

Assessment of Impact of Structured Education Regarding Medication Errors among Selected Nursing Colleges of Kalaburagi

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ABSTRACT

Purpose: Patient safety is a significant challenge facing healthcare systems today. It is the nurse's role to provide the best possible quality of care and patient safety. They can play an important role in identification, prevention and reporting of MEs. The study was to assess the knowledge of MEs among nursing students, to improve the knowledge of ME among nursing students and to improve the medication error reporting skills of nursing students.

Subjects and Methods: It was a Prospective Educational study conducted among 186 nursing students of 3 different nursing colleges of KALABURAGI city. Data collection form including self-structured questionnaire were used. Pre-test followed by power point presentation on all aspects of ME education was done. After a gap of 2 weeks post test was conducted. Following evaluation, data was entered into the Microsoft Excel Sheet and analyzed using IBM SPSS 20.0 and paired student's T – test and ANOVA was applied for interpreting data.

Results: Mean age of participants was 20.6 years and 96 of the students were males. 100 students were from 3rd year and 86 were from 2nd year BSc nursing. Students had good knowledge and attitude towards ME and its reporting but poor practice. 3rd year students had a better knowledge compared to 2nd year. In pretest mean knowledge score was 9.21. There was a statistically very highly significant difference in mean knowledge scores between pre and post-test ($P < 0.001$). A positive change in student's perception and practice towards ME reporting was observed in posttest.

Conclusions: Despite sufficient knowledge and favorable attitude towards medication error reporting there is still an under reporting of medication error when it comes to practice.

INTRODUCTION

Patient safety is defined as the avoidance and prevention of patient injuries or adverse events resulting from the processes of health care delivery. Patient safety is a significant challenge facing healthcare systems today.¹ Ways to reduce medication error (ME) and enhance patient safety and quality of care have become key topics for discussion worldwide. Among patient safety issues such as patient identification, transfusion error, and falls, medication safety has been considered as a major indicator of healthcare quality (Hammoudi et al., 2018; Aseeri et al., 2020).

The medicine use process includes prescribing, dispensing, administration and monitoring, involving different healthcare professionals and other key players in multiple geographical locations. If an error occurs at any one of these stages and reaches the patient, harm may occur.⁴

ME can generally be classified either according to the stage of their occurrence (that is prescribing, drug administering, dispensing or error monitoring) or according to their damage intensity. World health organization (WHO) summarized in its recent report related to MEs the key factors that may lead to the occurrence of these errors. These factors can be attributed to HCP, patients, work environment, medicines, tasks, computerized information systems, or primary secondary care interface issues (Yousef & Yousef F, 2017).

Classification of Medication Errors

NCC MERP categorizes MEs into four groups based on harm or injury to the patients.

- (1) No error occurred even though the circumstances had the capacity to cause harm.
- (2) Error occurred but no harm was caused.
- (3) Error occurred and caused harm.
- (4) Error occurred and caused death.

