



A Study To Assess The Knowledge on Emergency Drugs Among Nursing Students in Nursing Institutions, Shillong, Meghalaya

¹Mrs. B. Hynniewta, ²Mrs. J.M. Bharali, ³Ms. Eimidahun Biam, ⁴Ms. Kabita Shrestha, ⁵Ms. Namesha D. Marbaniang, ⁶Ms. Nancy Chungkrang, ⁷Ms. Nandita Sharma, ⁸Ms. Nilakhi Saikia, ⁹Ms. Nilima Parvin, ¹⁰ Ms. Sonu Yadav

¹⁻²Tutor College of Nursing, NEIGRIHMS, Shillong, Meghalaya, India

³⁻¹⁰BSc Nursing Students, College of Nursing, NEIGRIHMS, Shillong, Meghalaya, India

Corresponding Author: Ms. Eimidahun Biam, BSc Nursing Students, College of Nursing, NEIGRIHMS, Shillong, Meghalaya, India

Citation this Article: Mrs. B. Hynniewta, Mrs. J.M. Bharali, Ms. Eimidahun Biam, Ms. Kabita Shrestha, Ms. Namesha D. Marbaniang, Ms. Nancy Chungkrang, Ms. Nandita Sharma, Ms. Nilakhi Saikia, Ms. Nilima Parvin, Ms. Sonu Yadav, “A Study To Assess The Knowledge on Emergency Drugs Among Nursing Students in Nursing Institutions, Shillong, Meghalaya”, IJMSIR - February – 2025, Vol – 10, Issue - 1, P. No. 24 – 32.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Emergency drugs are medications used to treat life-threatening conditions quickly and are administered when an immediate physiological response is required. They are also known as life-saving drugs.

Emergency drugs are used to treat conditions such as cardiac arrest, septic shock, convulsion, and trauma. They are usually found in emergency wards, intensive care units, surgery and other areas of the hospital.

Method

The research approach was of quantitative research approach and the research design was non-experimental descriptive study design. The study was conducted using convenient sampling technique among 132 students of BSc Nursing in College of Nursing, NEIGRIHMS and Woodland Institute of Nursing, Shillong.

The instrument used for data collection were structured knowledge questionnaire for collecting demographic data and to assess the knowledge of nursing student regarding

emergency drugs. The tools have five domains on classifications, route, dosage, side effect and contraindication. The tool was validated by 7 experts.

Result

The present study reveals that out of 132 participants, 18(13.70%) have good knowledge, 51(38.60%) have average knowledge, 63(47.70%) have fair knowledge. With regard to the knowledge of the classification of emergency drugs findings revealed that 60(44.40%) have good knowledge, 57(43.20%) have average knowledge and 15(11.40%) have fair knowledge. In relation to the route of administration of the emergency drugs findings showed that 41(31.10%) have good knowledge, 52(39.40%) have average knowledge and 39(29.50%) have fair knowledge. Regarding the knowledge about the dosage of emergency drugs study revealed that 54(40.90%) have good knowledge, 47(35.60%) have average knowledge and 31(23.50%) have fair knowledge. Knowledge about the side-effect of emergency drugs

study findings showed that 1(0.80%) have good knowledge, 64(48.50%) have average knowledge, 67(50.80%) have fair knowledge, whereas for the knowledge about the contraindication of emergency drugs 7(5.30%) have good knowledge, 50(37.90%) have average knowledge and 75(56.80%) have fair knowledge.

Keywords: Crucial, Emergency Drugs, Dosage, Medications

Introduction

Emergency drugs are chemical compounds used in patients during life threatening condition so that the symptoms can be controlled and the life of the patient can be saved. Emergency drug is administered immediately and used for giving continuous treatment during life threatening conditions.¹

Nursing students are acquainted with the emergency drugs from their period of training and working experience. Administering emergency medications are done by Nurses but performing this role in an effective, efficient and safe manner is challenging due to nurse's inability to respond to emergency situation, the patient and various system. Therefore, the accurate knowledge of emergency drugs and its intervention is crucial.

