International Journal of Research In Paediatric Nursing

E-ISSN: 2664-1305
P-ISSN: 2664-1291
www.paediatricnursing.net
IJRPN 2025; 7(1): 226-233
Received: 05-02-2025
Accepted: 07-03-2025

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Effect of self-instructional module on oxygen therapy and prevention of hyper oxygenation hazards in terms of knowledge and practice in neonate among staff nurses working at SNCU in selected hospital, West Bengal

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DOI: https://www.doi.org/10.33545/26641291.2025.v7.i1d.223

Abstract
Neonate is tiny human being who always needs special care. In order to prevent death in neonate due to hypoxia or hyper oxygenation, the most crucial part is appropriate oxygen administration. ROP is thought to have caused blindness in 50,000 children worldwide in 2012.[1] A pre experimental study was adopted on effect of self-instructional module on oxygen therapy and prevention of hyper oxygenation hazards in terms of knowledge and practice in neonate among staff nurses working at SNCU in selected Hospital, West Bengal with the objective to assess knowledge and practice regarding oxygen therapy and prevention of hyper oxygenation hazards in neonate among staff nurses before and after self-instructional module, to evaluate effect of self-instructional module on knowledge and practice of oxygen therapy among staff nurses, to find out association between knowledge score and practice score of oxygen therapy with selected demographic variables. One group pre-test post-test design was selected. By purposive sampling technique 50 staff nurses of SNCU was selected. Study findings revealed that the self-instructional module was effective to increase the knowledge and practice of staff nurses as evidenced from paired 't' value between pre- test and post-test knowledge score ('t' = 9.42, p= 0.05), and practice score ('t' = 8.52, p = 0.05). There was significant association of pre-test knowledge score with professional qualification and total work experience. There was also significant association of pre-test practice score with work experience in new-born care unit. The similar study can be conducted with large sample for generalization.

Keywords: Effect, knowledge, practice, self-instructional module, staff nurse

Introduction
Neonate are not miniature of children, just as children are not miniature of adults. They require special care since they have particular health challenges [2].
Arrival of a new born to a family is always an enjoyable moment. Birth of healthy new-borns are always expected as healthy children are the pillar of healthful nation. But in this process when intrauterine to extrauterine transition occurs the life of neonate suddenly may face life-threatening moment. Some of these occurrences are predictable and some are not. For this reason, arrival of new-born must be planned under skilled health care agencies. So that the emergency needs are met with no delay.
Administration of oxygen to new-born is one of the lives saving measure which are frequently used by all health care team members, mostly the nurses.
A wide range of medical and surgical disorders are treated by oxygen therapy. By using an oxygen face mask, nasal prong, hood, oxygen tent or canopy, oxygen can be supplied without any physical contact. Oxygen is also administered invasively via a tracheostomy and nasopharyngeal catheter [3].
Optimal oxygen saturations in preterm new-borns have been debated for the past 50 years, despite the fact that oxygen being one of the most often utilised therapy in neonatology. Numerous clinical investigations over the years and the history of oxygen usage in children have demonstrated that liberal oxygen administration is related with retinopathy of prematurity (ROP) and bronchopulmonary dysplasia (BPD), whereas restrictive use causes

greater mortality and neurologic problems [4].

Out of those oxygenation risks In India, Retinopathy of Prematurity (ROP) is a relatively widespread condition. ROP is a Vaso proliferative condition that affects preterm newborns' developing retinas, where blood vessels grow abnormally and uncontrollably [1].

There are currently thought to be 270,000 blind children living in India. Cataract, Retinopathy of Prematurity (ROP) and a lack of vitamin A are the three main contributors to blindness in children. About 50% of all childhood blindness are preventable or treatable. ROP has been observed to occur 24-47% of the time in high-risk preterm new-borns in India. Preterm and small-for-date new-borns in our country are living longer, especially since NICUs and SNCUs became operational [5].

In order to prevent death in children with hypoxemia and hypoxia, the most crucial aspect of supportive care is the administration of oxygen therapy. To administer the best oxygen therapy, paediatric nurses must have the necessary knowledge, skills, and training. A neonate receiving oxygen therapy desires close monitoring and observation. More than 5.9 million people worldwide typically pass away at an early age from diseases that are easily treatable on the surface; 95% of these deaths occur in developing nations. Low oxygen levels are the primary cause of death in children under the age of five, and they typically account for the highest percentage of deaths (18%) at this stage.Approximately five million children worldwide pass a way every year, with oxygen mismanagement accounting fo r 98% of these deaths in the producing states and 20% of ne onatal deaths worldwide [6].