NCC MERP Index for Categorizing Medication Errors

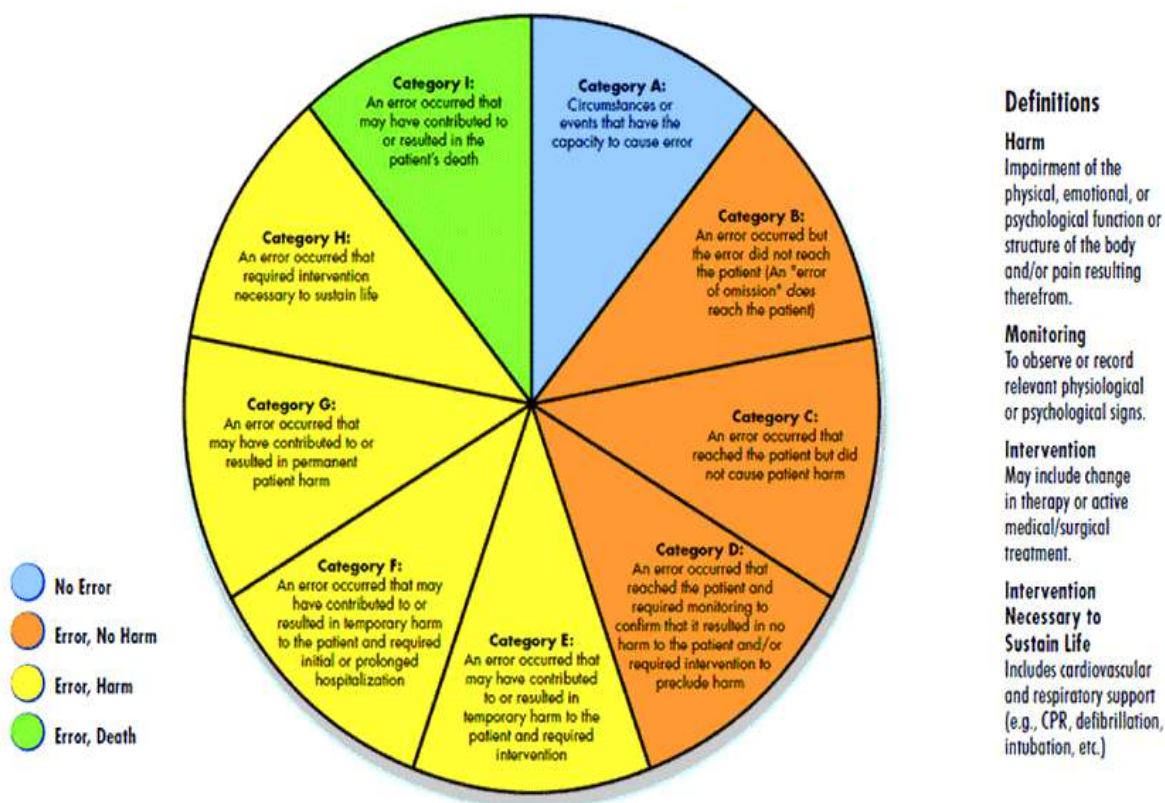


Figure 1: NCC MERP index for categorizing ME.6

A practicable and useful approach to ME from point of view of practicing pharmacist is to classify them into three main groups namely:

- (1) Prescription centred ME: Wrong time, wrong dose, wrong dosage form, wrong direction, serious drug interactions, illegible writing.

(2) Dispensing centred ME: Dispensing of one patient's medicine to another patient, wrong medicine (medicine as such or strength or dosage form), SALA (sound alike look alike) errors, wrong mixing/compounding, wrong directions/instructions, dispensing date expired items, charging higher price.

(3) Medication administration centred error: (A) patient centered: wrong medicine (by mistake from group), wrong time, wrong number or quantity. (B) Nurse centred: wrong drug (deviation from the prescription), wrong patient, wrong route, wrong time, wrong dosage form, omission of a drug.

The Institute of Medicine (IMO, USA) report estimated that 44,000 -98,000 Americans die in hospitals each year as the result of preventable MEs in provision of medical care. Approximately 7000 of these occur in prescribing and administration of medications (Revikumar & Miglandi, 2012). In hospitals, errors occur in every step of medication use process starting from procuring the drug to prescribing, transcribing, dispensing, administering and monitoring its effect. Annually 7000 mortalities have been reported due to MEs. Medication errors are the sixth highest cause of death in America after car crash, diabetes, renal diseases, breast cancer, and influenza (Sheikh et al., 2017; Salar et al., 2020). MEs can increase morbidity, mortality, cost burden, and decreases the patient's confidence in the healthcare systems. In India, 5.2 million injuries have been reported each year due to ME and adverse events. Studies done in Uttarakhand and Karnataka have documented ME rate to be as high as 25.7% and 15.34%, respectively, in hospitalized patients (Patel et al., 2018; Farzi et al., 2017).

Causes of ME

Some of the causes of ME identified in healthcare settings include:

- Low attention of healthcare professionals to medication safety. This category is composed of three subcategories: the low attention of physicians to medication safety, the low attention of nurses to medication safety, and the low attention of pharmaceutical technicians to medication safety.
- Lack of professional communication and collaboration. This category is composed of three subcategories: weak interactions among the professionals (physicians and nurses), weak interactions within a profession (among physicians), and weak interactions between doctors and nurses with patients and their families.
- Environmental determinants. This category is composed of two subcategories: (1) the nature of the departments/ patients and (2) equipment and structure of the various departments.
- Management determinants. This category is composed of two subcategories: (1) Staffing's insufficient management (2) lack of clinical pharmacist. An inadequate number of nurses and increased working shifts lead to multiple medication errors, including administration of wrong medication. (3) Lack of a consistent prescription form (Izadpanah et al., 2018).

Other causes include illegible physician orders, incomplete physician orders, the use of look-alike and sound-alike drugs, illegible drug chart, wrong calculation, absence of pharmacist/pharmaceutical expert in the ward, lack of adequate training for drug therapy, lack of dosage forms appropriate for children (Abubakar et al., 2014).

Prevention Strategies

Prevention of MEs targets the individual HCP' failure, system failure and incidence of underreporting. Three preventive measures were employed in tackling MEs including strategy to improve medication safety, strategy to reduce MEs as well as MEs reporting and feedback.

