EFFECTIVENESS OF SCENARIO BASED LEARNING IN TERMS OF COMPETENCY REGARDING NICU EQUIPMENTS OF NURSING STUDENTS IN SELECTED NURSING COLLEGES OF HARYANA.

Ms.Shally Kamboj[1], Dr. Yogesh Kumar[2], Dr. Jyoti Sarin[3*]

Abstract

Background: In neonatal intensive care units (NICUs), it is necessary to manage thermal status in preterm neonates. Thermoregulation management is considered a critical part of neonatal care. Neonatal jaundice is the leading cause of hospital admission and re-hospitalization in the first week of life worldwide. Phototherapy is the single most common intervention used for the treatment of neonatal jaundice. Bag-valve-mask (BVM) ventilation is a critical life-saving intervention for airway management in patients whose respiratory drive is insufficient to effectively ventilate and oxygenate.

Aim: To assess and compare the effectiveness of Scenario Based Learning in terms of competency (knowledge, skills and clinical decision-making ability) regarding NICU equipments of nursing students in experimental and comparison group.

Methods and materials: A quasi-experimental non-equivalent control group pre-test post-test was used in this study. The data was collected by using Structured knowledge questionnaire, structured observational checklist and structured clinical decision making ability questionnaire were used to collect data. Scenario Based Learning was administered in experimental group and conventional teaching in both experimental and Comparison group.

Result: The mean post test knowledge score (13.38+5.42) of nursing students in experimental group was higher than the mean pre test knowledge score (9.63+5.75) and the calculated 'Z' value -4.06 was found to be statistically significant at (p-0.00*) at 0.01 level of significance. The mean post test skill score (57.62+8.33) in experimental group was higher than the mean pre test skill score (18.31+6.74) and the calculated 't' value of 27.56 was found to be statistically significant at [t 27.56 (51)= 1.67; p=0.00*].The mean post test clinical decision making ability score (6.65+2.69) in experimental group was higher than the mean pre test clinical decision making ability score (5.05+2.58) and the calculated 't' value of 4.02 was found to be statistically significant at [t(51)= 1.67; p=0.00).

Conclusion: The findings concluded that both scenario based learning and conventional teaching was effective in improving the knowledge, skills and clinical decision making ability of nursing students regarding scenario based learning on NICU equipments and scenario based learning was found to be more effective as a part of educational method.

Keywords:- Effectiveness, Knowledge, Skill, Clinical Decision making ability, Scenario based learning, NICU equipments (Radiant warmer Phototherapy unit ,self-inflating bag**).**

[1]MSc Nursing Student, Child Health Nursing Department, MM College of Nursing, Maharishi Markandeshwar (Deemed to be University), Ambala, Haryana, India.

[2]RN, RM, MN, PhD (Nursing), HOD Child Health Nursing Department, Principal MM Institute of Nursing, Maharishi Markandeshwar (Deemed to be University), Ambala, Haryana, India.

[3*]RN, RM, MN, PhD (Nursing), Director- Principal, MM College of Nursing, Maharishi Markandeshwar (Deemed to be University), Ambala, Haryana, India.

*Correspondence Author: Dr. Jyoti Sarin

*RN, RM, MN, PhD (Nursing), HOD Child Health Nursing Department, Principal MM Institute of Nursing, Maharishi Markandeshwar (Deemed to be University), Ambala, Haryana, India.

Postal Address: M.M. College of Nursing, Maharishi Markandeshwar (Deemed to be university), Mullana, Ambala, Haryana, India.

Effectiveness Of Scenario Based Learning In Terms Of Competency Regarding Nicu Equipments Of Nursing Students In Selected Nursing Colleges Of Haryana.

Section A-Research Paper

Introduction

Globally the united nation estimates that around 385,000 babies are born each day around the world (140 million a year). This number will remain relatively stable in the 50 years from 2020 to 2070. 25 million children born in India each year. India accounts for nearly one fifth of the world's annual child births. Every minute one of those babies dies.[1]Neonatal mortality rate of India slumped by 5.14 % from 21.4 deaths per thousand live births in 2019 to 20.3 deaths per thousand live births in 2020. Since the 3.93 % fall in 2010, neonatal mortality rate sank by 36.16 % in 2020[1].

By 2030 ,end preventable deaths of newborns and children under 5 years of age ,with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.The SDGs call for an end to preventable deaths of newborns and children under age 5, with all countries aiming to have a neonatal mortality rate of 12 or fewer deaths per 1,000 live births, and an under-five mortality rate of 25 or fewer deaths per 1,000 live births, by 2030.