In the dynamic and often unpredictable environment of healthcare, the role of nursing students is pivotal. One of the fundamental aspects of nursing education is the comprehensive understanding of emergency drugs. It is the crucial component that underpins the ability to provide effective, efficient and safe care in critical situations.⁽²⁾⁽⁵⁾

The nursing students can explore several key dimensions: patient's safety, rapid response, competence and confidence, interdisciplinary collaboration, clinical decision making, educational and professional development, and legal and ethical responsibility.

Objectives

Primary Objectives: To assess the knowledge on emergency drugs among nursing students.

Secondary Objectives: To find an association between knowledge on emergency drugs with selected demographic variables among nursing students.

Research Hypothesis

H-1: There will be a significant association between the knowledge of the Nursing student with selected demographic variable.

Research Methodology

The research methodology was form on the basis of the objectives. It includes the Research Design, Variables, Settings, Sampling Techniques, Development and Description of data collection tool and the procedure to carry out the data collection

Research Design: Non-experimental descriptive research design was adopted to assess the knowledge of Nursing students of 3rd year and 4th year BSc Nursing regarding emergency drugs.

Setting: The research study was conducted in two institutions. The institution was College of Nursing NEIGRIHMS and Woodland Institution of Nursing, Shillong.

Population: The study population included all the students of 3rd year and 4th year BSc Nursing of College of Nursing NEIGRIHMS and Woodland Institution of Nursing, Shillong.

Sampling Design: Total census enumeration

Sample Size Calculation: The sample size calculation adopted was attempted to total census enumeration.

Sampling Technique: The sampling technique adopted was convenient sampling technique

Sample Size: The sample size was 125

Description of The Tool: To collect the necessary data, a structured knowledge questionnaire regarding

knowledge on emergency drug was developed. It comprises of two section

Section A: It comprised of demographic profile of the Nursing students. The demographic variables are age, gender, class and institution of student.

Section B: It comprised of 30 multiple choice questions which were based on knowledge of emergency drugs. The maximum knowledge score was 30. The knowledge score was classified into three categories that are Fair knowledge score, Average knowledge score, Good knowledge score.

Validity of The Tool: The content validity of the tool was obtain from the experts belonging to the departments of General Medicine, Oncology, Casualty and Trauma, Anesthesiology, General Surgery, Cardiology Pharmacology.

Data Collection Procedure: The data collection was done through a structured knowledge questionnaire, the maximum score is 30, for each correct answer the Nursing students scored 1 mark and for each incorrect answer the Nursing student scored 0 marks. There was no negative marking.

Scoring: The score was divided into three categories – i.e Good knowledge scores, Average knowledge score and Fair knowledge score. The good knowledge score range from 20-30 marks, average knowledge score range from 15-19 marks and fair knowledge score range from 14-0 marks.

Interpretation of The Score: Interpretation of score was planned based on the objectives of the study and opinion of various experts. Descriptive and inferential statistics were used to analyse the data. Descriptive statistic like frequency tables and graphs were used to present the data and inferential statistics i.e Chi Square test was used to find the statistical association between selective variables.

Analysis and Interpretation

Section 1: Findings Related To The Socio-Demographic Variables Of The Nursing Students

Table 1: Frequency and percentage distribution of the Nursing students according to socio demographic variables N=132

Socio-Demographic Variables	Frequency (F)	Percentage (%)
Age (In Years)		
20-23	118	89.40%
24-27	14	10.60%
Gender		
Male	15	11.40%
Female	117	88.60%
Class		
3 rd year	81	61.40%
4 th year	51	38.60%
Institution		
College of Nursing, NEIGRIHMS	87	65.90%
Woodland institute of Nursing	45	34.10%

Table 1- shows that out of 132 nursing students majority of the nursing students with respect to age belongs to the age group of 20-23 years of age 118(89.4%), 24-27 years of age was 14 (10.6%). Regarding gender majority 117(88.6%) were female and 15 (11.4%) were male. Regarding to class the majority 81 (61.4%) belongs to 3rd year and 4th year was 51 (38. 6%). Regarding the institution, the majority of them 87(65.9%) were from NEIGRIHMS institute and 45 (34.1%) were from Woodland Institution of Nursing.

