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## EFFECTIVENESS OF INFORMATION COMMUNICATION EDUCATION PACKAGE ON KNOWLEDGE REGARDING NEONATAL RESUSCITATION AMONG NURSING STUDENTS IN A SELECTED SETTING

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### ABSTRACT

**Background:** Competency in neonatal resuscitation is critical in the delivery rooms, neonatology units and pediatric intensive care units to ensure the safety and health of neonates. Neonatal resuscitation is a set of interventions which requires good knowledge and skill from the part of the health provider. As the nursing students are much involved in the clinical setting in the care of patients due to a shortage of staff, it is important that they have the knowledge and skill to assist health professionals in times of need. **Aim:** The aim of this study was to assess the effectiveness of information education communication in improving knowledge regarding neonatal resuscitation among nursing students. **Materials and methods:** The study was conducted among 30 third-year Bachelor of Science in Nursing students, chosen by a convenience sampling technique. A one group pre-test, post-test design was used, and data were collected by a structured questionnaire on neonatal resuscitation. Information Education Communication (IEC) was done, and the post-test was done with the same questionnaire. **Results:** The finding showed that the mean value post-test was 0.5 compared to a pre-test value 0.4 and the 't' value was 6.2, which was statistically significant at  $P < 0.05$  level. **Conclusion:** Information education communication was effective in improving the knowledge regarding neonatal resuscitation among the nursing students.

### KEYWORDS

Knowledge, Neonatal resuscitation, Information education, Communication and Nursing students.

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### INTRODUCTION

The birth of a baby is a wonderful and complex process with many physical and emotional changes in the mother and baby. The baby's body systems must work together in a different way to make many physical adjustments of life outside the mother's body. At times, there is difficulty making the transition to the world. Being born prematurely and with difficulty or birth defects can make the process

more challenging. Fortunately for these babies, special newborn care with resuscitation is needed which require good knowledge and skill from the part of the health care providers.

WHO launched the Every Newborn Action Plan (ENAP) in June 2014 to reach the target of fewer than 12 newborn deaths per 1000 live births and few than 12 stillbirths per 1000 births by 2030. This requires high-quality cost-effective care by skilled health care professionals in the area of basic life support and prevent neonatal deaths (World Health Organization (2015)<sup>1</sup>.

Nurses play a key role in maternal and child health mainly in the care of newborns, but the efficacy and effectiveness of care depend upon the number of skilled neonatal nurses. Currently, the shortage of trained neonatal nurses and the increased number of nurses who lack the competence in newborn care contribute to poor neonatal outcomes. Another reason is the lack of standardized training for the nurses and lack of skilled faculty for providing the training. It is said that neonatal practitioners or advanced nurse practitioner can be a solution for good neonatal care. Also, centralized oversight of newborn education and training of the health care providers would serve the purpose (Kalyan and Vatsa, 2014)<sup>2</sup>.

Several studies have highlighted the importance of neonatal training. It is important to identify the gap in knowledge before implementing strategies (Perlman *et al*, 2012)<sup>3</sup>. Awareness among students, doctors, and nurses of medical, dental, homeopathy and nursing colleges were found to be poor and needed improvement (Chandrasekaran, Kumar and Bhat, 2010)<sup>4</sup>. Also, the health providers have inadequate knowledge and training on neonatal resuscitation and competence is essential to ensure the safety and health of new-borns (Murila, Obimbo and Musoke, 2012)<sup>5</sup>. Another study reported that knowledge and skill are substandard in health professionals and emphasized the need for training (Gebreegziabher, Aregawi and Getinet, 2014)<sup>6</sup>.

Nurses in intensive care units are in an ideal position to educate others, and they need to be knowledgeable (Grazel, Phalen and Polomano, 2010)<sup>7</sup>. Another study reported that resuscitation with bag and mask

is a high-impact intervention that can reduce neonatal deaths in resource-poor countries and there is a need for the strengthening of knowledge and skill in some areas. Training can help workers to build capacity to perform resuscitation and improve their skill (Kim *et al*, 2013)<sup>8</sup>.

