



Effectiveness of workshop on Neonatal Resuscitation in enhancing knowledge and skill in performing Neonatal Resuscitation among Registered Nurses

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ABSTRACT

Context: Workshop enhances learning with practice on handful experiences with feedback for the participants attending workshop. **Objectives:** This study examined the effectiveness of workshop in acquiring knowledge and skill in performing Neonatal Resuscitation among Registered Nurses. **Methods & Materials:** This study was conducted at IANN Workshop held at Simulation Lab, PSG IMSR. Registered Nurses enrolled for the conference (30) were the study sample. Quasi experimental and Non Randomized purposive sampling technique approach was used. The participant's knowledge and skill in performing Neonatal Resuscitation was assessed by using questionnaire and checklist on Neonatal Resuscitation Programme (NRP). **Results/Findings:** Around 60% of the (18) participants had adequate knowledge on Neonatal Resuscitation, whereas, only 40% of the (12) participants were able to demonstrate skill in performing Neonatal Resuscitation before attending the workshop. Significant improvement in knowledge and skill in performing Neonatal Resuscitation by the participants after the workshop was found (pretest knowledge $\bar{X}=8.83\pm 2.80$, posttest knowledge $\bar{X}=21.7\pm 2.63$, pretest skill $\bar{X}=6.82\pm 2.20$, posttest skill $\bar{X}=21.52\pm 4.21$). There was significant difference found at knowledge and skill of pre and posttest (12.93 ± 4.97 , $t=36.48$, $p<0.05$, 12.70 ± 4.30 , $t=34.66$, $p<0.05$)

Conclusion: workshop is a platform for the healthcare professionals to acquire not only the domain of knowledge and also help them in enhancing their skill through hands on experience. Neonatal Resuscitation technique was enforced through the workshop which would benefit the Registered Nurses in their day to day practice.

Key Words: Neonatal Resuscitation Programme, workshop, knowledge, skill, registered nurse

Introduction

A healthy start to life is vital in establishing the foundation of a healthy nation. India has been making considerable progress on the front of child health, and eradication of polio from India is evidence to this effect. During the last two decades, India has witnessed a significant reduction in the quantum of child deaths. It has been estimated that preventable neonatal deaths can be decreased by at least 50% through implementation and scale-up of educational interventions that include neonatal resuscitation and other essential elements of basic newborn care¹.

India contributes to 17.5% of the world's population and nearly one-fifth of the total live births. Its contribution to the global burden of newborn deaths is higher when compared to that of maternal and under-5 deaths. India contributes to 16% of global maternal death; and 21% of

under-5 deaths. When it comes to newborn mortality, the proportion increases to 27%. The commitments in the India Newborn Action Plan (INAP) were developed to align with the global (ENAP) Every Newborn Action Plan. India however aspires to achieve the global ENAP targets by 2030, five years ahead of the global deadline with all the states to individually achieve the targets by the end of 20351.

Neonatal deaths are the biggest contributor to child deaths, an attempt to improve child survival hinges on improving newborn health. Although, the annual burden of neonatal deaths has reduced from 1.35 million in 1990 to 0.76 million in 2012, we still face a huge challenge to reduce further the number of deaths².

Neonatal resuscitation is a key skill that health care providers at health facilities, where deliveries occur, must have. These skills would significantly contribute to reduction of neonatal deaths related to birth asphyxia. This learning has to take place during their day to day practice in order to update knowledge and acquire skill in neonatal resuscitation.

Researchers recognize the need for greater objectivity in measuring competence, using structured multi-faceted measures of several factors instead of simple observation of participants³. Workshop facilitates learning with practice opportunities with feedback for the participants. Workshop provide hands on experiences to participants to learn and acquire skills in neonatal resuscitation.

Materials and Methods

Quasi experimental one group pretest and posttest design was used to assess the knowledge and skill of Registered nurses those who were attended IANN workshop on Neonatal Resuscitation at PSG College of Nursing. Non Randomized purposive sampling technique was used to select 30 registered nurses. Present study was undertaken in Simulation Lab, PSG IMSR, Coimbatore. The study was conducted on Feb 12th 2016. The participant's knowledge and skill was assessed by using questionnaire and checklist on Neonatal Resuscitation Programme. The registered nurses were educated on Neonatal Resuscitation programme through the deliberated sessions. Neonatal Resuscitation was taught through simulated clinical scenarios at 4 stations. The participant's knowledge and skill in performing Neonatal Resuscitation was assessed after the workshop by administering the same questionnaire and checklist on Neonatal Resuscitation Programme (NRP)

Results

The results of the study revealed that around 60% of the (18) participants had adequate knowledge on Neonatal Resuscitation, whereas, only 40% of the (12) participants were able to demonstrate skill in performing Neonatal Resuscitation before attending the workshop in the aspects of Initial support and management, Air way and Breathing, chest compression, endotracheal intubation, drugs and fluids in resuscitating newborn, whereas in posttest almost (98%) had adequate knowledge on the same.