In more than a quarter of all countries, urgent action is needed to accelerate reductions in child mortality to reach the SDG targets on ending preventable child deaths by 2030. Of 195 countries analysed, 125 already met the SDG target on under-five mortality, and 16 countries are expected to meet the target by 2030 if current trends continue. Efforts to accelerate progress need to be scaled up in the remaining 54 countries—three quarters of which are located in the regions of Sub-Saharan Africa—to meet the SDG target on under-five mortality by 2030.[2]

Death among premature neonates contributes significantly to neonatal mortality which in turn represents approximately 40 % of paediatric mortality. Care for premature neonates is usually provided at the tertiary care level, and premature infants in rural areas often remain bereft of care. Here, we describe the characteristics and outcomes of premature neonates admitted to neonatal services in a district hospital in rural Burundi that also provided comprehensive emergency obstetric care. These services included a Neonatal Intensive Care Unit (NICU) and Kangaroo Mother Care (KMC) ward, and did not rely on high-tech interventions or specialist medical staff. In it for the first time that providing neonatal care for premature babies is feasible at a district level in a resource-limited setting in Africa. High survival rates were observed, even in the absence of high-tech equipment or specialist neonatal physician staff. We suggest that these results were achieved through staff training, standardised protocols,

simple but essential equipment, provision of complementary neonatal intensive care unit. This approach has the potential to considerably reduce overall neonatal mortality.[3]

Neonatal intensive care unit have complex machines and devices for the unique needs of neonate. Some of the equipments often used in neonatal intensive care unit includes Heart or cardio respiratory monitor ,Blood pressure monitor ,thermometer, pulse oximeter ,X-ray, Respiratory or mechanical ventilator , Continuous positive airway pressure. Radiant warmer ,phototherapy unit ,self inflating bag. Radiant warmers are generally employed in neonatal to facilitate passive heat exchange through radiant energy and to ensure stable core body temperature. Radiant warmer have major advantages over incubators, including high patient accessibility and minimum thermal environment disturbances. Peripheral sites can be used to determine core temperature instead of direct core-temperature measurements. Continuous monitoring is generally essential in neonates, although episodic measurement of temperature is a basic component in all patients. Continuous monitoring of temperature helps with the early identification of temperature instability and prompt intervention. Consequently, a common procedure is continuous temperature monitoring with skin temperature probes in NICU .Phototherapy is the single most common intervention used for the treatment of neonatal jaundice. The greater the surface area exposed, the greater the effectiveness of phototherapy. Light intensity and the area of light-exposed skin can also be increased through the use of reflecting surfaces. The purpose of this study was to evaluate the efficacy of phototherapy with reflectors versus conventional phototherapy in controlling neonatal indirect non-haemolytic hyperbilirubinemia. Bag-valve-mask (BVM) ventilation is a critical life-saving intervention for airway management in patients whose respiratory drive is insufficient to effectively ventilate and oxygenate. This is especially important in settings where healthcare practitioners are not trained in advanced airway maneuvers such as intubation.[4]

Methodology

The research design adopted for the study was Quasi Experimental Non-Equivalent Control Group Pre-Test Post Test Design. A total of 92 nursing students (52 in experimental group and 40 in comparison group) were selected by using Non probability purposive sampling technique. The study was conducted in M. M. College of Nursing and M. M. Institute of Nursing, Ambala, Haryana. To assess and compare the effectiveness of

Eur. Chem. Bull. 2022, 11 (Regular Issue 8), 405–414

406

Scenario Based Learning in terms of competency (knowledge, skills and clinical decision-making ability) regarding NICU equipments of nursing students in experimental and comparison group.

Figure 3.2 Flow Chart showing sample size
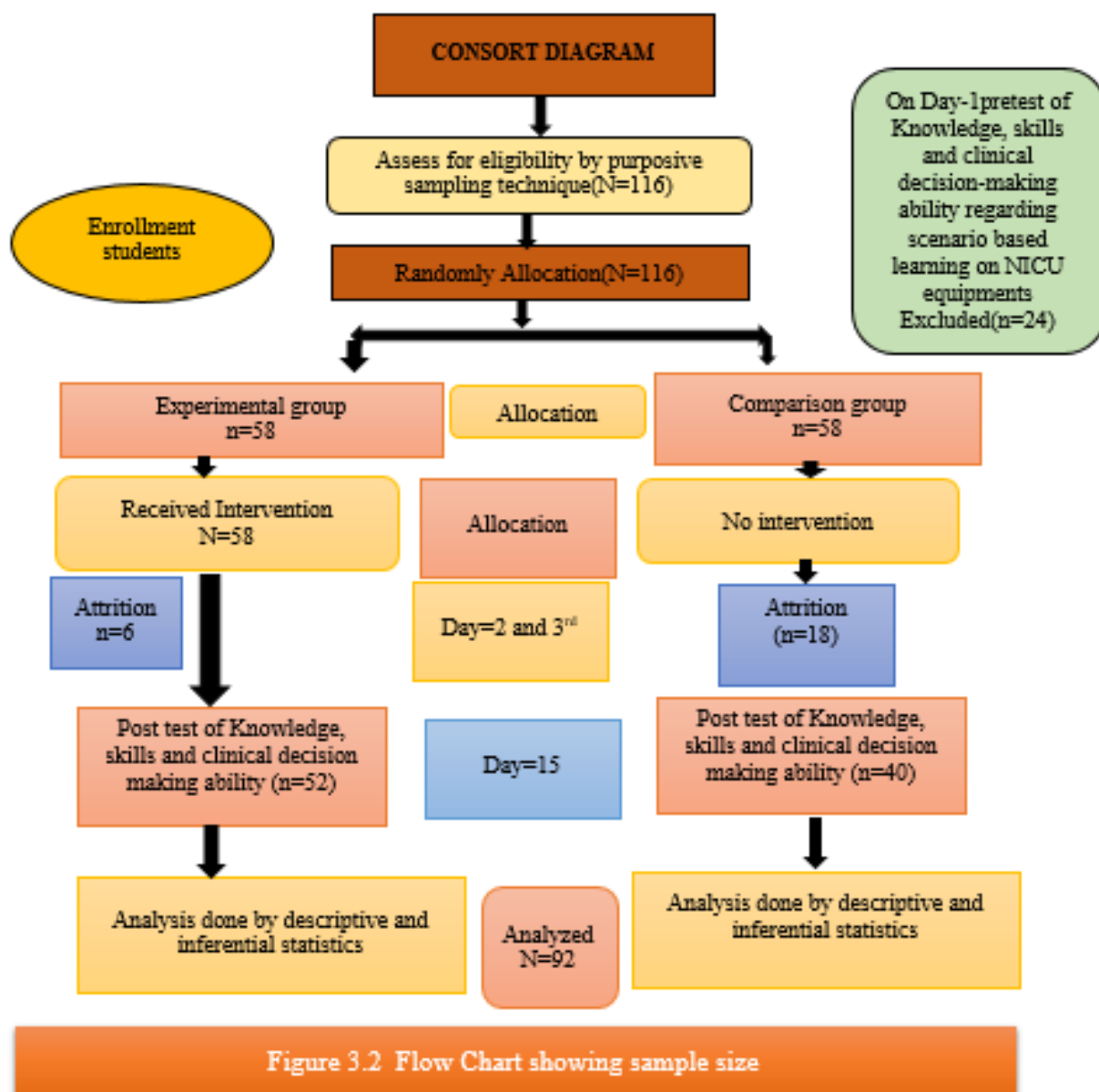
H$_1$: There will be significant difference in mean post test competency score regarding Scenario based learning on NICU equipments of nursing students between experimental and comparison group