Section 2

Findings Related To The Knowledge Score of Nursing Students Regarding Emergency Drugs.

Figure 1: Bar diagram showing the percentage and frequency distribution of knowledge score on emergency drugs among nursing students

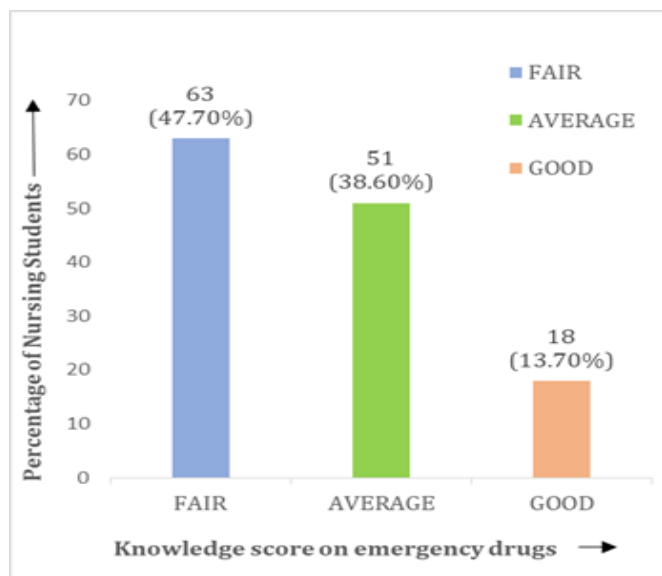


Figure 1 shows that majority of Nursing students have fair knowledge 63(47.70%) followed by average knowledge 51 (38.60%) and good knowledge 18 (13.70%) on emergency drugs.

Table 2: Mean and standard deviation of knowledge scores of nursing students regarding emergency drugs N=132

Knowledge Score About Emergency Drug	Range Of Obtained Score	Mean	Standard Deviation
Fair	0-14	15.1	0.76
Average	15-19		
Good	20-30		

Table 2: Shows the range of score obtained by nursing students out of maximum possible score of 30.

Fair indicates knowledge score within the range 0-14, average indicates knowledge score with in the range 15 - 19 and good indicates knowledge score within the range 20-30. The mean \pm SD is 15.10 ± 0.76 .

Table 3: Frequency and percentage distribution of Nursing students regarding knowledge on various domains of emergency drugs. N=132

Domain of Emergency Drugs	Knowledge Score		
	Fair	Average	Good
	Frequency/ Percentage		
	f (%)	f (%)	f (%)
Classification	15 (11.40)	57 (43.20)	60 (44.40)
Route Of Administration	39 (29.50)	52 (39.40)	41 (31.10)
Dosage	31 (23.50)	47 (35.60)	54 (40.90)
Side Effects	67 (50.80)	64 (48.50)	1 (0.80)
Contraindication	75 (56.80)	50 (37.90)	7 (5.30)

Table 3 shows frequency and percentage distribution of Nursing students regarding knowledge on various domain of emergency drugs. The table depicts that most 57(43.20%) of the Nursing students scored average knowledge in classification, most 52(39.40%) of the Nursing students scored average knowledge in route of administration, most 54 (40.90%) of the Nursing Students scored good knowledge in dosage, majority 67 (50.80%) of the Nursing students scored fair knowledge in side effects of emergency drug, majority 75 (56.80%) of the Nursing students scored fair knowledge in contraindication of emergency drugs.

Section - 4

Findings Related To Association Between Knowledge of Emergency Drugs With Selected Demographic Variables.

Table 4: Association between knowledge of Nursing students regarding emergency drugs with selected demographic variables N=132

Demographic Variables Of Particepants	Knowledge About Emergency Drugs			Df	Calculated Value
	Fair	Average	Good		
AGE					
20-23	57	51	10		1.02
24-27	5	7	2	2	
GENDER					
Female	56	49	12		2.71
Male	6	9	-	2	
CLASS					
3 RD Year	46	30	5		8.54
4 TH Year	16	28	7	2	
INSTITUTION					
College of nursing	23	52	12		43.30
NEIGRIHMS	39	6	-	2	
Woodland institute of Nursing					

Table 4 shows that the calculated value i.e 8.54 and 43.30 is more than the tabulated value. Hence there is significant association between knowledge regarding emergency drugs with the class in which they are studying and with the institution.