Strategy to Improve Medication Safety

The first step to avoid MEs is to increase medication safety by providing all the necessary information which includes reference books, journals, and etc. and tools like internet in the

hospital with cooperative work-setting and satisfactory level of workforces. Committee on Quality of Health Care in America (CQHA) has come up with plans to improve treatment process and ensure safety. The plans made include providing standard prescription guidelines, providing adequate information to the patient, providing software for electronic prescription and drugs should be prescribed with generic names. Prescription error (PE) should be monitored by drug and therapeutic committee (DTC).

The committee also suggested that all drug and related products should be kept in the pharmacy. High risk medicines should be supplied to the wards only when they are required. Similar drugs and equipment must be separated; patient and nurses should be counselled adequately by pharmacist. Pharmacist should support DTC to detect MEs and report. Nurses must be provided with standard operating procedure, medication time table, watch and wall clock. Nursing staffs should keep all hazardous medical-product under lock and key. There should be strong cooperation among health care professionals. Nurses must be respected and consulted in terms of treatment progress. Finally, each hospital should develop and adopt their own plan to minimize MEs.

Strategy to Reduce MEs

Three methods were employed to reduce MEs associated with individual health care professionals and system failure including use of 'Bar Coding-Bar code (BPOC), computerized physician order entry (CPOE), and pharmacist clinical activities. Bar coding scanner verifies that the prescriber, pharmacist or nurses are dealing with the right-patient, right-drug, in a correct dose, correct-time and correct-route of administration. This instrument is very efficient makes less than one error per million scans. Prescriber usually apply Bar-code and relate a given prescription with a particular patient then forward to the pharmacist. Pharmacist dispenses the unit dose of the medication according to the bar-code and finally forwards to the nurse. Subsequently, nurse use the bar-code scanner and confirm the right-patient for medications.

CPOE involves the use of computer by prescriber to send prescription to the pharmacy using specific patient information. Physician usually diagnoses the patient, entered the summary of diagnoses into the computer and recommends appropriate medications for the patient, the computer analyses the possibility of allergy, incompatibility and drug interaction based on the documented patient diagnosis and medical history. The final prescription produced usually contained the right drug at a right dose and dosage form for the intended patient. Pharmacist clinical activity is of utmost significance for quality assurance and ideal patient care; and their involvement in team of health care professionals will promote better patient care; and also uphold rational use of medicine, detection and instant reporting of ADRs and MEs. It is testified that presence of pharmacist during ward round by the medical-consultant reduces MEs up to 66%.

MEs reporting and Feedback

Reporting MEs is very significant in assessing the type and nature of error committed as well as devising appropriate preventive measures. The reporting procedure should be made simple to encourage reporting. Health care professionals should be counselled about MEs reporting which is their certified obligation. Reporting MEs should be confidential. There may be need to conceal the identity of the reporter.

Reporting should be done immediately after detection; thus, experts can intervene and prevent ADRs. The next stage is to disseminate the information among the HCP to get-out from future misery. MEs can be identified, assessed, and reported using active interventional method which involves chart review and patient monitoring. This method was established to be 10 times more effective in tackling MEs and ADRs than spontaneous reporting. The complete process of active intervention includes proactive detection of MEs, reporting and

feedback control system, improving all HCP's knowledge, as well as simplifying all complex procedures involved in prescription, dispensing and drug administration (Tabatabaee et al., 2014).

Barriers to report ME

- Fear of legal involvement.
- Fear of losing jobs.
- Fear of error consequences.
- Disagreement about occurrence of ME.
- Fear of being blamed by superiors, physicians. colleagues.
- Fear of revealing error to patients and their families.
- Lack of proper definition of some errors.
- Lack of error registry system in hospital.
- Lack of knowledge on detection of ME.
- Forgetting to report.

Health care professionals experience profound psychological effects such as anger, guilt, inadequacy, depression, and suicide due to real or perceived errors. The threat of impending legal action may compound these feelings. This can also lead to a loss of clinical confidence. Clinicians equate errors with failure, with a breach of public trust, and with harming patients despite their mandate to "first do no harm." Fear of punishment makes healthcare professionals reluctant to report errors. While they fear for patients' safety, they also dread disciplinary action, including the fear of losing their jobs if they report an incident. Unfortunately, failing to report contributes to the likelihood of serious patient harm. Many healthcare institutions have rigid policies in place that also create an adversarial environment. This can cause staff to hesitate to report an error, minimize the problem, or even fail to document the issue. These actions or lack thereof can contribute to an evolving cycle of medical errors. When these errors come to light, they can tarnish the reputation of the healthcare institution and the workers (Kaur & Charan, 2018).