More preterm babies are now surviving due to technological developments and improvements in neonatal care, which has led to an increase in ROP and BPD incidence. Oxygen therapy is an essential activity in nursing practice and nurses are responsible for safe medication to the patient and must regularly check the oxygen therapy-based medical instructions so that the patient receives the correct concentration of oxygen. Besides, five rules of prescribing drugs, namely the right medicine, the right dose, the right client, the right method, and the right time must be observed for prescribing oxygen to patients. Therefore, the study examined the effect of two educational methods, mastery learning, and lectures, on oxygen therapy knowledge and practice of nurses [7].

Knowledge of daily oxygen therapy, effective oxygen administration technique, oxygen therapy indication, prevention and control of hyperoxygenation dangers can all help to reduce the risk of hyperoxygenation. To reduce the possibility of hyperoxygenation hazards, multidisciplinary team access is required. Therefore, the government must enhance nurses' awareness of the risks associated with hyperoxygenation through training programmes, seminars, and workshops.

The NICU's neonatal nurses constitute its backbone. Their clinical expertise and knowledge contribute to the best practices for protecting preterm neonates from ROP. Nurses make sure that follow-up care and timely eye screening are provided for preterm and low birth weight (LBW) infants [7].

Problem statement: Effect of self-instructional module on oxygen therapy and prevention of hyper oxygenation hazards in terms of knowledge and practice in neonate among staff nurses working at SNCU in selected Hospital, West Bengal

Objectives of the study

1. To assess knowledge regarding oxygen therapy and prevention of hyper oxygenation hazards in neonate among staff nurses before and after self-instructional module.
2. To identify practice of oxygen therapy and prevention of hyper oxygenation hazards in neonate among staff nurses before and after self-instructional module.
3. To evaluate effect of self-instructional module on knowledge and practice on oxygen therapy and prevention of hyper oxygenation hazards among staff nurses.
4. To find out association between knowledge and practice score of oxygen therapy and prevention of hyper oxygenation hazards with selected demographic variables.

Material and Method

A Pre- experimental one group pertest post-test research design was conducted by using Quantitative research approach among 50 staff nurses who were working at SNCU of Bankura Sammilani Medical College and Hospital, Bankura and Midnapore Medical College and Hospital Midnapore,West Bengal and they were selected by non-probability purposive sampling technique.A semi structured demographic proforma was prepared which included by 6 criteria like age,gender,professional qualification, total work experience, working experience in new-born care unit, previous knowledge about hazards of oxygen therapy by paper pencil method.The structured knowledge questionnaire was composed of 24 items on the domain of knowledge, understanding and application. An observation checklist was prepared included 20 step to observe oxygen therapy procedure among SNCU staff nurses.

The validity of Tool- I was 0.92 and Tool II was 0.86 and Tool III was 0.90. Reliability of the Tool -II was .82 by Cronbach Alpha Formula and Tool-III was 1 by Inter rater method.

Ethical clearance was taken from the the Chairperson of Institutional Ethics Committee of Bankura Sammilani Medical College, Bankura. Administrative approval was obtained from MSVP and NS and HOD Of Pediatric of BSMC&H, Bankura. And also from MSVP, NS and HOD Of Pediatric of MMC&H, Midnapore

Data was collected from participants using separate code number by visiting two SNCU setup separately. Self-introduction and purpose of study was explained to the participant. Privacy confidentiality and anonymity was guarded. Face to face interaction was done with comfortable sitting arrangement in the corner of the nursing station. The tool for data collection was separately administered and explained and recorded.

Result and Discussion

This section deals with the description of the demographic characteristics of the staff nurses working at SNCU

Table 1: Distribution of staff nurses working at SNCU according to their age, gender, professional qualification n=50

Demographic variable	Frequency(f)	Percentage (%)
Age of the Staff Nurses(in years)		
24-35	37	74
36-47	7	14
48-59	6	12
Gender		
Male	--	--
Female	50	100
Professional qualifications		
GNM diploma	25	50
B.Sc. Nursing	12	24
Post Basic B.Sc. Nursing	11	22
Higher degree (M.Sc.)	2	4

Table 1 showed that majority (74%) staff nurses belonged to the age group 24-35 yrs. All (100%) staff nurses were female. Majority (50%) staff nurses were passed G.N.M Diploma.