Evidence-based neonatal resuscitation training improved cognitive knowledge of all group of health professionals Enweronu-Laryea C, *et al*, 2009<sup>9</sup>. Literature emphasized the developing and use of innovation strategies by educators to address the knowledge and skill of health care professionals (Mosley and Shaw, 2013)<sup>10</sup>. Also, clinical learning experiences in the virtual neonatal intensive care unit is ideal for enhancing the students' opportunities to learn to care and serve as neonatal nurses (LeFlore J, *et al*, 2011)<sup>11</sup>. Resuscitation training in developing countries was well received and viewed as valuable training, by the students and local counterparts (Meaney *et al*, 2010)<sup>12</sup>.

### AIM

The aim of this study was to assess the effectiveness of information education communication in improving knowledge regarding neonatal resuscitation among nursing students.

### OBJECTIVES

1. To assess the knowledge regarding neonatal resuscitation among nursing students before and after information education communication regarding neonatal resuscitation.
2. To find the association between selected demographic variables and the level of knowledge regarding neonatal resuscitation among the nursing students.

### Hypothesis

H 1 -There is a significant difference in the level of knowledge regarding neonatal resuscitation after information education communication package among the nursing students.

H 2 -There is a significant association between selected demographic variables and post-test level of knowledge regarding neonatal resuscitation among the nursing students.

## OPERATIONAL DEFINITION

### Information education communication

It refers to systematically developed Instructional and teaching aid designed for educating third-year B.Sc. Nursing students aspects of neonatal resuscitation.

### Knowledge

It refers to the correct response and information from the nursing Students on newborn resuscitation elicited through a structured questionnaire.

### Newborn resuscitation

It is the set of interventions provided to newborns at the time of birth to assist in establishing breathing and circulation

### Nursing Students

It refers to the third year B.Sc. Nursing students.

## METHODOLOGY

A quasi-experimental one group pre-test, post-test design was chosen for assessing the effectiveness of IEC program on neonatal resuscitation. All the third year students were chosen as participants by using a convenience sampling technique. Consent was taken from the students for participation in the study. Knowledge was assessed before and after the IEC by a structured questionnaire.

## FINDINGS

Data revealed that that most of the students 15(50%) belonged to the age group of 20-21 years. Majority of the students 25(83%) were female. The students who had no previous exposure in CPR was 20(67%), 20(67%) had seen through television, and 10(33%) had seen CPR three times. More than half of the participants 18(61%) had observed CPR in the intensive care unit.

About the level of knowledge on neonatal resuscitation, out of the 30 nursing students, 10(33%) had poor knowledge, 15(50%) had average knowledge, and 5(17%) had good knowledge in the pre-test. While in the post-test 2(7%) had poor knowledge, 12(40%) average knowledge and 16(53%) had good knowledge. The Figure No.1 illustrates the knowledge in the pre-test and post-test. The mean value in the pre-test was 0.4 and post-test was 0.5, which is higher than the pre-test. The

obtained 't' value was 6.2, which is significant at the  $P < 0.05$  level. The figure illustrates the effectiveness of the intervention.

## DISCUSSION

It is inferred from the present study that the IEC regarding neonatal resuscitation among the nursing students was effective in improving the knowledge. Available evidence showed that effective neonatal resuscitation delivered by knowledgeable and skilled providers could significantly reduce neonatal mortality rates and training was associated with improvement in knowledge (Alhassan *et al*, 2019)<sup>13</sup>. Another study reported that participants in a program for neonatal resuscitation in resource-limited settings demonstrated high satisfaction, high self-efficacy, and gain in knowledge and skills (Singhal *et al*, 2012)<sup>14</sup>. Also, provider knowledge and performance systematically improved with training (Goudar *et al*, 2013)<sup>15</sup>.