Figure. 1 Level of Registered Nurses on Neonatal Resuscitation Programme

Table. 1 Comparison of pretest and post test knowledge score of Nursing students on Neonatal resuscitation

n=85

Knowledge	Mean \bar{X}	Standard Deviation	95% of Confidence Interval range	t value	df	p value
Pretest	8.83	2.80	-13.74 - -12.04	36.48	84	0.0001**
Post test	21.72	2.68				

(P<0.0001)

Table .1 clarifies that Mean knowledge score at Pre test was 8.83±2.80 and the post test knowledge score was 21.7±2.68. Comparison of pre test and post test Knowledge score on Neonatal Resuscitation Programme was 12.89±3.92 (t=36.48, p<0.05) and statistically significant difference is found in posttest knowledge score.

Table. 2 Comparison of Area wise pre and post practice score of nurses on NRP

n=30

Practice areas		Pretest Mean			Posttest mean		
		\bar{X} SD	s ²	95% of Confidence Interval range	\bar{X} SD	Standard Variance s ²	95% of Confidence Interval range
Initial steps and routine care – Normal newborn Resuscitation	Done	-	-	-	26±6	5.06	77.78-86.61
	Partially done	8.2±6.8	13.65	1.4-26	4±1.4	2	1.22-6.77
	Not done	21.6±7.4	48.62	57.5-84.8	-	-	-
Resuscitating newborn not breathing – Meconium stained amniotic fluid	Done	-	-	-	26.5±1.5	5.38	77.95-87.04
	Partially done	8.2±6.8	13.65	0.12-23	3.5±1.90	3.61	-1.15-7.30
	Not done	21.6±7.4	48.62	61.92-84.87	-	-	-
Resuscitating Newborn With Positive Pressure Ventilation- Apneic Newborn with Heart rate<100	Done	-	-	-	26.7±3.3	4.80	77.84-86.44
	Partially done	6.71±6.7	44.90	-6.41-19.84	3.3±1.96	3.86	-0.52-7.18
	Not done	24±6.7	44.90	65.15-91.41	-	-	-
Resuscitating Newborn With Chest Compression With Medication Limp Newborn with Heart rate<60	Done	-	-	-	26.7±3.3	4.80	77.84-86.44
	Partially done	5.5±7.0	51.28	-8.46-19.60	3.3±1.96	3.86	-0.52-7.18
	Not done	24.5±7.16	51.28	65.39-93.46	-	-	-

Table. 3 Correlation of the mean post test scores of knowledge with skill of nurses on Neonatal resuscitation

n=30

Knowledge & Skill on NRP	Mean \bar{X}	Standard Deviation	Correlation r value	Sig. (2-tailed)
Posttest Knowledge	21.7	2.63	0.117	0.287
Posttest skill	21.52	4.21		

(P<0.01)

Table. 3 explains that there was a weak correlation found between knowledge and skill of nurses on neonatal resuscitation. The mean knowledge of nurses were not correlated with the change in the skill of nurses. (r=0.117, P<0.01)

Discussion

The present study findings shows that 60% of the (18) participants had adequate knowledge on Neonatal Resuscitation, whereas, only 40% of the (12) participants were able to demonstrate skill in performing Neonatal Resuscitation before attending the workshop in the aspects of Initial support and management, Air way and Breathing, chest compression, endotracheal intubation, drugs and fluids in resuscitating newborn, whereas in posttest almost (98%) had adequate knowledge on the same. The result of the above findings was in consistent with the study of Bambini.B et al, on outcome of workshop on nurses skill.

There was statistically significant difference was found in post test knowledge score on Neonatal Resuscitation Programme. (t=36.48, p<0.05) There was a significant increase in post test skill of nurses on various areas like Basic Life support, newborn not breathing, Positive pressure ventilation and chest compression with calculation and administration of medications. The overall mean post test skill was 21.52±4.21. The findings are consistent with the study conducted by Nanthini Subbiah, et al (2012) to assess the educational intervention on

NRP among Nursing Personnel; their findings revealed that in post test (20.6 ± 6.05) all aspects of neonatal resuscitation practice nurses improved their practice after administration of educational intervention⁶.

The findings show that workshop learning in a clinical skills laboratory is reported to increase student confidence and prepares students for real clinical setting, however, this acquisition of skill is often achieved at different rates by different students. A standardized approach to simulated learning in nursing education and the development of further holistic clinical scenarios which are linked to related theory and lectures, would offer measurable learning outcomes to meet professional and regulatory requirements. Therefore, further evaluation of the current learning methods within simulation may offer appraisal of the preparation of students for clinical practice, to ensure that students are offered quality-learning opportunities that are flexible and responsive to both their needs and the demands of the Health Care Services⁷.

This study supports the use of workshop in for health care professional to meet challenges and memorable experiential learning that they can apply to clinical practice⁸.

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