Table 2: Distribution of staff nurses working at SNCU according to their total work experience, working experience in newborn care unit, previous knowledge about hazards of oxygen therapy n=50

Demographic variable	Frequency (f)	Percentage (%)
Total work experience		
<5 years	9	18
5-10 years	20	40
>10 years	21	42
Working experience in new-born care unit		
<5 years	15	30
5-10 years	17	34
>10 years	18	36
Previous knowledge about hazards of oxygen therapy		
Yes	50	100
No	--	--

Table 2 depicted that Maximum (42%) staff nurses had more than 10 years' work experience. Regarding working experience in new-born care unit, maximum (36%) staff nurses had more than 10 years' experience. All (100%) staff nurses had previous knowledge about hazards of oxygen therapy.

Findings related to the pre-test and post-test knowledge score of the staff nurses regarding oxygen therapy

Table 3: Distribution of staff nurses according to their pretest and posttest knowledge score n=50

Level of Knowledge	Pretest		Posttest	
	Frequency(f)	Percentage (%)	Frequency (f)	Percentage (%)
Excellent (>80%)	1	2	5	10
Good (60-80%)	8	16	26	52
Average (50-59%)	13	26	19	38
Poor (<50%)	28	56	--	--

Maximum possible score - 24, Minimum possible score - 0

Data depicted in table 3 indicated that majority (56%) of staff nurses scored poor and minimum (2%) scored excellent in pretest where as in posttest majority (52%) of staff nurses scored good followed by minimum (10%) scored excellent and no staff nurses scored poor in posttest.

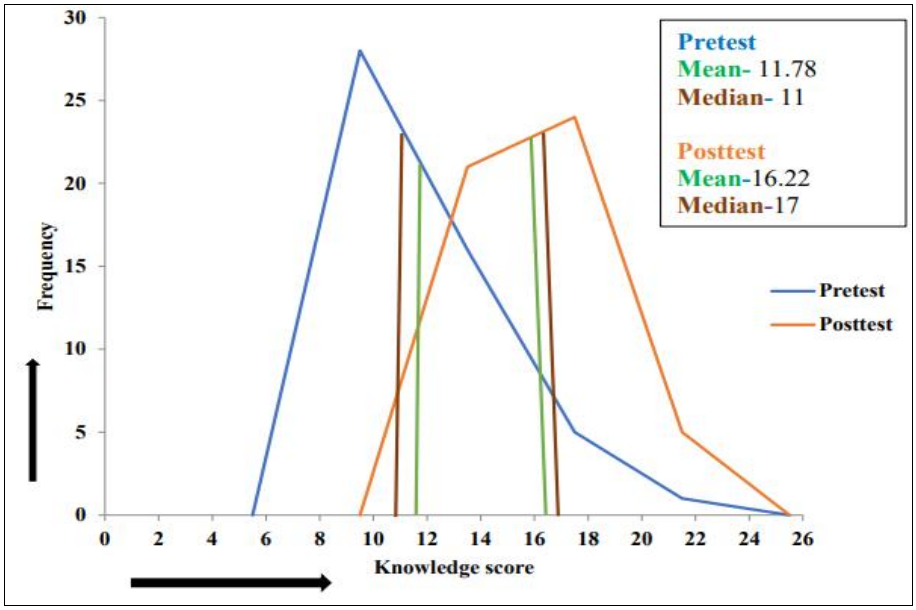

Fig 1: Frequency polygon showing comparison between pre-test and posttest knowledge scores of staff nurses n=50

The frequency polygon in figure 5 showed the distribution of pre-test and post-test knowledge score of the staff nurses regarding oxygen therapy and prevention of hyper oxygenation hazards in neonate with depicted mean and median. The pre-test knowledge score range was 8-20 with a mean of (11.78±2.81) and median of 11. In the post-test, knowledge score range was 12-22, with the mean of (16.22±2.66) and median of 17.

In pretest mean knowledge score of staff nurses lied right side of the median so distribution was positively skewed and skewness was 0.832. In posttest mean knowledge score of staff nurses lied left side of the median so distribution was negatively skewed and skewness was -0.879.

The values of skewness were negligible indicating that the posttest score were almost normally distributed. The figure also shows that mean post-test knowledge scores of participants lied in the right side of mean pre-test knowledge scores indicating that mean post-test knowledge score of staff nurses had increased after administration of self-instructional module regarding oxygen therapy and hyperoxygenation hazards.