Although medication errors can be caused by all members of health care team, nursing medication errors are the most common. The reason is that nurses execute the majority of medical orders and spend about 40% of their time in the hospital to administer medicines. It is therefore a challenging issue for the health care settings as these errors cause a great threat to the safety of patients and can be minimized if patients are monitored correctly on time. As nurses, is often the last "gatekeeper" in the administration process to prevent medication errors, it is important to take the time needed to ensure patient safety, and to minimize distractions throughout the process by following various strategies (Palaian et al., 2019).

Role of nurses in reducing MEs

Nurses are an important member of the healthcare team who administer medications, monitor them and provide drug information to the patients at the bedside (Abd Elmageed et al., 2020). Drugs may be given to the whole ward by the same nurses or to a smaller group of patients by those directly involved in their care. The nurse is responsible for interpreting the prescription accurately, recording that the drug has been given and observing the patient's response. Prior to administration the nurse must know the reason for, action and usual dosage of the drug; this should enable him or her to recognize mistakes in prescribing medication (Samad et al., 2021). Checking medications before administration to patients is a basic preventive action to avoid medication errors. The administration of medication by nurses is the final step in the process of delivering drugs to patients in the hospital setting. The accuracy, timeliness, and safety of administration of medications rest primarily with nurses.

Due to the fact that nurses perform medication checking in the everyday clinical practice, either on their own (single) or with another nurse (double) and are responsible for what they

administer to the patients. Medication checking is a part of nursing care. Therefore, it is very crucial for the nurses to practice medication checking during the receiving of medication from the pharmacists and right before the administration of medications to patients in the wards (Al-Khream & Al-khadher, 2021). Nurses need to be supported during the medication administration process to minimize errors from the beginning of the process until the time of administration. During the time of medication administration, phone calls, patients, or other staff members should not interrupt nurses. They need to be encouraged to complete the appropriate steps to medication administration such as the medication administration record (MAR) and proper identification process. Some interventions for reducing or preventing the medication administration error are educating and observing the nurses during the medication administration encouraging the use of MAR, and preventing interruptions during the administration time (Parthasarathi & Nyfort-Hansen, 2016).

Role of Pharmacist in Reducing MEs

Pharmacists have had a long history of developing systems that have improved medication safety. Pharmacist need to build on this record of contribution to improve medication safety even more, by working more closely with prescribers, nurses and patients using new technologies to help build a safer health system (Parthasarathi & Nyfort-Hansen, 2016). “Prescription centred ME”- Pharmacists can play a very critical and effective role in solving all types of the prescription centred errors. The doctors are always busy and work in an environment which can contribute positively for such errors. The mistakes and errors have to be identified and brought to the notice of the doctors in a professional manner playing a complementary and supportive role wherever required or needed, provide the evidence to clinicians supporting the need for correction.

“Dispensing centred ME” The Good Dispensing Practice (GDP) has to be followed to avoid the error and to identify the possible commission and omission errors that has happened at the prescription stage or can happen at the administration stage. Patient counselling has a very important role in identifying and / preventing dispensing errors. Pharmacist can follow a ‘show and tell’ technique during the counselling by opening the container and making a physical verification medicine may be shown to the patient. “Administration centred ME”

The community pharmacists, hospital pharmacists and clinical pharmacists can help the patients and the nurses in reducing the administration related errors. Medicine information services, patient counselling and interactive education process are of much use in this process. Various case studies and their discussion with the nurses and the patients will help them to be aware of the seriousness of the issues (Revikumar, & Miglandi, 2012). All providers (nurses, pharmacists, and physicians) must accept the inherent issues in their roles as healthcare workers that contribute to error-prone environments. Effective communication related to medical errors may foster autonomy and ultimately improve patient safety. Error reporting better serves patients and providers by mitigating their effects (Robertson & Long, 2018).

Nurses are an important member of the healthcare team who administer medications, monitor them and provide drug information to the patients at the bedside. It is the nurse’s role to provide the best possible quality of care and patient safety. This includes administration of the correct medication to patients and rapid detection of MEs. Therefore, nursing staff are the first line in ME prevention. Nurses worldwide are taught clinical guidelines and policies for the administration of medications in any healthcare setting. These policies include the 10 rights of medication administration including right drug, dose, patient, time, route, assessment, approach, interaction, information and documentation. The reporting of MEs by nurses is equally important to their prevention. By considering the above factors we are carried out the study on “Assessment of impact of structured education regarding medication error among selected nursing colleges of Kalaburagi”.

