P-ISSN: 2617-9806
E-ISSN: 2617-9814

Impact Factor: RJIF 5.2
www.nursingjournal.net

International Journal of Advance Research in Nursing

Volume 8; Issue 1; Jan-Jun 2025; Page No. 510-514

Received: 02-02-2025
Accepted: 11-03-2025

Indexed Journal
Peer Reviewed Journal

A study to assess the effectiveness of structured teaching program regarding emergency colour codes on knowledge and practice among nurses

[1]Tamilarasi B, [2]Kanimozhi M, [3]Jessy Rani M, [4]Monisha A and [5]Beaulah Ponsundari A

[1]Principal, Madha College of Nursing, The Tamil Nadu Dr. MGR Medical University, Chennai, Tamil Nadu, India

[2]Vice Principal, Madha College of Nursing, The Tamil Nadu Dr. MGR Medical University, Chennai, Tamil Nadu, India

[3]Professor, Madha College of Nursing, The Tamil Nadu Dr. MGR Medical University, Chennai, Tamil Nadu, India

[4,5]M.Sc. Nursing II Year Students, Madha College of Nursing, The Tamil Nadu Dr. MGR Medical University, Chennai, Tamil Nadu, India

Corresponding Author: Tamilarasi B

DOI: https://www.doi.org/10.33545/nursing.2025.v8.i1.G.499

Abstract

Emergency colour codes are colour-coded indicators used in healthcare facilities to alert all staff members of potential issues arising in a facility. These codes include unique prescribing criteria for how staff members should respond to a particular situation, ranging from an active shooter incident to cardiac arrest. Emergency codes help to facilitate the health personnel understand how to effectively manage emergencies. Depending on the type of facility, emergency codes may be created by internal administrative officials or oversight agencies. The study was conducted to assess the effectiveness of structured teaching program regarding emergency colour codes on knowledge and practice among nurses in selected hospital at Chennai. The study was conducted by adopting pre-experimental one group pretest posttest design. A total of 30 nurses who fulfilled the inclusion criteria were selected by non-probability purposive sampling technique. The pretest was done to assess the knowledge with the self-structured knowledge questionnaire and the practice with observation checklist. Following the pretest, a structured teaching programme on emergency color code was implemented that included a power-point presentation for 30 minutes along with a mock drill for 30 minutes daily for 7 days, which was developed by the investigator. A post-test was conducted for the nurses to assess the knowledge and level of practice using the same tool which was given during the pretest on the last day of intervention. The analysis of this study results revealed that the mean score of knowledge 16.27 was increased to 24.63 and the calculated student paired t' test value was 13.37 which was highly significant at $p<0.001$ level. Also, the mean score of practice 8.17 was increased to 16.57 and the calculated student paired t' test value was 20.36 which was highly significant at $p<0.001$ level. Thus the study concluded that the structured teaching program significantly enhances the knowledge and practice regarding emergency colour codes among nurses.

Keywords: Emergency colour codes, structured teaching program, knowledge, practice, nurses

Introduction

"It is better to be prepared for an opportunity and not have one than to have an opportunity and not be prepared"

- Whitney M. Young Jr

A hospital is a healthcare institution providing patient treatment with specialized medical and nursing staff and medical equipment. The best-known type of hospital is the general hospital, which typically has an emergency department to treat urgent health problems ranging from fire and accident victims to sudden illness. The WHO emergency medical team's initiative assists organizations and member states in building capacity and strengthening health systems by coordinating the development of quality-assured medical teams in emergencies. Emergency medical teams are groups of health professionals like doctors, nurses and paramedical to treat patients affected by an emergency. (Jeong S, Lee O, 2020)

Emergency codes are colour-coded indicators used in healthcare facilities to alert all staff members of potential issues arising in a facility. These codes include unique prescribing criteria for how staff members should respond to a particular situation, ranging from an active shooter incident to cardiac arrest. Depending on each facility's size and level of care, code designation may vary. Emergency codes help facility personnel understand how to effectively manage emergencies. Depending on the type of facility, emergency codes may be created by internal administrative officials or oversight agencies. (Saxena D, Devi TN, Agarwal., 2021, Emergency colour codes).