Table 4: Area wise mean percentage distribution of pre-test and post-test knowledge score of staff nurses regarding oxygen therapy and prevention of hyper oxygenation hazards in neonates n=50

Areas of knowledge	Maximum possible score	Pretest		Posttest		Mean gain (%)		Modified gain
		Mean score	Mean (%)	Mean score	Mean (%)	Actual gain	Possible gain	
Definition and Concept	1	0.64	64	0.86	86	22	36	0.61
Anatomy & Physiology of respiratory system	6	3.20	53.33	4.0	66.67	13.34	46.67	0.28
Indication of O_2 therapy	3	1.70	56.66	2.2	73.33	16	43.34	0.36
Procedure related theory	5	2.40	48	3.4	68	20	52	0.38
Monitoring and termination	5	2.40	48	3.3	66	18	52	0.34
Hazards of oxygen therapy	4	1.40	35	2.6	65	30	65	0.46

Score range 0-24

Data presented in table 4 showed that the staff nurses had highest pretest knowledge score in the domain definition and concept with mean percentage (64) where as in posttest staff nurses had highest knowledge score in the same domain with percentage (86) followed by indication of oxygen therapy (73.33), procedure related theory of oxygen therapy (68), anatomy and physiology of respiratory system (66.67), Hazards of oxygen therapy (66), monitoring and termination (65).

Maximum modified gain score was seen in the area of Definition and concept (.61) and minimum modified gain score was in the area of Anatomy & Physiology of respiratory system (.28)

Table 5: Distribution of staff nurses according to their pretest and posttest practice score n=50

Level of practice	Pretest		Posttest	
	Frequency(f)	Percentage (%)	Frequency(f)	Percentage (%)
Excellent (>80%)	--	--	5	10
Good (60-80%)	14	28	38	76
Average (50-59%)	29	58	7	14
Poor (<50%)	7	14	--	--

Maximum possible score - 20, Minimum possible score - 0

Data depicted in table 5 indicated that majority (58%) of staff nurses scored average and minimum (14%) scored poor in pretest where as in posttest majority (76%) of staff nurses scored good followed by (10%) scored excellent and no staff nurses scored poor in posttest.

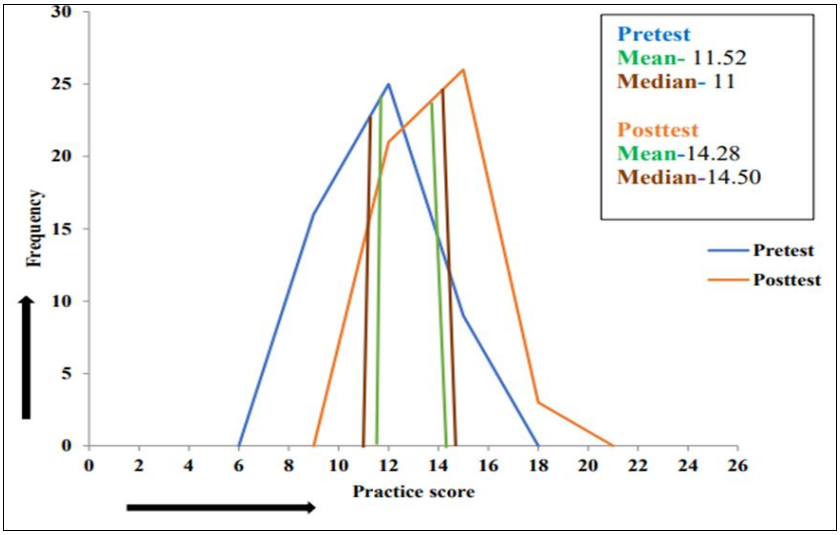

Fig 2: Frequency polygon showing the comparison between pre-test and posttest practice scores of staff nurses n=50

The frequency polygon in figure 6 showed the distribution of pre-test and post-test practice score of the staff nurses regarding oxygen therapy and prevention of hyper oxygenation hazards in neonate with depicted mean and median. The pre-test practice score range was 8-16 with a mean of (11.52 ±1.93) and median of 11. In the post-test, practice score range was 12-17, with the mean of (14.28± 1.57) and median of 14.50.

In pretest mean practice score of staff nurses lied right side of the median so distribution was positively skewed and skewness was 0.808. In posttest mean practice score of staff nurses lied left side of the median so distribution was negatively skewed and skewness was -0.420.