Literature Review

Abdelrahman et al (2017) conducted a study on 'Patient Safety Culture as Perceived by internship nursing students. Study was conducted to assess perception of internship nursing students about patient safety culture during their working at Minia and Assiut Universities Hospitals. It was Descriptive correlation design was utilized for this current study. A convenience sample of nurses' intern, equal both to participate 200 nurse interns from Minia and Assiut Universities Hospitals. The data collected through self-administered questionnaire which includes personal characteristics data and patient safety culture questionnaire. The study illustrated the positive correlation between all factors of patient safety culture among internship nursing students in Minia and patient safety level with highly statistically significant differences. There were positive correlations between hospital work area / unit and residence with statistically significant differences. Conclusions made from the study were positive correlations among studied internship nursing students as regard to the level of patient safety and all factors of patient safety cultures (Hospital work area, your supervisor, Communication, Frequency of events reported, Patient safety at your hospital (Abdelrahman & Mohamed, 2017).

Hammoudi BM et al (2017) conducted a study on 'Factors associated with medication administration errors and why nurses fail to report them.' among 367 nurses at a tertiary hospital in Riyadh, Saudi Arabia, and included four hospitals. It was a descriptive cross-sectional study, using validated questionnaire and descriptive statistics were used for data analysis. Their study found out that the main factors associated with medication errors by nurses were related to medication packaging, nurse-physician communication, pharmacy processes, and nurse staffing and transcribing issues. The main barriers to the reporting of errors by nurses were related to the administrative response, fear of reporting and disagreements regarding the definitions of errors (Hammoudi et al., 2018).

Aseeri M et al (2020) conducted a study on 'Evaluation of Medication Error Incident Reports at a Tertiary Care Hospital'. This was a descriptive study that was conducted utilizing 624 medication error reports extracted from the hospital safety reporting system. This study aimed to evaluate and analyse medication error incidents that were submitted through the hospital safety reporting system in 2015 at a tertiary care centre in the western region of Saudi Arabia, and to explore the most common types of harmful MEs. Reports were analysed based on the medication name, event type, event description, nodes of the medication use process, harm score (adapted from the National Coordinating Council for Medication Error Reporting and Prevention harm index), patients' age/gender, incident setting, and time of occurrence as documented in the Safety Reporting System (SRS).

Furthermore, all errors that resulted in injury or harm to patients had a deeper review by two senior pharmacists to find contributing factors that led to these harmful incidents and recommend system-based preventive strategies. This study showed that most reported incidents were near misses (69.3%). The paediatric population was involved in 28.4% of the incident reports. Most of the reported incidents were categorized as occurring in the inpatient setting (57.4%). Medication error incidents were more likely to be reported in the morning shift versus evening and night shift (77.4% vs. 22.6%). Most reported incidents involved the dispensing stage (36.7%). High-alert medications were reported in 281 out of 624 events (45%). Authors concluded the study by stating that the hospital medication safety reporting program is a great tool to identify system-based issues in the medication management system (Aseeri et al., 2020).

Aim

- To assess impact of structured education regarding medication error among selected nursing colleges of Kalaburagi.

Objectives

- To assess the knowledge of medication errors among nursing students.
- To improve the knowledge of medication errors among nursing students.
- To improve the medication errors reporting skills of nursing students.

METHODOLOGY

Plan Of the Study

Study Design

A prospective study watches for outcomes such as development of a disease, during the study period and relates this to other factors such as suspected risk/protective factor(s). This study usually involves taking a cohort of subjects and watching them over a long period.

Study Site

3 selected nursing colleges in KALABURAGI city.

Study Duration

The study was conducted for a period of six month.

Inclusion Criteria

- Second and Third-year students of selected nursing colleges.
- Students who are pursuing BSc Nursing.

Exclusion Criteria

- Students who are pursuing GNM students.

Source Of Data:

- Data collection form
- Self structured questionnaire

Study Procedure

Phase One: The study was initiated after getting approval from Institutional Review Board (IRB) and carried out for a period of six months. Informed consent was collected from all participants of the study, after explaining the benefit of study in personal. Data collection form, questionnaire, power-point presentations (PPT), slides and other educational information leaflets was prepared. Relevant details of participants like demographic details were collected. All the participants were given questionnaire as a pre-test. On the same day power-point presentation was given regarding all aspects of medication errors.

Phase Two: After a gap of 2 weeks all participants was given the same questionnaire as a post test. The data collected from participants were evaluated. The questionnaire format was closed end type. Each question was having four multiple choices, out of which one will be correct and remaining three will be wrong. Hence each correct answer was given one mark whereas wrong answer zero mark. Few questions were either opinion type or attitude type. After collecting the details, it will be further evaluated.

Phase Three: All the evaluated data were tempted into the Microsoft Excel Sheet for further analysis. Here paired student's T – test and ANOVA was applied for interpreting data.