The Hospital Association of Southern California and security and safety committee completed revision of the healthcare emergency codes in May 2014, these guidelines often a flexible plan in responding to emergencies, allowing only those functions or positions. That is needed to be put into action. Additional customization of these guidelines must be needed to make them applicable to a specific

facility. This guideline can be used many ways to assist health care facilities in the development of their own specific policies and procedures.

Statement of the problem

"A Study to assess the effectiveness of Structured teaching program regarding emergency colour codes on knowledge and practice among nurses in selected hospital at Chennai."

Objectives

- To assess the pretest and posttest level of knowledge and practice regarding emergency colour codes among nurses
- To evaluate the effectiveness of structured teaching programs regarding emergency colour codes on knowledge and practice among nurses
- To determine the association between the posttest level of knowledge and practice regarding emergency colour codes among nurses with their selected demographic variables

Hypothesis

- **H_1:** There is a significant difference between the pretest and posttest level of knowledge and practice regarding emergency colour codes among nurses after the structured teaching programme
- **H_2:** There is a significant association between the posttest level of knowledge and practice regarding emergency colour codes among nurses with their selected demographic variable.

Methodology

Quantitative research approach was adopted for the study. Pre-experimental one group pretest posttest research design was selected. The study was conducted in Public Health Centre in Chennai. The sample of 30 nurses who fulfilled the inclusion criteria were selected using non probability purposive sampling technique. The pretest was done to assess the knowledge with the self-structured knowledge questionnaire and the practice with observation checklist. Following the pretest, a structured teaching programme on emergency color code was implemented that included a power-point presentation for 30 minutes along with a mock drill for 30 minutes daily for 7 days, which was developed by the investigator. A post-test was conducted for the nurses to assess the knowledge and level of practice using the same tool which was given during the pretest on the last day of intervention.

Results and Discussion

The data collected were analyzing using both descriptive and inferential statistics frequency and percentage distribution of demographic variables among elderly with multiple chronic condition. According to their age in years, 6(20.00%) of them were in the age in years of 20-25, 12(40.00%) of them were in the age in years of 26-30, 10(33.33%) of them were in the age in years of 31-35, 2(6.67%) of them were in the age in years of more than 35. Regarding their gender, 5(16.67%) of them were male and 25(83.33%) of them were female. With regard to their educational status**,** 3(10.00%) of them were diploma in nursing, 14(46.66%) had completed B.Sc. nursing, 10(33.33%) had completed M.Sc. nursing, 3(10.00%) had completed post basic B.Sc. nursing.

With regard to their total years of experience**,** 7(23.33%) of them were more than 6 months, 12(40.00%) were having 1-2 years of experience, 9(30.00%) were having 3-4 years of experience, 2(6.67%%) were having more than 5years of experience Regarding their previous knowledge regarding emergency colour codes 30(100.00%) of them were said yes, 0(00.00%) of them were said No.

The first objective was to assess the pretest and posttest level of knowledge and practice on emergency colour codes among nurses

With regards to level of knowledge, in pretest, 21 (70.00%) were having inadequate knowledge, 9 (30.00%) were having a moderate level of knowledge and none of them were having adequate knowledge. Whereas in posttest none of them were having inadequate knowledge, 8 (26.67%) were having moderate level of knowledge and 22 (73.33%) were having adequate knowledge.

