | Always |
| Breathing checked | 4.904 | Always |
| First wet towel discarded/ removed from the baby | 4.704 | Always |
| Time of birth called out and recorded | 4.904 | Always |

*Always 5.0-4.5, Very often 4.49 – 3.50, Often 3.49 – 2.50, Seldom 2.49 – 1.50, Never 1.49- 1.0

Table 4.1 shows Results of statistics manifested a mean score of 4.904 on the items *"Baby dried thoroughly"*, *"Breathing checked"*, and *"Time of birth called out and recorded"*

and a mean score of 4.704 on the item *"First wet towel discarded/ removed from the baby "* which is both interpreted as *Always* practiced.

The objective of the first 30 seconds of newborn life is to dry and provide warmth to the newborn to prevent hypothermia. (DOH, ENC New Guideline 2015)

Table 4.2*Mean score and descriptive interpretation regarding the level of the nurse's performance in rendering essential newborn care in terms of practice of essential newborn care in terms of the baby not breathing/crying at birth record*

| **VARIABLES** | **Mean Score** | **Descriptive Interpretation** |
|---|---|---|
| Observe that the baby is not breathing/crying | 4.84 | Always |
| Baby dried thoroughly, still not crying | 4.43 | Very often |
| Changed to dry towel | 4.88 | Always |
| Check mouth/nose for secretions | 4.88 | Always |
| Mother's breast/chest NOT washed | 4.73 | Always |
| Suction mouth first then the nose | 4.85 | Always |
| Baby still not crying stimulate by rubbing the back | 4.66 | Always |
| .Baby still not breathing, cord cut (In 30 secs) | 4.47 | Very often |
| Explain to mother and move baby to resuscitation table | 4.52 | Always |
| Call for help | 4.50 | Always |
| Cord cut in between both clamps | 4.87 | Always |
| Newborn head placed in a slightly extended position | 4.64 | Always |
| Checks for secretions, clears the airway (mouth first then nose) | 4.77 | Always |
| Places correct size mask over the face of the newborn properly | 4.74 | Always |
| Checks the seal by ventilating twice, observes for chest rise | 4.48 | Very often |

| | | |
|---|---|---|
| If chest still not rising, repositions mask to improve seal | 4.69 | Always |
| Ventilates at 40 breaths/ minute | 4.64 | Always |
| Ventilates for 1 minute, observes for spontaneous breathing | 4.79 | Always |
| If spontaneously breathing, move to routine care while observing breathing | 4.69 | Always |
| Baby still not breathing spontaneously, continue ventilation | 4.66 | Always |
| Check HR: if <100/min, ventilation continued and advanced care sought | 4.76 | Always |
| **Total Average Mean** | **4.69** | **Always** |

*Always 5.0-4.5, Very often 4.49 – 3.50, Often 3.49 – 2.50, Seldom 2.49 – 1.50, Never 1.49- 1.0

Table 4.2 presents the mean score and descriptive interpretation on the practice of Airway Management on Essential Newborn care. Data showed that the total average mean score was 4.69 which is interpreted as *Always* practiced. The least mean computed were the variables *"Baby dried thoroughly, still not crying"* 4.43, *"Baby still not breathing, cord cut (In 30 secs)"* 4.47, and *"Checks the seal by ventilating twice, observes for chest rise"* 4.48 with descriptive interpretation of *Very Often.*

Untoward events may happen during birth, hence, the DOH Guideline for Essential Newborn Care also incorporated the Management of Airway/ Resuscitation for Newborn which is critical for the neonatal survival. In positioning the newborn to optimize the airway, the shoulders should be raised with posterior support and the head shifted to neutral or slightly extended. Mask ventilation is a potentially life-saving skill that is the cornerstone of effective airway management. The mask should be sized appropriately to minimize air leak and in general should rest such that the inflatable cushioned portion superiorly encompasses the nose while not covering the eyes, and the inferior border rests on the chin. If the baby is vigorous (strong respiratory effort i.e., cry, good muscle tone, heart rate > 100 bpm) at birth, clear the airway by suctioning mouth first and then the nose with a bulb syringe or suction catheter. In every delivery room, an area should be allotted for neonatal resuscitation, with all the necessary equipment and drugs stored nearby. During every delivery there should be at least one person whose primary responsibility is the new born. This person must be capable of initiating resuscitation, including administration of positive-pressure ventilation and chest compression. (Chadha I. A. ,2015).

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Table 5.1*Significant difference on the assessment of the respondents on the level of nurses' performance when grouped according to age profile using Analysis of Variance (ANOVA)*

| Essential Newborn Care | f-value | Df | Significant value | Decision | Remarks |
|---|---|---|---|---|---|
| Knowledge on the essential newborn care | 2.638 | 115 | 0.027 | Significant | Reject the Null Hypothesis |
| Attitude on the essential newborn care | 2.246 | 115 | 0.054 | Not Significant | Accept the Null Hypothesis |
| Practice on the essential newborn care | 4.176 | 115 | 0.002 | Significant | Reject the Null Hypothesis |
| *Baby not Breathing* | 5.353 | 115 | 0.000 | Significant | Reject the Null Hypothesis |
| *Before discharge* | 2.223 | 115 | 0.057 | Not Significant | Accept the Null Hypothesis |

Table 5.1 presents the composite table on the significance difference on the assessment of the respondents on the level of nurses' performance and knowledge of essential newborn care when grouped according to age profile using Analysis of Variance (ANOVA). It is clearly manifested from the table that the knowledge of essential newborn care when assessed by different ages have significant difference in terms of knowledge on the essential newborn care having a f-value of 2.638 with df of 115 with p-value of 0.027, practice on the essential newborn care having a f-value of 4.176 with df of 115 with p-value of 0.002 and baby not breathing having a f-value of 5.353 with df of 115 with p-value of 0.000 that the three variables have less than the alpha value 0.05 which means that the evidences gathered must reject the null hypothesis. This implies that there is a statistical difference between the two variables of the study. Data denotes that knowledge on the essential newborn care , practice on the essential newborn care and baby not breathing have difference assessment when grouped in terms of age which means that age 20 years old have difference assessment with 30, 40 and 50 years old.