Major Findings of the Study

Findings related to demographic data of the respondents

- Majority of the nursing students i.e., 118 (89.40%) were in the age group of 20-23 years
- Majority of the nursing students i.e., 117(88.60%) were female
- Majority of the nursing students i.e., 81(61.40%) were 3rd year BSc Nursing students

- Majority of the nursing students i.e., 87 (65.90%) were from NEIGRIHMS Institution

Findings related to nursing students' knowledge on emergency drugs

- Majority of the nursing students 63 (47.70%) had a fair knowledge regarding emergency drugs, 51(38.60%) had average knowledge and only 18(13.70%) of them had a good knowledge regarding emergency drugs
- Majority of the Nursing students 60(44.40%) have good knowledge on the classification of emergency drugs followed by 57 (43.20%) had average knowledge and 15(11.40%) have fair knowledge.
- Majority of the Nursing students 52(39.40%) have average knowledge on route of administration of the emergency drugs followed by 41(31.10%) have good knowledge and 39(29.50%) have fair knowledge.
- Majority of Nursing student 54 (40.90 %) have good knowledge on dosage of emergency drug followed by 47 (35.60%) have average knowledge and 31(23.50 %) have fair knowledge.
- Majority of the Nursing students 67(50.80%) have fair knowledge on the side effect of emergency drugs followed by 64 (48.50%) have average knowledge and 1 (0.80%) have good knowledge.
- Majority of the Nursing students 75 (56.80%) have fair knowledge on contraindication of emergency drugs followed by 50 (37.90%) have average knowledge and 7 (5.30%) have good knowledge.

Findings related to association between knowledge of nursing students with selected demographic variables

- There is a significant association between knowledge regarding emergency drugs with the class in which they are studying

- There is a significant association between knowledge regarding emergency drugs with the institution
- There is no significant association between knowledge regarding emergency drugs with age
- There is no significant association between knowledge regarding emergency drugs with gender

Discussion

- Emergency drugs are used in patients during life threatening conditions so that the signs and symptoms can be controlled and life of patients can be saved.¹
- The aim of the study was to assess the knowledge on emergency drugs among nursing students in selected nursing institutions, Shillong, Meghalaya.
- This chapter deals with the discussion of the data analysed based on the objectives of the study.
- In the present study it was found that among 132 nursing students, majority i.e. 63(47.70) of the have fair knowledge, 51(38.60) have average knowledge and 18(13.70) have good knowledge on emergency drugs.
- The study also revealed that out of 132 participants, majority i.e. 60(44.40%) has good knowledge on classification of emergency drugs.
- The study also revealed that out of 132 participants, majority i.e. 52(39.40%) has average knowledge on route of emergency drugs.
- Regarding knowledge on dosage of emergency drugs 54(40.90%) has good knowledge.
- Majority of the participants i.e. 67(50.80%) got fair knowledge on the side effect of emergency drugs.
- With regards to contraindication, majority i.e. 75(56.80%) got fair knowledge on emergency drugs.

- There is significant association between knowledge regarding emergency drugs with the class in which they are studying and with the institution.
- Similarly, in a study conducted by Kanaka Lakshmi et al. (2018), “A study to assess the knowledge regarding emergency drugs among nurses in Narayana medical college Hospital in Nellore.” The result showed that level of knowledge on emergency drugs among nurses , 1 (1%) had inadequate knowledge, 25 (25%) had average knowledge and 74 (74%) had adequate knowledge. The mean knowledge of score of nurses was 9.71 and standard deviation was 3.516.

Conclusion

Based on the findings of the study can be concluded that majority of the participant have average knowledge about emergency drugs. The present study also revealed that there is association between knowledge of emergency drugs and Class and Institution from the selected demographic variables.