H$_{1a}$: There will be a significant difference in mean post-test knowledge score regarding Scenario based learning on NICU equipments of nursing students between experimental and comparison group at 0.01 level of significance.

H$_{1b}$: There will be a significant difference in mean post-test skills score regarding Scenario based learning on NICU equipments of nursing students between experimental and comparison group at 0.05 level of significance.

H$_{1c}$: There will be a significant difference in mean post-test clinical decision making score regarding Scenario based learning on NICU equipments of nursing students between experimental and comparison group at 0.05 level of significance.

H$_2$: There will be a significant difference between mean pre test and post test competency score regarding scenario based learning on NICU equipments of nursing students within experimental and comparison group.

H$_{2a}$: There will be significant difference between mean pre test and post test knowledge score regarding scenario based learning on NICU equipments of nursing students within experimental and comparison group at the 0.01

level of significance.

H$_{2b}$: There will be significant difference between mean pre test and post test skills score regarding scenario based learning on NICU equipments of nursing students within experimental and comparison group at the 0.05 level of significance.

H$_{2c}$: There will be significant difference between mean pre test and post test Clinical decision making ability score regarding scenario based learning on NICU equipments of nursing students within experimental and comparison group at the 0.05 level of significance.

H$_3$: There will be a significant relationship between Knowledge ,skills and clinical decision making ability score regarding scenario based learning on NICU equipments of nursing students within experimental and comparison group at the 0.05 level of significance.

H$_{03}$: There will be a significant relationship between Knowledge ,skills and clinical decision making ability score regarding scenario based learning on NICU equipments.

Tools and technique

The data was collected by using Selected Variables, Structured Knowledge Questionnaire, Objective Structured Clinical Evaluation and Structured Clinical decision making ability Questionnaire. The reliability of the tool was checked using KR20 for Structured Knowledge Questionnaire (0.8) and Structured Clinical decision making ability Questionnaire (0.7) and inter- rater reliability was used for Objective Structured Clinical Evaluation (0.7). The analysis of the present study was done by descriptive and inferential statistics by using SPSS version 20. Researcher had used google form to collect the information regarding selected variables of nursing students. Learning Management System (LMS) was used for Structured Knowledge Questionnaire and Structured Clinical decision making ability Questionnaire regarding scenario based learning on NICU equipments.

Description of data collection tools

Section I:Development and description of selected variables

Selected variables were prepared to assess the background information of the nursing students. It comprised of 4 selected variables of the nursing students such as gender ,Clinical posting Sessional marks ,Practical marks ,Have you nursed baby under radiant warmer,Phototherapy unit ,Self Inflating bag.

SECTION II: - Development and description of structured knowledge questionnaire.

Structured knowledge questionnaire was developed to assess knowledge of nursing students regarding scenario baes learning on NICU equipments. Structured knowledge questionnaire was composed of 30 knowledge items covering the following content area were :

• Radiant warmer
• Phototherapy unit
• Self Inflating bag

Each item has a single correct answer. Every correct answer was awarded a score of one (1 mark) and every wrong answer awarded zero (0).The maximum possible score 30 and minimum score was zero on the structured Knowledge questionnaire.