RESULTS AND DISCUSSION

In our study, we have enrolled 192 nursing students belonging to three different nursing colleges of KALABURAGI City, out of which we have considered 186 students and remaining six were dropped out due to non-participation in either study.

Section 1: Demographic Characters of Nursing Students.

The following table and graph show the college wise distribution of nursing students.

Table 1: Table depicting the participation of nursing students from selected colleges.

Sl. No	Nursing college	Code	In. no.	In %
1.	HKES College of Nursing	HKES CON	89	47.8
2.	Al Kareem College of Nursing	AIK CON	51	27.1
3.	Govt.College of Nursing	GCON	46	24.46
	Total		186	

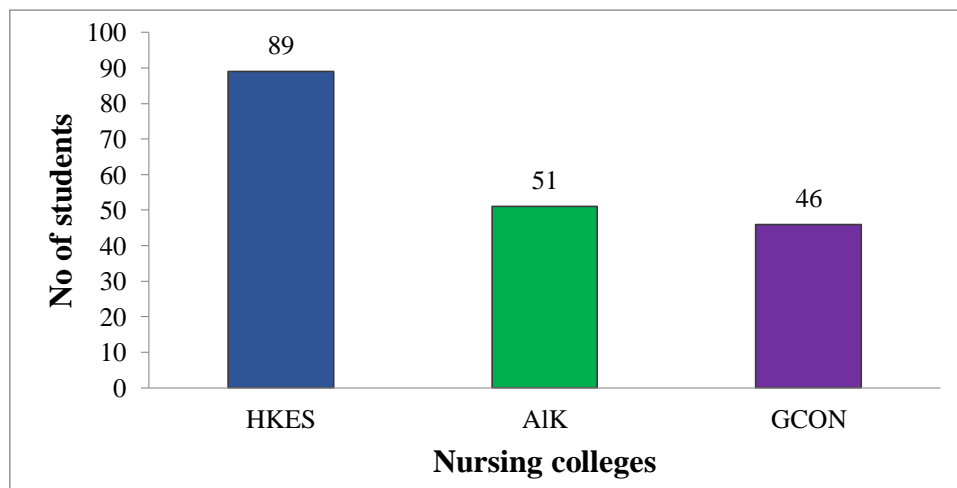


Figure 2: Graphical Representation of College Wise Distribution of Nursing Students.

The following table and graph represent the age wise distribution of nursing students.

Table No.2: Table depicting age wise distribution of nursing students.

Age in years	No. of nursing students	Percentage
19	14	7.5
20	81	43.5
21	65	35.0
22	18	9.7
≥ 23	8	4.3
Total	186	100.0
Mean ± SD	20.61 ± 0.97	

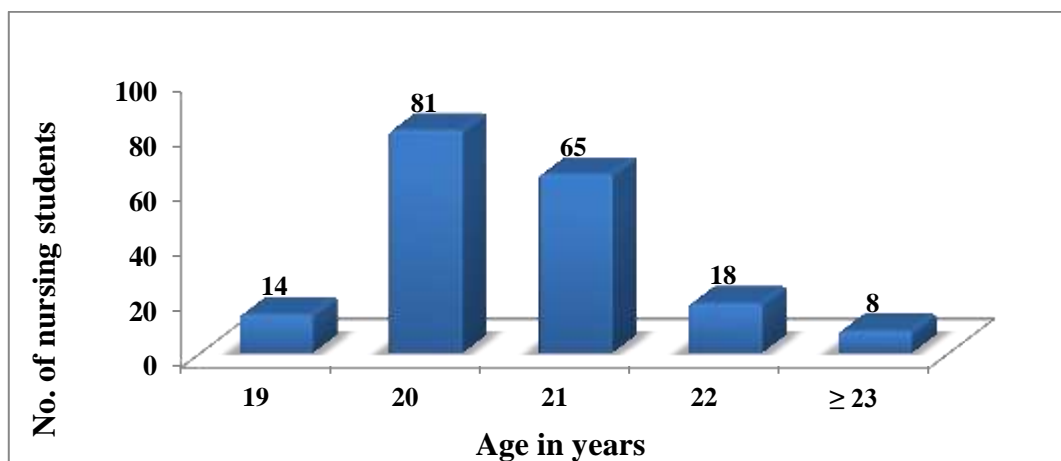


Figure 3: Graphical representation of age wise distribution of nursing students.

The following table and graph show gender wise distribution of nursing students.

Table No.3: Table depicting gender wise distribution of nursing students.