References

1. World Health Organization. Emergency Drug Guidelines. 2nd Edition Fijiparmac Essential medication. 2008 1-63 (Accessed on July 19th, 2024)
2. Magdy Sakr, J Wardrope. Casualty. Accident and emergency, or Emergency medicine the evolution. The journal of accident and emergency medicine 2000. (Accessed: May 12, 2024)
3. Frederick F. Whery, Juliet Schor. Nursing -The SAGE Encyclopedia of Economics and society (Accessed July 12 2024).
4. KanakaLakshmi R, Latha P and Dr. Indira Arumugam. A study to assess the knowledge regarding emergency drugs among nurses in Narayana medical college hospital, Nellore. International Journal of Midwifery and Nursing

- Practice.2019;2(1):28-30.(Accessed: April 22, 2023).
5. Akashpreet Kaur, Gopal Singh Chauhan. A study to assess the knowledge regarding medication error among staff nurses at SGDRH Hospital, Amritsar, Punjab. *International Journal of Health Science and Research*.2018;8(8):213-220. (Accessed: April 22, 2023).
6. Mr .Rajendra D Lamkhede. Effectiveness of planned teaching program on knowledge on emergency drugs among staff nurses, Loni, Maharastra. *Singhad e Journal of Nursing*.2014;4(1):38-41. (Accessed : April 22, 2023).
7. Siddharth D. Harer &Suchitrarani Rathod. Effectiveness of self-instructional module(sim) on knowledge regarding selected emergency among staff nurses in critical area of selected hospital, Kolhapur. *International Journal of Recent Scientific Research*2017; 42(3):340-379. (Accessed: May 4, 2023).
8. Mary Daniel, Dr. Radhika. M .Effectiveness of structure teaching programme on knowledge regarding pediatric emergency drugs and calculation of doses among final Officers in selected hospital, Bhopal2022.*International Journal of Science and Research*.2022;2(6):55-78 (Accessed : May 20, 2023).
9. O.A.Udi,AssessingNurses'KnowledgeofMedication Errors:ADescriptive Study. *African Online Journal* 2021;7(3):256-274 (Accessed: May 31, 2023).
10. Sabina Gurung and Hem kumari Subbha . Nurses knowledge regarding administration of drugs during cardiopulmonary resuscitation at Chitwan Medical College ,Bharatpur. *Journals of Chitwan Medical College* 2019;9(1):457-469 (Accessed: June 17, 2023).
11. Ndosi ME and Rob Newell . Nurses knowledge of pharmacology behind drugs they commonly administer. *Journal of Clinical Nursing (Wiley-Blackwell)*.2009 Feb 15;18(4): 572-578. (Accessed: June 26, 2023).
12. Melita Shaeilini, Elsa SanatombiDevi , Janet Premila Disosa . Knowledge of critical care Nurses on cardiac medication – need for enforcement workshop in Manipal Hospital. *Indian Journal of Public Health Research and Development*. 2018;9(11);214 (Accessed: July 20, 2023).
13. M Rakhavendrintran , Tapti Bhattacharjee , R Revathi . A descriptive study to assess the knowledge level regarding prevention of medical error among student in selected Nursing college , Kanpur 2021 . pp- 324-326 . Available at *Int.J.Pharm.investigation* . (Accessed: July 23, 2023).
14. Sa'ed H Zyoud , Samar M Khaled, Baraa M Kawasmi , Ahed M Habeba, Ayat T Hamadne , Hnanan H Anabosi , Asma'a Bani Fadel , Walled M Sweileh , Rahmat Awang , Samah W Al-Jabi. Knowledge about the administration of high alert medication among nurses in Palestine; A cross sectional study in 2019 March 20 .(Accessed: August 23 , 2023).
15. Fazel Dehvan , Ali Hassan Pour Dehkordi, Reza GhaneiGheshlagh, Amnjkurdi . The prevalence of medication errors among nursing students; A systemic and meta-analysis study 2021 March 17 . Available at *Researchgate.net* . (Accessed: November 15, 2023).
16. Hadis Fathizadeh, Samaneh- Sadat Mousavi, Zahra Gharibi, Hamidreza Rezaeipour and Abdul Rahim Biojamajd . Prevalence of Medical error and its related factors in Irian Nurses ; An updated review