SECTION III: -Development and description of Objective Structured Clinical Examination (OSCE).

OSCE was developed to assess the skills of nursing students regarding scenario based learning on NICU equipments.

OSCE consisted of total 70 items (under main items subitems were included) It consists of following main stations.

• OSCE STATION I- Radiant warmer
• OSCE STATION II- Phototherapy unit
• OSCE STATION III – Self inflating bag

It consisted of 3 OSCE stations; station 1 was radiant warmer , 2 station was phototherapy unit and 3rd station was self inflating bag with checklist to assess the skills of nursing students regarding scenario based learning on NICU equipments. Ist station had 35 items and maximum score was 35 and minimum was zero and 2nd station has 22 items and maximum score was 13 and minimum score was zero.

SECTION IV: - Development and description of Clinical Decision Making Ability Questionnaire.

A clinical decision-making ability questionnaire was developed to assess the clinical decision-making ability of nursing students regarding scenario based learning on NICU equipments. The test items consisted of 3 case scenarios based NICU equipments (radiant warmer,Phototherapy unit ,Self Inflating bag). Each case scenario consists of objective type (15MCQs) each consisting of a statement which is followed by four options. Each item has a single correct answer. Every correct answer was awarded a score of one (1 mark) and every wrong was awarded zero (0). The maximum possible score for clinical decision-

making questionnaire was 15 and minimum possible score was zero.

Result :

The difference in the mean knowledge, skill and clinical decision making ability score was computed by using Mann Whitney and independent 't'test. The calculated Z value for knowledge score was (-4.06) (p=0.00*) which was found to be statistically significant at 0.01 level of

significance. The calculated 't' value for skill was[t=15.78, p=0.00*] and for clinical decision making ability 7.26 [t (0.26)= 1.98; p=0.00*].which was found to be statistically significant at 0.05 level of significance.The mean post test knowledge score (13.38+5.42) of nursing students in experimental group was higher than the mean pre test knowledge score (9.63+5.75) and the calculated 'Z' value -4.06 was found to be statistically significant at (p-0.00*) at

0.01 level of significance. The mean post test skill score (57.62+8.33) in experimental group was higher than the mean pre test skill score (18.31+6.74) and the calculated 't' value of 27.56 was found to be statistically significant at [t 27.56 (51)= 1.67; p=0.00*].The mean post test clinical decision making ability score (6.65+2.69) in experimental group was higher than the mean pre test clinical decision making ability score (5.05+2.58) and the calculated 't' value of 4.02 was found to be statistically significant at [t(51)= 1.67; p=0.00).

Table1.1 Chi Square showing Comparison, Frequency Percentage Distribution In terms of Selected Variables of Experimental and Comparison Groups

N=92

Selected Variables	Experimental group n=52 f (%)	Comparison group n= 40 f (%)	χ^2	df	p value
1.Gender					
1.1 Male	11(21.15%)	14(26.92%)			
1.2 Female	41(78.84%)	26(65%)	2.19	1	0.13 [NS]
2.Clinical Posting in NICU					
2.1 Yes	11(23.07%)	8(20%)			
2.2 No	41(78.84%)	32(80%)	0.01	1	0.89[NS]
3.Sessional Marks	19(36.53%)	15(37.5%)			
3.1 Pass (> 37.5)	33(63.46%)	25(62.5%)	43.71	1	0.81[NS]
3.2 Fail (<37.5)					
4. Practical Marks	24 (46.15%)	16 (40%)			
4.1 More than 25	28(53.84%)	24 (60%)	38.85	1	0.35[NS]
4.2 Less than 25					
5.Have you nursed baby under radiant warmer, Phototherapy unit, self-inflating bag					
5.1 Yes	3(5.76%)	2(5%)			
5.2 No	49(94.23)	38(95%)	0.02	1	0.87[NS]

[NS] Not Significant (p>0.05)   *Significant(p<0.05) $\chi^2(1)$=3.84

Table 1.1 depicts the frequency and percentage distribution of nursing students and chi- square value showing comparison of experimental group and comparison group in terms of selected variables among nursing students.

Table1.2 Range, Mean, Standard Deviation and Median of Post-test knowledge Score regarding Scenario based learning on NICU equipments of nursing students between experimental and comparison group

N=92

Variable	Group	Range	Mean±SD	Median
	Experimental group (n=52)	0-26	13.38+5.42	13.50
Knowledge	**Comparison group (n=40)**	0-21	12.65+5.41	13.00

Minimum Score=00 Maximum Score=30

Table 1.2 shows the standard deviation of knowledge scores of the nursing students was more in experimental group than the comparison group, which means the knowledge scores were more homogeneous in comparison group than the experimental group.

Table 1.3 Mean ,Standard deviation ,Mean Rank, Z value and P value of pre-test and post-test of knowledge scores regarding NICU equipments of nursing students in experimental and comparison group.