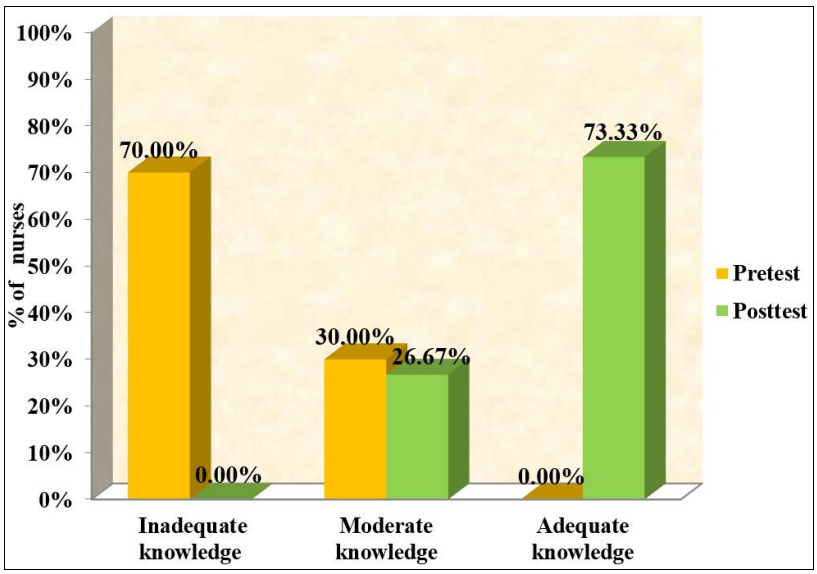

Fig 1: Percentage distribution of pretest and posttest level of knowledge on emergency colour codes among nurses

With regards to level of practice, in pretest, 24 (80.00%) were having inadequate level of practice, 6 (20.00%) were having average level of practice and none of them were having adequate practice. Whereas in posttest none of them were having inadequate level of practice, 2(6.67%) were having average level of practice and 28(93.33%) were having adequate level of practice.

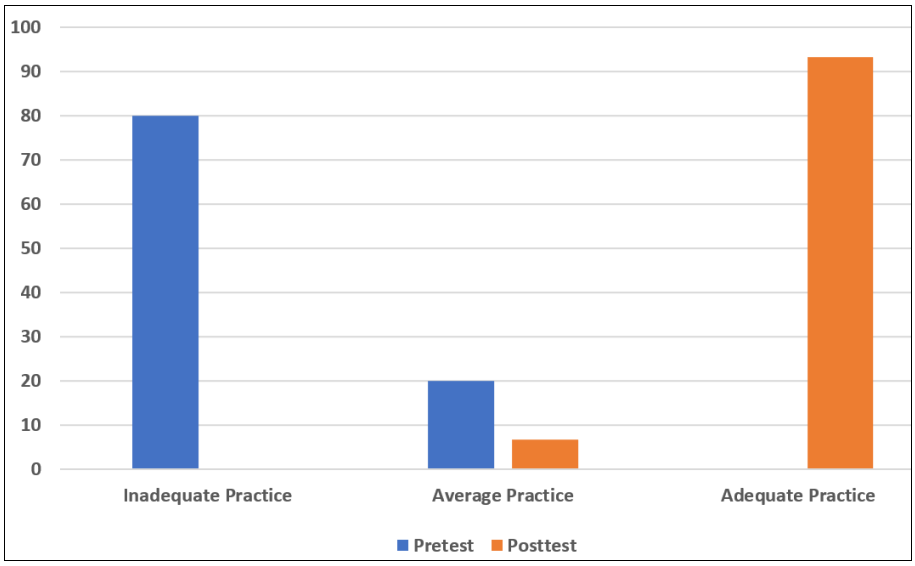

Fig 2: Percentage distribution of pretest and posttest level of practice on emergency colour codes among nurses

The second objective was to evaluate the effectiveness of structured teaching programs on knowledge and practice of emergency colour codes among nurses

Table 1: Comparison of mean and standard deviation of pre-test and post-test level of knowledge regarding emergency colour codes among nurses. N=30

Level of knowledge	Mean	SD	Mean difference	Paired "t" Test
Pretest	16.27	2.63	8.37	13.37***
Post test	24.63	2.44		

****P*≤0.001 is very highly significant

Table 1 shows that the pretest mean score of knowledge was 16.27 with the standard deviation of 2.63 and posttest mean score of knowledge was 24.63 with the standard deviation of 2.44 The calculated paired "t" test value of 13.37 was found to be statically very highly significant at $p<0.001$ level. It reveals that structured teaching programme was found to be effective in gaining knowledge regarding emergency code among nurses.