- and meta-analysis ,2024. (Accessed: January 18, 2024).
17. Afshin Fathi , Mohammad Hajizadeh, Khalil Modradi, Hamed Zandian, Maryam Dezhkameh, Shima Kazemzadeah , Satar Rezzaei . Medication error among Nurses in teaching hospitals in the west of Iran : What we need to know about prevalence, types and barriers to reporting, 2017 . (Accessed: January 21, 2024).
18. Sneha Albertina D Shilva , Nicole Rosita Parera , Padmaga Udai kumar . Knowledge of pharmacology of Analgesic among Nurses in tertiary centre. Online Journal of health & Allied Science 25 January 2013. (Accessed: January 22, 2024).
19. Hamid Resa koohestani, Nayereh Baghcheghi . Barriers to the reporting of medication and administration errors among Nursing students , 2019, Australian Journal of advance nursing, the 27 (1,66-74). (Accessed: April 12 , 2024).
20. Eiman Ali Mohammed, Fatima Hamad Allah AbdAlraheem, Hiba Khider Altahier, Jwairia Saifaldeen Babiker, Marwa Mahmoud Altaybe, Mawahib Abdalrhman Moh Ammed . Assessment of emergency drug administration among nursing staff in Adbara Teaching hospital, 2021. (Accessed: April 12, 2024).
21. Ira Gene Reynolds. Emergency cardiac drugs; essential facts for medical surgical nurses. (Accessed: April 13, 2024).
22. Snezana Stolic, Linda Ng, Joanne Southern, Georgina Sheridan. Medication error by Nursing students on clinical practice; An integrative review, 2022, Nurse education today 112, 10, 5325. (Accessed: April 15, 2024).
23. KD Tripathi, Essential of medical pharmacology, 8th edition, published by Jaypee brother's medical publisher, 237, 521-604, 373-386
24. Kenneth N. Barker, Elizabeth A. Flynn and Ginnette A Pepper. Observation method of detecting medication errors. Prospective cohort. American journal of the health-system pharmacy: AJHP: Official journal of the American society health-system pharmacists. January 2003;59(23): 2314-6 (Access on June 23, 2024)
25. Noemi Giannetta RN, PhD, Josef Trapani RN, PhD, Sara Dionisi RN, Aurora De Leo RN, PhD. Medication administration error prevention among nurses working in intensive care units: A secondary analysis. Nursing in critical care/ volume 29. 335-346 (Access on August 14 2023)
26. Hsasanat Elbashir, Badria Elfaki. Determination nurses' knowledge about initial drugs used during emergency management of acute myocardial infarction. Journal of Nursing Education and Practice. December 2016: 7(5): 62 (Access on August 28, 2023)
27. Marco Di Muzio, Corrado De Vito, Daniela Tartaglioni, Paolo Villar. Knowledge, behaviors, training and attitudes of nurses during preparation and administration of intravenous medication in intensive care unit (ICU). A multicenter Italian study. Applied Nursing Research. December 2017, 129-133 (Access on August 14, 2023)
28. Gediwon Negash, Yonathan Kebede, Segewkal Hawaze. Medication errors in the adult emergency unit of a tertiary care teaching hospital in Addis Ababa. Archives of Pharmacy Practice. Volume 4. October 2013: 147-153 (Access on February 13, 2024)

29. N. Vanitha Jyothi, Bharathi D. R, Prakruthi G.M.
Evaluation of drug-drug interaction in patients of general medicine, ICU and emergency departments at a tertiary care hospital. *International Journal of Current Pharmaceutic Research*. April 08, 2018: 34(5): 68-71 (Access on February 16, 2024)
30. Seyyedeh Roghayeh Ehsani, Mohammad Ali Cheraghi, Amir Netaji, Amir Salari, Ayeshe Haji Esmaeilpoor, Esmail Mohammad Nejad.
Medication errors of nurses in emergency department. *J Med Ethics Med* 2013 Nov 24; 61:11 (Access on May 15, 2024)
31. Gracy, S and Patel N. Astudy to assess the knowledge of staff nurses regarding medical errors in emergency department in selected hospital at Bharuch. *International Journal of Nursing Education and Research*. 2021;(1):5-8 (Access on May 25, 2024)