N=92

Group	Knowledge Mean+SD		Mean rank	Z value	p value
Experimental group (n=52)	Pre-test	9.63+5.75	27.13	-4.06	0.00*
	Post-test	13.38+5.42	19.73		
Comparison group (n= 40)	Pre-test	10.88+3.96	21.33		
	Post-test	12.65+5.41	16.36	-2.05	0.04^{NS}

^{NS} **Not significant (p>0.01)**   ***Significant (p<0.01)***   **Z=-2.57 to +2.57**

Table 1.3 shows mean ,standard deviation, Mean rank and Z value and P value of pre-test knowledge and post-test knowledge scores of Nursing students regarding Scenario based learning on NICU equipments in Experimental and Comparison group.

Table 1.4 Range, Mean, Standard Deviation,Median of Post Test Skills regarding scenario based learning on NICU equipments of Nursing students in experimental and Comparison Group

N=92

Variable	Group	Range	Mean± SD	Median
Skills	Experimental group (n=52)	39-70	57.62+8.33	61.00
	Comparison group (n=40)	10-47	29.28+8.79	28.50

Minimum score=00   Maximum score=70

Table 1.4 shows the range, mean, standard deviation and median of post-test skills scores of nursing students regarding scenario based learning on NICU equipments in experimental group and comparison group. In experimental group, the post-test skills scores shows the mean, standard deviation (57.62+8.33) with obtained range of 39-70 and median was 61.00. whereas in comparison group, the post-test skills scores shows the Mean, standard deviation (29.28+8.79) with the obtained range of 10-47 and median was 28.50.

Table 1.5 Mean, Mean difference, Standard Deviation, and Standard Error of Mean difference and "t" value of Pre-test and Post-test skill score of nursing students regarding scenario based learning on NICU equipments in experimental and Comparison group

N=92

Variable	Group		Mean+ SD	M$_D$	SE$_{MD}$	t Value	df	p value
SKILLS	Experimental group (n=52)	Pre-test	18.31+6.74	39.31	1.42	27.56	51	0.00*
		Post-test	57.62+8.33					
	Comparison group (n=40)	Pre-test	15.83+4.35	13.45	1.50	8.93	39	0.00*
		Post-test	29.28+8.79					

^{NS} **Not Significant (p>0.05)**   ***Significant (p<0.05)***   **t at 51= 1.67   t at 39= 1.68**

Table 1.5 shows the mean, standard deviation, mean difference, standard Error of mean difference and "t" value of Pre-test and Post-test Skills scores regarding Scenario based learning on NICU equipments of nursing students in experimental group and comparison group. The mean post-test skills scores (57.62+8.33) of nursing Students in experimental group was higher than the mean post-test Skills scores (29.28+8.79) in comparison group. Mean difference of pre-test and post-test skill score was 39.31 and standard error of Mean difference was 1.42 in experimental group .In experimental group, the calculated 't' value of 27.56 was found to be statically significant, t (51) =1.67 p= 0.00*at 0.05 level of significance.

Since calculated value was less than table value so research hypothesis (H$_{2b}$) was accepted and null hypothesis (H$_{02b}$) was rejected.

It concluded that Scenario based learning was effective in improving skills of nursing students in experimental group.

Table 1.6 Range, Mean, Standard Deviation and Median of Post-test Clinical decision making scores of Nursing Students regarding Scenario based learning on NICU equipments between experimental and comparison Group

N=92

Variable	Group	Range	Mean±SD	Median
Clinical Decision Making	Experimental group (n=52)	0-12	6.65+2.69	6.50
	Comparison group (n=40)	0-11	6.50+2.81	7.00

Minimum Score: 00   Minimum Score: 15

Table 4.22 Shows the range, mean, standard deviation and median of post-test clinical decision making ability Score regarding Scenario based learning on NICU equipments in experimental and Comparison group.

Table 1.7 Mean, Standard Deviation, Mean difference and Standard error of Mean difference and t value of post experimental and comparison Skills score regarding NICU equipments of nursing students in experimental and comparison group

N=92

Variable	Group	Mean+SD	M_D	SE_{MD}	t value	df	P value
Skills	**Experimental group (n=52)**	57.62+8.33	28.34	1.79	15.78	90	0.00*
	Comparison group (n=40)	29.28+8.79					

[NS]**Not significant(p>0.05)   *Significant (p<0.05)   t0.05 (90)=1.98**

Table:1.7 shows the comparison of mean post-test skills score regarding Scenario based learning on NICU equipments of nursing students in experimental and comparison group. Mean post-test Skills score of nursing students was found to be 57.62+8.33 in experimental group and 29.28+8.79 in comparison group, with the mean difference of 28.34 and standard error of mean difference of 1.79. The difference in the mean scores between the experimental and comparison group was computed by independent 't' test. The calculated 't' value was found to be 15.78 t (90) . Here p=0.00 which was significant at 0.05 level of significance.

Therefore, research hypothesis (H_{1b}) was accepted and null hypothesis(H_{01b}) was rejected.