Table 2: Comparison of mean and standard deviation of pre-test and post-test level of practice regarding emergency colour codes among nurses. N=30

Level of practice	Mean	Sd	Mean difference	Paired "t" Test
Pretest	8.17	1.98	8.40	20.36
Post test	16.57	2.31		

****P*≤0.001 is very highly significant

Table 2 shows that the pretest mean score of practice was 8.17 with the standard deviation of 1.98and posttest mean score of practice was 16.57 with the standard deviation of 2.31 The calculated paired "t" test value of 20.36 was found to be statically very highly significant at $p<0.001$ level. It reveals that structured teaching programme was found to be effective in gaining practice regarding emergency code among nurses.

The third objective was to determine the association between the posttest level of knowledge and practice regarding emergency colour codes among nurses

Table 3: Association of post-test level of knowledge regarding emergency colour codes among nurses. N=30

Demographic variables		Post-test level of knowledge				Chi square test
		Moderate		Adequate		
		n	%	N	%	
Age	20-25 years	2	66.67%	1	33.33%	$\chi2 = 4.39$ P = 0.22(NS) df = 3
	26-30 years	2	33.33%	4	66.67%	
	31-35 years	3	30.00%	7	70.00%	
	More than 36 years	1	9.09%	10	90.91%	
Gender	Male	4	80.00%	1	20.00%	$\chi2 = 8.72$ P= 0.01**(S) df=1
	Female	4	16.00%	21	84.00%	
Educational qualification	Diploma in nursing	2	20.00%	8	80.00%	$\chi2 =3.08$ P= 0.38*(NS) df= 3
	B.sc nursing	4	33.33%	8	66.67%	
	M.sc nursing	2	50.00%	2	50.00%	
	Post basic B.Sc nursing	0	0.00%	4	100.00%	
Total years of experience	More than 6 months	4	80.00%	1	20.00%	$\chi2 =8.72$

	1- 2 years	4	16.00%	21	84.00%	P= 0.01**(S) df=1
	3 year – 4 years	0	0%	0	23.33%	
	> 5 years	0	0%	0	13.33%	
Previous knowledge regarding emergency colour codes	YES	9	30.00%	21	70.00%	$\chi2$ =0.012 P= 0.05*(S) df= 1
	NO	0	0.00%	0	0.00%	

***p*≤0.05, S- significant, NS - Not significant

The table shows that the association between the posttest level of knowledge regarding emergency code among nurses. It depicts that there was a statistical significant association was found in demographic variables like gender and previous knowledge regarding emergency colour codes among nurses.

Table 4: Association of post-test level of practice regarding emergency colour codes among nurses. N=30

Demographic variables		Post-test level of practice				Chi square test
		Moderate		Adequate		
		n	%	N	%	
Age	20-25 years	1	3.33%	2	6.66%	$\chi2$ = 5.17 P = 0.05(NS)
	26-30 years	1	3.33%	9	30%	
	31-35 years	0	0%	14	46.66%	
	More than 36 years	1	3.33%	2	6.66%	
Gender	Male	1	3.33%	5	16.66%	$\chi2$ = 3.30 P= 0.05(NS)
	Female	2	6.66%	22	73.33%	
Educational qualification	Diploma in nursing	1	14.29	6	85.71%	$\chi2$ =0.98 P= 0.05*(S)
	B.sc nursing	0	0.00%	2	100.00%	
	M.sc nursing	4	4.44%	5	55.56%	
	Post basic B.Sc nursing	3	25.00%	9	75.00%	
Total years of experience	More than 6 months	2	6.66%	4	13.33%	$\chi2$ =5.44 P= 0.05(NS)
	1- 2 year	0	0%	12	40%	
	3 – 4 years	1	3.33%	7	23.33%	
	> 5 years	0	0%	4	13.33%	
Previous knowledge regarding emergency colour codes	YES	2	6.66%	17	56.66%	$\chi2$ =0.012 P= 0.05*(S) df= 1
	NO	1	3.33%	10	33.33%	