The values of skewness were negligible indicating that the posttest score were almost normally distributed. The figure also showed that mean post-test practice scores of participants lied in the right side of mean pre-test practice scores indicating that mean post-test practice score of staff nurses had increased after administration of self-instructional module regarding oxygen therapy and hyperoxygenation hazards.

Table 6: Area wise mean percentage distribution of pre-test and post-test practice score of staff nurses regarding oxygen therapy and prevention of hyper oxygenation hazards in neonates n=50

Areas of Practice	Maximum possible score	Pretest		Posttest		Mean gain (%)		Modified gain
		Mean score	Mean (%)	Mean score	Mean (%)	Actual gain	Possible gain	
Self-preparation	1	0.88	88	0.88	88	0	12	0
Article preparation	3	1.98	66	2.22	74	8	34	0.24
Actual procedure	9	5.14	57.11	6.32	70.22	13.11	42.89	0.31
Monitoring	5	2.60	52	3.46	69.20	17.20	48	0.36
Termination	1	0.36	36	0.82	82	46	64	0.72
Documentation	1	0.56	56	0.58	58	2	44	0.05

Score range 0-20

Data presented in table 6 showed that the staff nurses had highest pretest practice score in the domain self-preparation (88) where as in posttest staff nurses had highest knowledge score in the same domain with same percentage (88) followed by termination (82), article preparation (74), actual procedure (70.22), Monitoring (69.20), documentation (58). Maximum modified gain score was seen in the area of termination (.72) and minimum modified gain score was in the area of self-preparation (0).

H_{01}: After administration of the self-instructional module regarding oxygen therapy and hyperoxygenation hazards there is no significant difference between mean pretest and posttest knowledge score of staff nurses at 0.05 level of significance.

$H_{1:}$ After administration of the self-instructional module regarding oxygen therapy and hyperoxygenation hazards mean posttest knowledge score of the staff nurses is significantly higher than the mean pretest knowledge score of staff nurses at 0.05 level of significance.

Table 7: Mean, standard deviation, mean difference, and paired‘t’ test value of pre-test and post-test knowledge score of staff nurses n=50

Knowledge score	Mean	Mean difference	Standard Deviation	Paired 't' test
Pretest	11.78	4.44	2.81	9.42*
Posttest	16.22		2.66	

't'$df_{(49)}$ = 2.00, p=0.05, * Significant

Data presented in table 7 depicted that, the posttest mean knowledge score (16.22±2.66) of staff nurses was apparently higher than the mean pretest score (11.78±2.81)with the mean difference 4.44.
The paired t value (9.42) was computed between pretest and posttest knowledge score which was found to be statistically significant indicating that the mean difference (4.44) was a true different not by chance.
Hence the null hypothesis (H_{01}) was rejected and research hypothesis (H_1) was accepted. So, it could be concluded that the self-instructional module was effective in increasing the knowledge of the staff nurses regarding oxygen therapy and hyper oxygenation hazards.

H_{02}: After administration of the self-instructional moduleregarding oxygen therapy and hyperoxygenation hazards there is no significant difference between mean pretest and posttest practice score of the staff nurses at 0.05 level of significance.

H_2: After administration of the self-instructional module regarding oxygen therapy and hyperoxygenation hazards mean posttest practice score of the staff nurses is significantly higher than the mean pretest practice score of the staff nurses at 0.05 level of significance.

Table 8: Mean, standard deviation, mean difference, and paired 't' test value of pre-test and post-test practice score of staff nurses n=50

Practice score	Mean	Mean difference	Standard Deviation	Paired 't' test
Pretest	11.52	2.76	1.93	8.52*
Posttest	14.28		1.57	

't'(49), 2.01, p=0.05,* Significant

Data presented in table 8 depicted that, the posttest mean practice score (14.28±1.57) of staff nurses was apparently higher than the mean pretest score (11.52±1.93) with the mean difference 2.76.
The paired t value (8.52) was computed between pretest and posttest practice score which was found to be statistically significant indicating that the mean difference (2.76) was a true different not by chance.
Hence the null hypothesis (H_{02}) was rejected and research hypothesis (H_2) was accepted.So it could be concluded that the self-instructional module was effective in improving the practice of the staff nurses regarding oxygen therapy and hyperoxygenation hazards.

