

Effectiveness of competency-based education for enhancing final year undergraduate nursing students' skills on new born resuscitation in selected nursing colleges Bangalore

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Abstract:

A study on effectiveness of competency-based education for enhancing final year undergraduate nursing students' skills on new born resuscitation at selected nursing colleges, Bangalore. The aim of this study is to assess the level of skills on new born resuscitation. One group pretest posttest design was used, and the total population of the presents study is final year undergraduate nursing student, Bangalore. A sample of 90 students was selected using convenient sampling. The sample consist of 64 females and 26 males. The study results showed that majority (54.4%) of the participants have very good skill level where as (43.3%) of the participants have good skill level and very few (2.2%) of the participants have poor, and there was no significant association between the posttest skill level of participants and the selected demographic variable, (p=0.98.)

Keywords: NBR, effectiveness, competency-based education.

Introduction:

Babies are born in different healthy weight, that is from 2.5 to 3.5kg. New born is the period from birth to 28 days. 95% of new born babies start to cry at birth which leads to the initiation of spontaneous respiration. Those babies need only warmth, breast feeding and close observation.¹

The initial assessment is done using APGAR score to assess the extra uterine life adjustment

of the newborn, and a score of 7-10 at 5 minutes is considered as normal, a score of 5-7 need intermediate care and a score of 0-3 needs resuscitation. The guidelines for new born resuscitation was assessed annually and revised with multiple organization of experts including the American academy of pediatrics (AAP)² and Indian Nursing Council and National Health Mission (Government of India).

New born resuscitations also called as neonatal resuscitation and is an emergency procedure which helps at least 10% of new born babies who do not initially started breathing to start it and prevent them from an irreversible organ damage or death. About a quarter of new born deaths globally are caused by birth asphyxia. This emergency condition may begin before birth when the umbilical cord is compressed.

The first step of resuscitation is to keep the baby warm by placing them in radiant warmer and positioning the head in a way that the airways are open, use a bulb syringe or suction catheter to clear the airway, dry the infant and stimulate breathing.²

The fourth millennium development goals work to decrease mortality rate of the children younger than 5 years of age. Neonatal death is major in under 5 years deaths. There are less skilled personnel on new born resuscitation in south Asia and sub-Saharan Africa, only about 1/3 of women deliver in presence of skilled workers and it usually due to lack of training. There have been different ways for newborn resuscitation practices but now a days they have introduced a SFNRT (standard formal neonatal resuscitation training). Various neonatal program is available like NRP (neonatal resuscitation program), NLS (neonatal life support) ENLS (European neonatal life support). The neonatal resuscitation program was launched in the year 1987 in the united state, now there are over 24,000 NRP instructors in the US and around 2 million people are trained in NRP. The neonatal resuscitation training program include knowledge-based component and practical skill-based component.³

Tactile stimulation, airway clearance and bag and mask assisted breathing are among the therapies that can save the lives of up to two third of 3-6% of newborn who are born with birth asphyxia giving babies ventilation assistance can cut neonatal mortality by about 30%.⁴

A key characteristic of competency-based education is to focus on making the students perfect in the skills. In other learning methods, students are exposed to content that can be traditional or skilled and their success is measured. Where as in competency-based method, students are not allowed to move forward until they demonstrate good competencies in the intended work. Competency based learning is similar to outcome-based education and in both ways better outcome is needed.⁵

Competency based learning is the ability of a person to practice or show the acquired knowledge over a period of time. It can be measured as we can compare the knowledge and skills of 2,3 or more person based on their performance to a specific task. A person's competence does not only mean knowledge but also the performance in task, skills and critical thinking in real life problems. Competency based learning is an approach in which students learning progresses from lower to a higher level.⁶

The main importance of competency-based education is to help the students to master in skills that help them to build ownership over their learning program. It is the most important work an institution to make their student's skills perfect. As we know certain content changes

frequently in the field of nursing, through competency-based education students can upgrade their knowledge, skills and the ability to learn deeply.⁷

Objectives:

1. To assess the pre-test skills of final year nursing students on new-born resuscitation
2. To find the association between the pre-test skills of final year nursing students on new born resuscitation with selected demographic variables.
3. To assess the effectiveness of competency-based education for enhancing students’ skills on new born resuscitation.