Hence, it can be concluded that Scenario based learning was effective in enhancing the skills regarding Scenario based learning on NICU equipments among Nursing Students in experimental group.
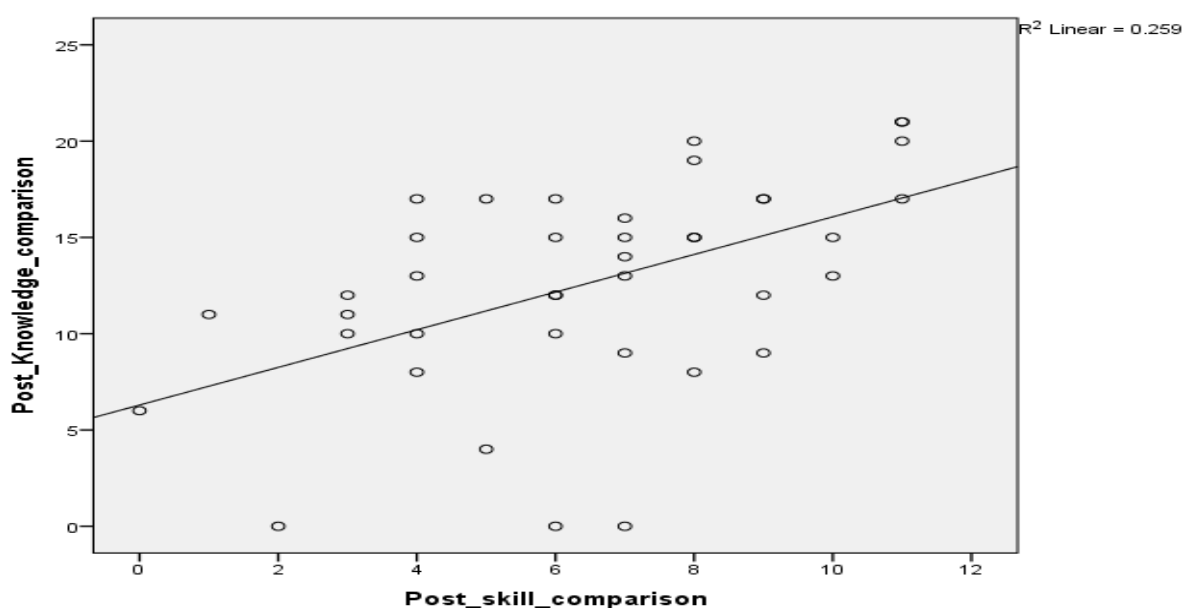

Figure 1.1 Scatter diagram shows correlation between the mean post-test score of knowledge and skill score regarding NICU equipments of nursing students in comparison group.
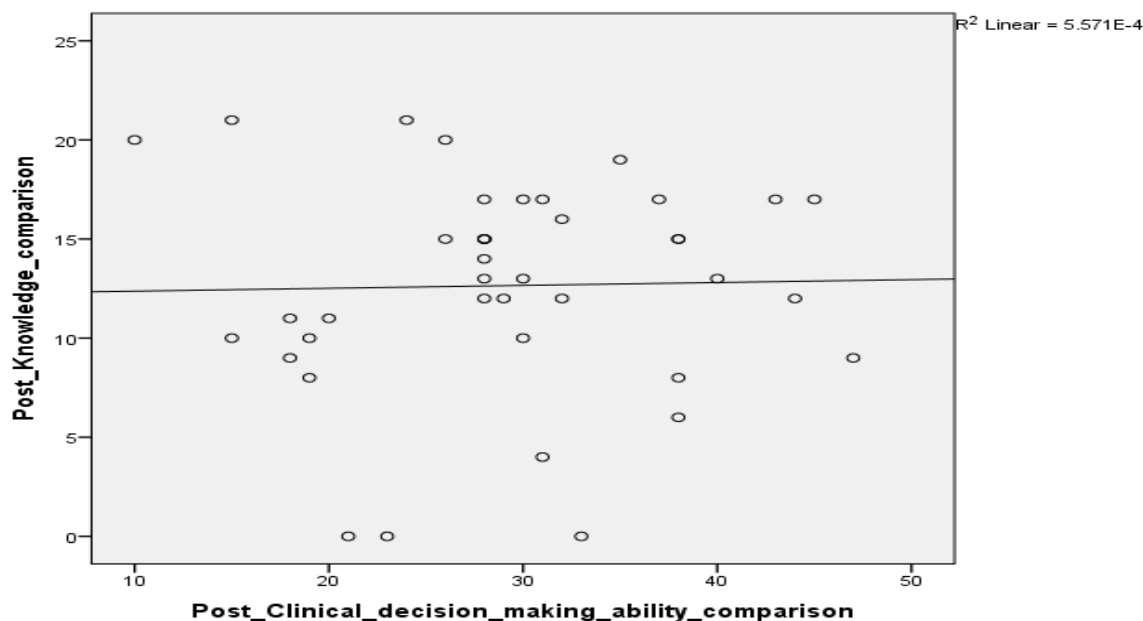
Figure1.2 Scatter diagram shows correlation between the mean post-test score of knowledge and clinical decision making ability score regarding NICU equipments of nursing students in comparison.

Discussion:

The purpose of this study is to assess the effectiveness of scenario based learning on the knowledge skill and clinical decision making ability regarding NICU equipments of nursing students. The finding of the study was discussed with reference to other research studies. As this is the new study in the area of assessing the effectiveness of scenario based learning in terms of competency (Knowledge ,skill ,clinical decision making ability) regarding NICU equipments so the more discussion can not be implicated.