Table 5.2 *Significant difference on the assessment of the respondents on the level of nurses' performance when grouped according to new born care training profile using Analysis of Variance (ANOVA)*

| Essential Newborn Care | f-value | Df | Significant | Decision | Remarks |
|---|---|---|---|---|---|

| | | | **value** | | |
|---|---|---|---|---|---|
| Knowledge on the essential newborn care | 1.148 | 115 | 0.321 | Not Significant | Accept the Null Hypothesis |
| Attitude on the essential newborn care | 2.037 | 115 | 0.135 | Not Significant | Accept the Null Hypothesis |
| Practice on the essential newborn care | 0.497 | 115 | 0.609 | Not Significant | Accept the Null Hypothesis |
| *Baby not Breathing* | 0.559 | 115 | 0.573 | Not Significant | Accept the Null Hypothesis |
| *Before discharge* | 3.875 | 115 | 0.023 | Significant | Reject the Null Hypothesis |

Table 5.2 presents the composite table on the significance difference on the assessment of the respondents on the level of nurses' performance when grouped according to newborn care training using Analysis of Variance (ANOVA). It is clearly manifested from the table that the knowledge of essential newborn care when assessed by different newborn care training do not have significant difference in terms of knowledge on the essential newborn care have an f-value of 1.148 with df of 115 with p-value of 0.321, attitude on the essential new born have an f-value of 2.037 with df of 115 with p-value of 0.135 and practice on the essential newborn care have an f-value of 0.497 with df of 115 with p-value of 0.609 . The three variables have more than the alpha value 0.05 which means that the evidences gathered must accept the null hypothesis. This implies that there is a no statistical difference between all variables of the study. Data denoted that knowledge on the essential newborn care, attitude towards essential newborn care, and practice on the essential newborn care have no difference in assessment when grouped in terms of newborn care training which means that those who assessed the three parameters without or with training on newborn care training have the same degree or no difference.

Table 5.3 *Significant difference on the assessment of the respondents on the level of nurses' performance when grouped according to area of specialization profile using Analysis of Variance (ANOVA)*

| Essential Newborn Care | f-value | Df | Significant value | Decision | Remarks |
|---|---|---|---|---|---|
| Knowledge on the essential newborn care | 3.535 | 115 | 0.009 | Significant | Reject the Null Hypothesis |
| Attitude on the essential newborn care | 1.879 | 115 | 0.119 | Not Significant | Accept the Null Hypothesis |
| Practice on the essential newborn care | 7.809 | 115 | 0.000 | Significant | Reject the Null Hypothesis |
| *Baby not Breathing* | 6.162 | 115 | 0.000 | Significant | Reject the Null Hypothesis |
| *Before discharge* | 5.359 | 115 | 0.001 | Significant | Reject the Null Hypothesis |

Table 5.3 presents the composite table on the significance difference on the assessment of the respondents on the level of nurses' when grouped according to area of specialization using Analysis of Variance (ANOVA). It is clearly manifested from the table that the knowledge of essential newborn care when assessed by area of specialization have significant difference having a f-value of 3.535 with df of 115 with p-value of 0.009, practice on the essential newborn care having a f-value of 7.809 with df of 115 with p-value of 0.000, baby not breathing having a f-value of 6.162 with df of 115 with p-value of 0.000 and before discharge care having a f-value of 5.359 with df of 115 with p-value of 0.001 that the four variables have less than the alpha value 0.05 which means that the evidences gathered must reject the null hypothesis. This implies that there is a statistical difference between the two variables of the study. Data denotes that knowledge on the essential newborn care, practice on the essential newborn care, baby not breathing and before discharge have significant difference when grouped in terms of area of specialization. This means that a nurse assigned in general unit ward have different assessment with those assigned in emergency room and other areas.

In summary,data denotes that age profile, and the area of specialization of nurses have significant difference in the knowledge and practice of essential newborn care. Attitude on the essential newborn care revealed no significant difference to any of the demographic profile presented.

Further analysis showed that, when considering the age profile and area of specialization of nurses, Statistics showed that: Ages 31-35 years old gained the highest mean (13.7 out of 20) followed by 46-50 years old (13.3 out of 20) then 26-30 (13.09 out of 20), then 41-45 years old (12.9 out of 20), then 21-25 years old (12.5 out of 20), last are ages 36-40 years old and 51 years old above (12 out of 20). Highest mean score came from Emergency room nurse (13.63 out of 20), followed by Pediatric and DR/Labor room nurse (13 out of 20), next is the general unit nurse (12.9 out of 20), and last is the maternity ward nurse (12 out of 20).

**Conclusion:** The level of Bulacan district nurses' Knowledge on Essential Newborn care and some of the vital aspects on it is low due to lack of proper training of the involved nurses.Though the Practice of Essential Newborn Care resulted as *Always* or highly being practiced, some unnecessary and deficient procedures need to be re-taught to achieve excellent execution of ENC protocol.The age and the area of specialization of nurses have significant difference in the knowledge and practice of essential newborn care. Attitude on the essential newborn care

revealed no significant difference to any of the demographic profile presented. A number of implications may be considered by the Bulacan District Hospital nursing management in further improving the knowledge and practice of their nurses in ENC.

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Comment [ZM9]: The entire references was not in line with the APA style


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