Gender	No. of nursing students	Percentage
Males	96	51.6
Females	90	48.4
Total	186	100.0

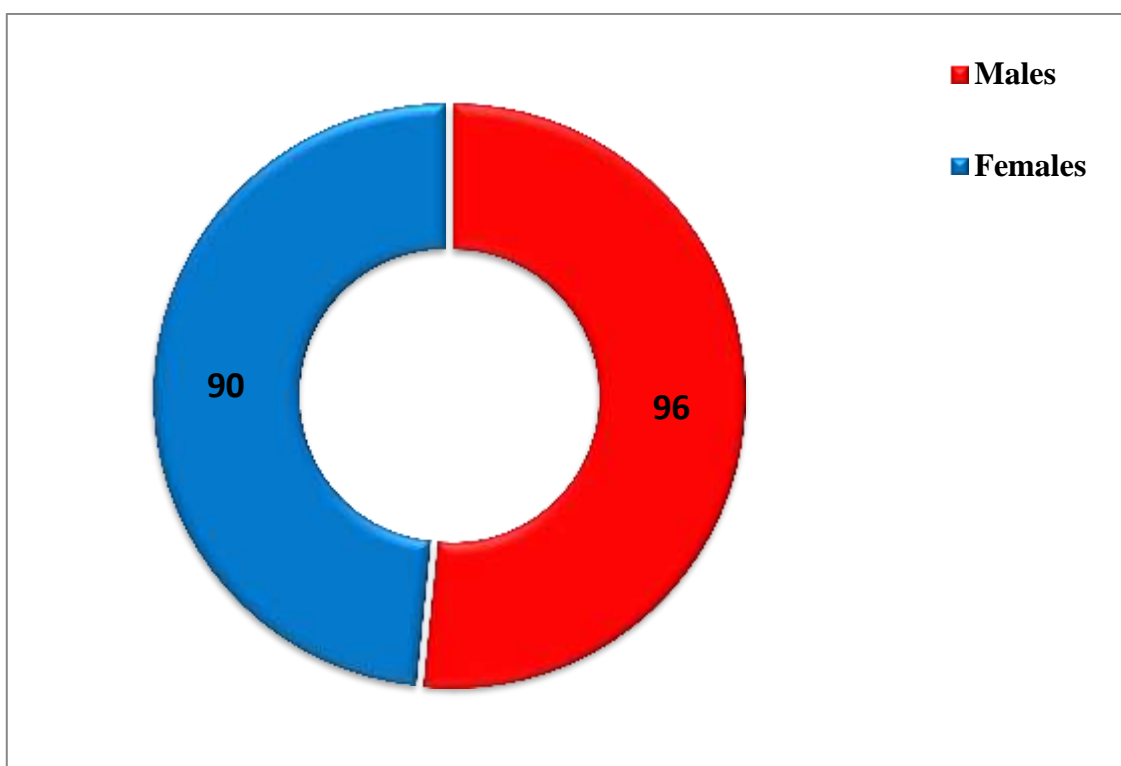


Figure 4: Graphical representation of gender wise distribution of nursing students.

The following table and graph represent nursing students' year wise distribution.

Table No.4: Table depicting year wise distribution of nursing students.

Class	No. of nursing students	Percentage
2 nd year nursing	86	46.2
3 rd year nursing	100	53.8
Total	186	100.0