Major Findings

Finding related to effectiveness of scenario based learning for nursing students in terms of selected variables

In the present study, maximum nursing students 41(78.84%) were female in experimental group and 26(65%) were females. These findings were consistent with the study conducted by **Renjana Rebecca john et al** which showed that majority of nursing students were female (80.43%) in the study.

Finding related to effectiveness of scenario based learning for nursing students in terms of knowledge and skill

In the present study the mean knowledge score of nursing students in the experimental group was higher (13.38+5.42) than the comparison group and mean skill score was higher (57.62+8.33) than the comparison group. A similar study was conducted by **Sampurna T.A Mahendra et al ,Bos F.Arend** on enhancing knowledge and skill in

experimental group (59.20+9.8) which showed that the analysis of variance result suggest that mean test score for nurses was higher than the comparison group mean and standard deviation was (51.63+9.5).

Finding related to effectiveness of scenario based learning for nursing students in terms of clinical decision making ability

In the present study the mean clinical decision making ability score of nursing students in the experimental group were (6.65+2.69) and in comparison group (6.50+2.81) mean was higher in experimental group and standard deviation was higher in comparison group in post test regarding scenario based learning on NICU equipments. A similar study was conducted by **R Pramilaa et al** mean and standard deviation in experimental group mean and standard deviation (2.18+1.48) and in comparison group (2.75 +1.61) in it mean and standard deviation was higher in comparison group.

Conclusion

Based on the findings of the present study ,it concluded that scenario based learning was effective in enhancing knowledge ,skill ,clinical decision making ability regarding NICU equipments.

Recommendations

➢ A study can be replicated on a large sample size of nursing students for wider generalization of findings.

➤ A similar study can be conducted to explore the experience of nursing students regarding NICU equipments.

➤ A study can be conducted to assess the perceptions of nursing students regarding the scenario based learning on NICU equipments.

➤ A comparative study can be conducted to find out the effectiveness of scenario based learning with other teaching strategies in terms of competency regarding scenario based learning on NICU equipments.

IMPLICATIONS

The major implications of the study are as follows :

NURSING EDUCATION

Scenario based learning in nursing aims to integrate theoretical knowledge into practical knowledge in real-life situations and to help students develop their problem-solving skills. Due to rapid changes in clinical placements, patient safety issues, and ethical concerns, students' direct experience with patient care and opportunities to handle problem-based clinical situations have been diminished. Scenario-based learning is a useful pedagogical approach that provides nursing students with opportunities to practice their clinical and decision-making skills through varied real-life situational experiences, without compromising the patient's well-being. Scenario-based learning in nursing refers to a variety of activities using patient manikin, trained persons, lifelike virtual environments, and role-playing. With realistic clinical scenarios, scenario-based learning interventions in nursing can train novice as well as experienced nurses, helping them develop effective non-technical skills, practice rare emergency situations, and providing a variety of authentic life-threatening situations.

NURSING PRACTICE

Scenario based learning (SBL) is a pedagogical method that uses different educational techniques or equipment with the help of which nurses further improve their knowledge and strengthen their (technical and non-technical) skills. It will also help the nurses to develop the competency and manage the condition of the patient for the betterment in condition of patient.

NURSING ADMINISTRATION

Now a days there is increase in demand of quality care. Nursing administrators play a vital role in it. Thus, it is necessary to improve the knowledge, skills and clinical decision-making ability of nursing personnel. Scenario based learning is a method which is designed to study real-life conditions, and provides the opportunity to experience the real settings with the help of scenarios. Different educational programs on scenario based learning should be planned for the nurses and nurses must take part in these scenario programs until they perform less mistakes in clinical settings, and are able to better develop their critical thinking and clinical decision-making ability and skills. The nursing administrators should facilitate the establishment of simulation lab in health care setting for acquisition of knowledge ,skills, clinical decision making ability during induction program and continuing education program among nursing personnel.

NURSING RESEARCH

Nursing research is an emerging and growing filed in which individual can apply their education to discover new advancements that promote evidenced-based care. In the present study scenario based learning was effective for nursing students. Based on the findings, the professionals and nursing students can conduct further studies on aspects of NICU equipments and importance of team work and its impacts on health outcomes, in order to assess the competency of staff nurses.

References

1. Total newborn born globally - Google Search [Internet]. Google.com. [cited 2022 .https://www.google.com/search?q=total+new born+born+globally+&sxsrf=ALiCzsYKZaYh Y6_v95dpdpOSP7qYM84szw%3A165708484 4638&ei=rBvFYtPDJrf04-EP

2. Child survival and the SDGs [Internet]. UNICEF DATA. 2019 [cited 2022 Jul 6]. Available from: https://data.unicef.org/top ic/child-survival/child-survival-sdgs/

3. John RR, Nayak S, Paul S. Comparison of radiant warmer care and kangaroo mother care shortly after birth on the neurobehavioral responses of the newborn. J SAFOG [Internet]. 2011;3(1):53–5. Available from: http://dx.doi.org/10.5005/jp-journals-10006-1127