The association between the knowledge on neonatal resuscitation among nursing students with their demographic variables revealed that there was an association between the knowledge on neonatal resuscitation with age, gender, medium of instruction, religion, previous exposure to CPR, previous source of information about CPR, language known, residence and the hypothesis was accepted, as it was significant at  $p < 0.05$  level. This is contradictory with the study finding that reported that there was no significant difference in the knowledge and skill scores of the participants in terms of sex (except knowledge), age, type of profession, qualification, year of services and previous place of work (Gebreegziabher, Aregawi and Getinet, 2014)<sup>6</sup>.

Evidence-Based neonatal resuscitation training improved cognitive knowledge of all group of health professionals (Enweronu-Laryea *et al*, 2009)<sup>9</sup>. Literature emphasized the developing and use of innovation strategies by educators to address the knowledge and skill of health care professionals (Mosley and Shaw, 2013)<sup>10</sup>. Another study emphasized the need for the reevaluation of the training methods and the volume of exposure to neonatal training (Bismilla *et al*, 2010)<sup>16</sup>.

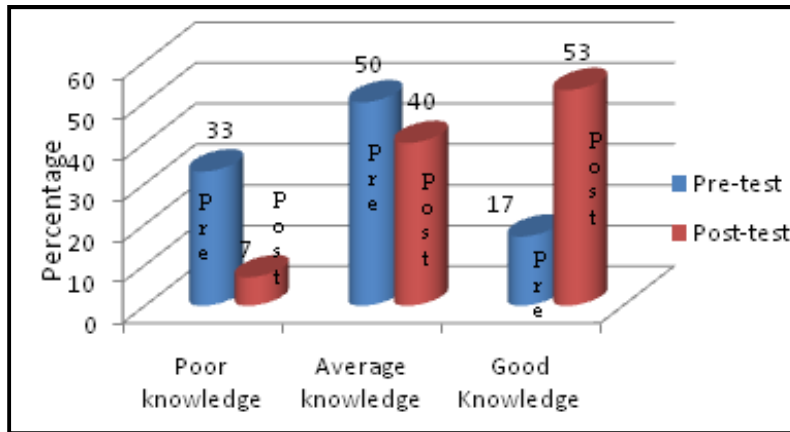


Figure No.1: Knowledge on Neonatal Resuscitation

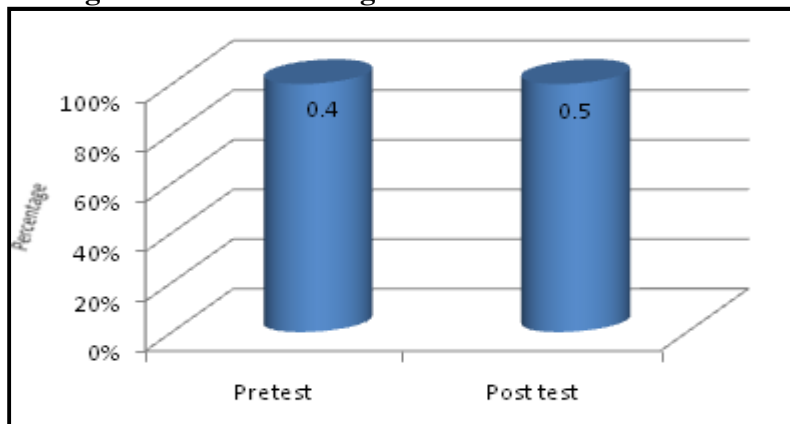


Figure No.2: Effectiveness of IEC regarding neonatal resuscitation

## CONCLUSION

Neonatal training is an important part of nursing training. The knowledge and skill need to be improved by periodic assessment and integration of new methods of training. The nursing institutions and the faculty should be concerned to develop, use, and evaluate innovative strategies that may better address the longstanding problem of knowledge and skills of the nursing students and enhance the training experience of the nursing students.

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## CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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