Findings related to association between pretest knowledge score of staff nurses and selected demographic variables
The chi square value computed to determine the association between pretest knowledge score with professional qualification (χ^2 =8.52, p= 0.04 at df =3) and total work experience (χ^2 =4.22, p= 0.04 at df =1) of the staff nurses statistically significant association.
There was no association between the pretest knowledge score with age and working experience in new born care unit.
The chi square value computed to determine the association between pre test practice score with working experience in new born care unit (χ^2 =4.24, p= 0.04 at df =1) of the staff nurses statistically significant association.
There was no association between the pretest practice score with age, total work experience and professional qualification.

7. Discussion related to other study
The purpose of the study investigator found that self-instructional module is improving the knowledge of the staff nurse that will guide them to enhance skill on oxygen therapy and prevent hyper oxygenation hazards among neonate. The result of the study proved that staff nurses gained good knowledge level and skill in a large percentage. In service skill training program, workshop will upgrade their knowledge and skill.

Discussion related to demographic variables
In the present study majority (74%) staff nurses belonged to the age group 24-35 yrs. Most (100%) staff nurses were female, majority (50%) staff nurses had passed G.N.M Diploma. Maximum (42%) staff nurses had more than 10 years' work experience. Regarding working experience in new-born care unit,maximum (36%) staff nurses had more than 10 years, all (100%) of the staff nurses had previous knowledge about hazards of oxygen therapy.
This present study findings were partially supported by the finding of the study conducted by Sankar Kunnumpurath Bindu, Marakkar Karoly Riaz, Varghese (2022) [9] Effectiveness of developmentally supportive education program on nursing knowledge of retinopathy of prematurity in neonatal intensive care unit in Kerala. The majority (65.63%) of staff nurses age between 20-30 years, maximum (46.88%) nurses qualification B.Sc. Nursing degree, majority (53.12%) have < 2year experience [9].
The present study is partially supported by a study done by J Poonam, D Yangchen, P Jessy, J Meena (2021) a descriptive survey on knowledge gap related to retinopathy of prematurity and its prevention and management among nurses in a tertiary care hospital in AIIMS New Delhi. The majority of nurses were female (98%) with a mean age of 33.48±5.85 years, 85% were involved direct care of admitted neonates in NICU. The majority of the nurses were B. Sc (N) degree, majority of them were not attended any workshop or seminer. Most of the nurses 38 (68%) had overall poor knowledge, followed by fair knowledge (21%) with the mean knowledge scores of 14.07±2.06 [10].

Discussion related to knowledge and practice of staff nurses regarding oxygen therapy and hazards of hyperoxygenation
In the present study Majority (56%) of staff nurses scored poor and minimum (2%) scored excellent in pretest where as in post-test majority (52%) of staff nurses scored good followed by minimum (10%) scored excellent and no staff nurses scored poor in posttest.
In the present studyalso revealed that majority (58%) of staff nurses scored average and minimum (14%) scored poor practice in pretest where as in posttest majority (76%) of staff nurses scored good followed by (10%) scored excellent and no staff nurses scored poor in posttest.
In the present study partially supported by the study conducted by Kennean Abitew (2022) Knowledge, attitude, and practice of oxygen administration among nurses working in University of Gondar Comprehensive Specialized Hospital, North Gondar, Northwest Ethiopia. Majority (55.3%) staff nurses had high knowledge, majority

(62.7%) had good practice, maximum (37.3%) had poor practice [11].

The present study was partially supported by a study done by J Poonam, D Yangchen, P Jessy, J Meena (2021) Descriptive survey on knowledge gap related to retinopathy of prematurity and its prevention and management among nurses in a tertiary care hospital in AIIMS New Delhi. Maximum (68%) of the nurses had overall poor knowledge, only 32% of nurses had average knowledge followed by fair knowledge (21%) with the mean knowledge scores of 14.07±2.06 [31].

Discussion related to effectiveness of educational intervention regarding oxygen therapy and hazards of hyper oxygenation

The present study revealed that mean post-test knowledge score (16.22±2.66) of staff nurses was significantly higher than the mean pre-test score (11.78±2.81) with the mean difference 4.44.

The paired t value was computed from the above data which was found to be statistically significant as evident from corresponding 't' value (9.42) indicating that the mean difference (4.44) was a true difference not by chance.

The present study revealed that, the posttest mean practice score (11.52±1.93) of staff nurses was apparently higher than the mean pretest score (14.28±1.57) with the mean difference 2.76.