***p*≤0.05, S- significant, NS - Not significant

The table shows that the association between the posttest level of practice regarding emergency code among nurses. It depicts that there was a statistical significant association was found in demographic variables like educational qualification and previous knowledge regarding emergency colour codes among nurses.

Conclusion

The study was done to assess the effectiveness of structured teaching program regarding emergency colour codes on knowledge and practice among nurses in selected hospital. The calculated paired "t" test value of 13.37 was found to be statically very highly significant at $p<0.001$ level. The calculated paired "t" test value of 20.36 was found to be statically very highly significant at $p<0.001$ level. Based on the findings structured teaching program regarding emergency colour codes had increased the level of knowledge and practice among nurses.

Acknowledgement

Not available.

Author's Contribution

Not available.

Conflict of Interest

Not available.

Financial Support

Not available.

References

1. Wandile BV, Kanyal D. Knowledge of emergency colour codes among healthcare workers in a tertiary care hospital of Wardha, Maharashtra, India: A cross-sectional study. J Clin Diagn Res. 2023 Mar;17(3):18290. DOI: 10.7860/JCDR/2023/58898.18290
2. Saxena D, Devi TN, Agarwal T, Bharti RK, Singh NP, Jain PK. Knowledge and awareness regarding emergency colour codes among resident doctors and nursing staffs of tertiary care facility of district Etawah. Int J Healthcare Educ Med Inform. 2021;8(1):12-8. DOI: 10.24321/2455.9199.202109
3. Nandini. Hospital emergency codes. Army Coll Nurs J. 2020;8(3). DOI: 10.5958/2454-2660.2020.00092.7
4. Jeong S, Lee O. Correlations between emergency code awareness and disaster nursing competencies among clinical nurses: A cross-sectional study. J Nurs Manag. 2020;28(6):1460-1468. DOI: 10.1111/jonm.13086
5. Kavungal ST. Effectiveness of structured teaching programme on knowledge regarding emergency codes among nursing students. Int J Adv Nurs Manag. 2020;8(1):72-74. DOI: 10.5958/2454-2652.2020.00018.9
6. Kurien N, Choudhary M. Hospital emergency color

codes: A way to disseminate unexpected information. All India Institute of Medical Sciences Journal. 2019;2(4):175-179.
7. Lee HJ, Lee O. Perceptions of hospital emergency color codes among hospital employees in Korea. Int Emerg Nurs. 2018 Jul;40:6-11.
DOI: 10.1016/j.ienj.2018.03.005
8. Basavanthappa BT. Methods of data collection. In: Essentials of Nursing Research. Bangalore: Jaypee Brothers; c2011. p. 110-132.
9. Fitzpatrick JJ, Whall AL. Conceptual models of nursing. 4th ed. Upper Saddle River, NJ: Pearson; c2004.
10. George JB. Nursing Theories. New Delhi: Pearson Publishers; c2011.
11. Kothari CR. Research Methodology Methods and Techniques. New Delhi: New Age International (P) Ltd Publishers; c2004.
12. Rao SSP, Richard J. Introduction to Biostatistics and Research. 5th ed. Delhi: PHI Learning; c2012.
13. Sharma SK. Text Book of Nursing Research and Statistics. 3rd ed. Elsevier; c2019.

How to Cite This Article
Tamilarasi B, Kanimozhi M, Rani JM, Monisha A, Ponsundari BA. A study to assess the effectiveness of structured teaching program regarding emergency colour codes on knowledge and practice among nurses. International Journal of Advance Research in Nursing. 2025;8(1):510-514.