Results:

Table 1: frequency and percentage distribution

SL.no	Demographic variables	Group	
		Frequency(n)	Percentage (%)
1	Age in years		
	a. 21	45	50.0
	b. 22	39	43.3
	c. 23	4	4.4
	d. 24	1	1.1
2	Gender		
	a. Male	26	28.9
	b. Female	64	71.1
3	Previous knowledge		
	a. Yes	85	94.4
	b. No	5	5.6
4	Source of information		
	a. college	90	100
	b. Mass media	0	0
	c. Books	0	0
	d. Others	0	0

Material and methods:

One group pretest post-test quasi experimental design.

Setting is a physical location in which data collection takes place in a study. Based on the demographic proximity, feasibility of conducting the study and availability of the samples, the present study was conducted at ACES Maruthi college of nursing and AVK college of nursing which have 60 and 52 final year nursing students respectively. The total population was final year undergraduate nursing students, 90 samples were selected conveniently.

The data representation in the table shows that 45(50%) of them were of the age 21, 39(43.3%) were the age of 22, 4(4.4%) were the age of 23, 1(1.1%) were age of 24 and 1(1.1%) were in the age of 25. And 64 (71%) of the samples were females and only 26 (29%) were males. In Previous knowledge, the data shows that 85(94.4%) of the samples were having knowledge and only 5(5.6%) were not having knowledge about NBR. And about Source of information, the data shows that 90(100%) of samples were getting information from college.

Table 2: Distribution of subject according to skill level on new born resuscitation.

	Pretest skill level	Frequency (f)	Percentage (%)
1.	Very poor	59	65.6
2.	poor	27	30.0
3.	Good	4	4.4

Interpretation:

The data represented in the diagram shows that 4 (4.4%) of the samples were having good skill level, 27 (30%) of samples were having poor skill level and 59 (65.6%) were having very poor skill level on NBR.

Table 3: Association of pre-test level scores with selected socio-demographic variables

n=90

Sl. No	Variables	Pretest Skill Level			Chi Square Value	P Value
		Very Poor	Poor	Good		
1.	Age of students (in years)				6.264	.618
	21	32	11	2		
	22	21	16	2		
	23	4	0	0		
	24	1	0	0		
2.	Gender				5.629	.060
	Male	18	5	3		
	Female	41	22	1		
3.	Previous knowledge				4.639	0.98
	Yes	55	27	3		
	No	4	0	1		
4.	Source of information				-	-
	College	59	27	4		

There was no significant association between the posttest skill level of participants and the selected demographic variable. In age, the chi square value was 6.264 and $p=0.618$, in gender, the chi square value was 5.629 and $p=0.60$ and in previous knowledge, the chi square value was 4.639 and $p=0.98$.

Table 4: Distribution of subject according to pre and posttest skill N=90

SL. NO	Level of skill	Pre test		Post test	
		Frequency(f)	Percentage (%)	Frequency(f)	Percentage (%)
1.	Very poor	59	65.6	-	-
2.	Poor	27	30.0	2	2.2
3.	Good	4	4.4	39	43.3
4.	Very good	-	-	49	54.4

Interpretation:

The data represented in the table shows that, the mean percentage of posttest score (15.32) of respondents were significantly higher than the mean percentage of pretest score (4.87) and the computed t value was (-29.124) at 0.001 level of significant. The comparison between pretest and posttest skill showed that the pretest skill level of majority of respondents regarding NBR was very poor (65.5%), and (30.0%) were poor and (4.4%) were good. Whereas the posttest level of skill was (2.2%) poor, (43.3%) were good and (54.4%) were very good.

Conclusion:

Competency based education on neonatal resuscitation improves skills, reduces morbidity and mortality of new born babies it is cost effective intervention that helps save lives. The overall findings of the study showed that the competency-based education was significantly effective in improving the skill of final year on NBR.

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