The paired t value was computed from the above data which was found to be statistically significant as evident from corresponding 't' value (8.52) indicating that the mean difference (2.76) was a true different not by chance.

This present study findings are supported by the finding of the study conducted by SK Bindu, MK Riaz, V Shalu (2022) Effectiveness of developmentally supportive education program on nursing knowledge of retinopathy of prematurity in neonatal intensive care unit in Kerala. In this study in pretest knowledge among respondents regarding oxygen therapy 59.40% had an average level of knowledge 31.20% had poor knowledge regarding the prevention and management of ROP before intervention. After intervention, most of the sample 68.80% had good knowledge and none of them have poor knowledge. The pre-test mean knowledge score was 9±3.68 and it was increased to 14.53±2.39 in the post test. The calculated paired t-test was used to assess the effect of developmentally supportive education program and was found to be statistically significant (t32 = 10.09, p<0.001) with mean difference 5.53 at 0.001 level of significance [9].

This present study findings were supported by the finding of the study conducted by C Geeta, S. Virendra, K. Dhrendra (2014) on the A Study to evaluate the efficacy of self-instructional module (SIM) on knowledge and practice regarding newborn care among staff nurses working in selected Hospitals of Delhi NCR. This study revealed that mean posttest knowledge score ((24.01±2.82) of staff nurses was significantly higher than mean pretest knowledge score (21.6±4.12). Paired 't' value (8.682) was found statistically significant, showed that there was significant difference between pretest and posttest knowledge score (p<0.01) level of significance. This study also revealed that mean posttest practice score ((26.72±4.31) of staff nurses was significantly higher than mean pre test knowledge score (21.44±3.60). Paired 't' value (4.83) was found statistically significant, showed that there was significant difference between pretest and posttest practice score at (p<0.01) level of significance. So it could be concluded that the self-instructional module was effective in increasing the knowledge and improve practice of the staff nurses regarding oxygen therapy [12].

Discussion related to association between pretest knowledge and practice with selected demographic variables

The present study revealed that the pretest knowledge regarding oxygen therapy and prevention of hyperoxygenation hazards was significantly associated with professional qualification and total work experience (p = 0.036, 0.04)

The present study revealed that the practice regarding oxygen therapy is significantly associated with total work experience in new-born care unit (p = 0.04)

Mahsa Rekabi, Elham Sadai *et al.* (2022) conducted across sectional study on Nurses' knowledge regarding oxygen therapy Tehran, Iran. 78 nurses knowledge was assessed by knowledge questionnaire. There was no statistically significant relationship between age (p = 0.57), gender (p = 0.09), employment status (p = 0.38), workplace (p = 0.86), current position (p = 0.11), degree (p = 0.27), and graduation time (p = 0.58) of nurses with knowledge score of using oxygen. There was also significant association with work experience and knowledge of proper use of oxygen (p= 0.03)13

Conclusion

Self-instructional module is very much useful to improve knowledge and practice of the staff nurses in different area of oxygen therapy. But it also revealed that minimum modified gain score was present in the area of anatomy and physiology of lung and respiratory system and monitoring and termination area. Frequent awareness program, seminar, workshop, induction training will be conducted to increase knowledge of the staff nurses in those area.

The findings related to the study reveals a significant increase in posttest knowledge scores after administration of Self-instructional module. So it can be concluded that frequent teaching program is needed for increases the knowledge and practices regarding oxygen therapy with special emphasis given to those area.

Acknowledgement

The present study has been completed under the supervision and guidance of Mrs. S. Nanda, Professor & Acting Principal Govt College of Nursing, Suri Sadar Hospital, Suri, Birbhum, West Bengal & Mrs. Ruma Das, Senior Lecturer, Govt College of Nursing, Deben Mahata Government Medical College and Hospital, Purulia, West Bengal. I deem it a great privilege and express my sincere gratitude for their sustained patience, constant encouragement, valuable guidance, motivation and blessings from the very inception till the completion of the study. They built the base and pillar of research on which I am capable to conduct the project smoothly.

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How to Cite This Article
Bera A, Nanda S, Das R. Effect of self-instructional module on oxygen therapy and prevention of hyper oxygenation hazards in terms of knowledge and practice in neonate among staff nurses working at SNCU in selected hospital, West Bengal. International Journal of Research in Paediatric Nursing. 2025;7(1):226-233.