4. Dai Y, Dai J, Walline JH, Fu Y, Zhu H, Xu J, et al. Can bag-valve mask ventilation with positive end-expiratory pressure reduce hypoxia during intubation? A prospective, randomized, double-blind trial. Trials [Internet]. 2021 [cited 2022 Jul 8];22(1):460. Available from: https://www.ncbi.nlm.nih.gov/book s/NBK441 924/

1. Dhanamani, Benjamin EE, Jarone A. Knowledge of staff nurses regarding neonatal

*Effectiveness Of Scenario Based Learning In Terms Of Competency Regarding Nicu Equipments Of
Nursing Students In Selected Nursing Colleges Of Haryana.*

Section A-Research Paper

hypothermia and effectiveness of embrace thermopod in prevention of hypothermia. Indian Journal of Continuing Nursing Education [Internet]. 2017 [cited 2022 Jul 8];18 (1):43. Available from: https://www.ijcne.org/article. asp?issn=2230-7354;year=2017; volume=18;issue=1;spage=43;epage=47;aulast =Dhanamani

2. CDC. Jaundice [Internet]. Centers for Disease Control and Prevention. 2021 [cited 2022 Jul 8]. Available from: https://www.cdc.gov/breastfeeding/breastfeeding-special-circumstances/maternal-or-infant-illnesses /jaundice.html\

3. Wall SN, Lee ACC, Niermeyer S, English M, Keenan WJ, Carlo W, et al. Neonatal resuscitation in low-resource settings: What, who, and how to overcome challenges to scale up? Int J Gynaecol Obstet [Internet]. 2009 [cited 2022 Jul 8];107(Supplement):S47–64. Available from: http://dx.doi.org/10.1016/j.ijgo.2009.07.013 Table of contents. Space Sci Rev [Internet]. 1989 [cited 2022 Jul 8];50(3–4). Available from: https://www.unicef.org/supply/media/2936/file /radiant-warmer-TPP.pdf

4. Koo HY, Lee BR. Educational needs for practicing neonatal intensive care among Korean nursing students. Child Health Nurse Res [Internet]. 2021;27(4):339–53. Available from: http://dx.doi.org/10.40 94/chnr.2021.27.4.339

5. Jognn.org. [cited 2022 Jul 8]. Available from: https://www.jognn.org/article/S0884-2175(17)30178-8/pdf

6. Upashe SP, Shil R, Shetty S. Self-reported clinical practice skill readiness of final year nursing students studying in Bengaluru, karnataka: An institutional-based cross-sectional study. Journal of Health and Allied Sciences NU [Internet]. 2022; Available from: http://dx.doi.org/10.1055/s-0042-1744554

7. Ali LM, Ahmed DM, Mohamed SO, Mohammed MA. Neonatal and Pediatric Medicine Ne ona ta l a n d Pediatri c M e di cine [Internet]. Omicsonline.org. 2019 [cited 2022 Jul 8]. Available from: https://www.omicsonline.org/open-access-pdfs/nurses-skills-regarding-care-of-preterm-infants-in-neonatal-intensive-care-unit-selected-in-jazan-ksa.pdf

8. Rajashri M, Karale B, Vaishali R, Sangeeta Patil M, Kadam MS, Bhagwat Karale M. A study to assess the effectiveness of structured teaching program on knowledge and practice regarding phototherapy application among 3 rd year R.g.n.m. nursing students at school of nursing, Krishna hospital, karad [Internet]. Ijhsr.org. [cited 2022 Jul 8]. Available from: https://www.ijhsr.org/IJHSR_Vol.8_Issue.9_S ep2018/22.pdf

9. Rahman J, Ahmed N. Effectiveness of a Self Instructional Module on Phototherapy in terms of knowledge and practice among staff nurses of a selected hospital, Kolkata, West Bengal [Internet]. Ijsr.net. [cited 2022 Jul 8]. Available from: https://www.ijsr.net/archive/v6i6/ART201745 53.pdf

15 Rajeswaran L, Cox M, Moeng S, Tsima BM. Assessment of nurses' cardiopulmonary resuscitation knowledge and skills within three district hospitals in Botswana. Afr J Prim Health Care Fam Med [Internet]. 2018;10 (1):e1–6. Available from: http://dx.doi.org/10.4102/phcfm.v10i1.1633.

16 Vural M, Koşar MF, Kerimoğlu O, Kızkapan F, Kahyaoğlu S, Tuğrul S, et al. Cardiopulmonary resuscitation knowledge among nursing students: a questionnaire study. Anatol J Cardiol [Internet]. 2017 [cited 2022 Jul 8];17(2):140–5. Available from: http://dx.doi.org/10.14744/AnatolJCardiol.201 6.7156

17 Researchgate.net. [cited 2022 Jul 8]. Available from: https://www.researchgate.net/publication /353981184_Efficacy_of_pedagogical_framew ork_in_neonatal_resuscitation_skill_learning_i n_a_resource-limited_setting_a_randomized_ controlled_trial.

18 Beck Tatano Cheryl,Polit F.Denise "Textbook of Nursing research"10th edition,2017, published by wolters Kluwer India Pvt.Ltd ,New Delhi.

Eur. Chem. Bull. 2022, 11 (Regular Issue 8), 405–414

414