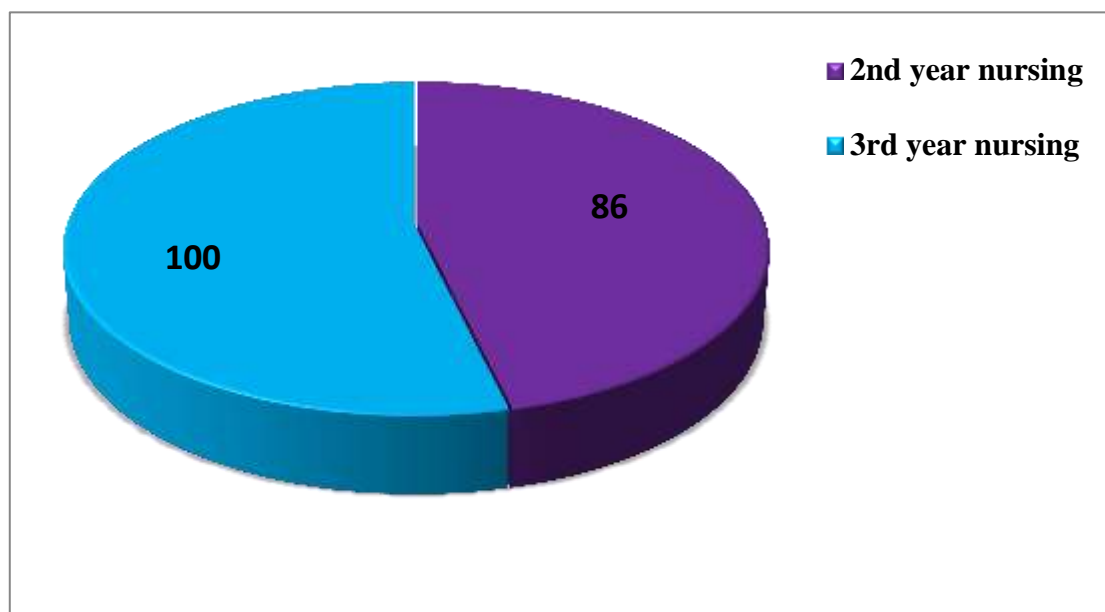


Figure 5: Graphical representation of year wise distribution of nursing students.

The following graph and table show the comparison of mean knowledge score of nursing students in pre and post-test.

Table 7: Table depicting Comparison of knowledge scores on medication errors in pre and post-test (Structured Health Education).

Variables	Pre-test scores Mean \pm SD	Post- test scores Mean \pm SD	Difference score (%)	t –test value	P-value & significance
Knowledge	9.21 \pm 3.03	13.17 \pm 3.16	3.96 (19.8%)	t = 13.52	P = 0.000, VHS

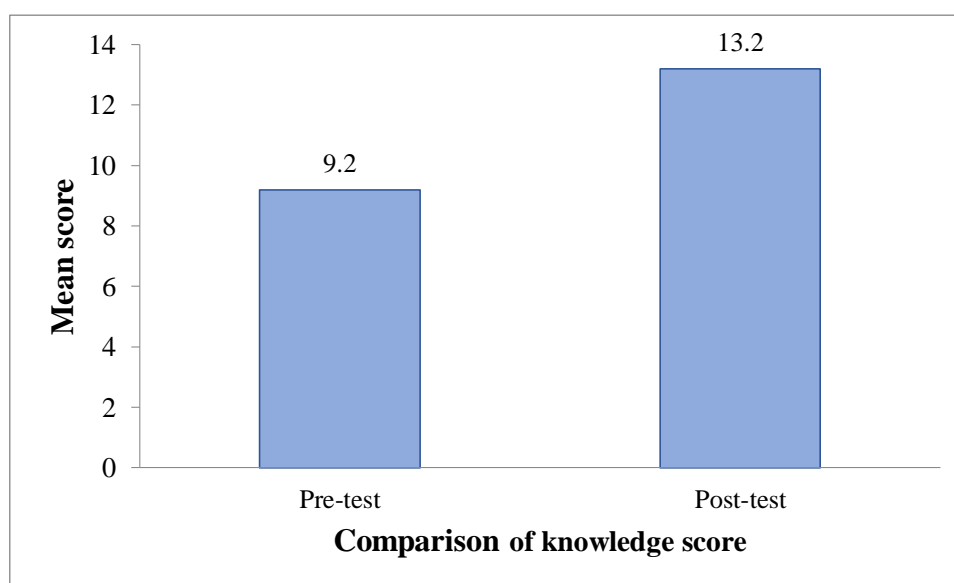


Figure 8: Graph depicting Comparison of knowledge scores on medication errors in pre and post-test.

Statistical data analysis

Statistical data was analysed by IBM SPSS 20.0 version software. Collected data were spread on excel sheet and prepared master chart. Through the master chart tables and graphs were constructed. For quantitative data analysis paired t-test and ANOVA tests were applied for statistical significance. If P-value was less than 0.05 considered as significant.

Discussion

ME is the consequence of individual negligence to system failure leading to various disasters. With our study we assessed the knowledge, attitude and practice regarding ME among nursing students and number of participants was 186. Predictors including gender, age and year of study were studied in correlation with knowledge, attitude and practice, using multivariable logistic regression. The demographics of our participants reflected 90 females (48.4%) and 96 males (51.6%). They were also segregated into 5 age groups from 19 to ≥ 23 years; 81 (43.5%) were of the age group 20 years, followed by 65 (35.0%) of 21 years, 18 (9.7%) of 22 years, 14 (7.5%) of 19 years and 8 (4.3%) of ≥ 23 years. Additionally, we have divided them according to year of study, 2nd year 86 students (46.2%) and 3rd year 100 students (53.8%).

Our study revealed that, there was no statistically significant difference of mean knowledge, attitude and practice scores on ME with demographical profiles of age and gender. This is in line with the study conducted by Lissa J et al (2015) (Alboliteh, & Almughim, 2017). 3rd year nursing students had higher knowledge; attitude and practice as compared to 2nd year students but it was not statistically significant. In contrast to our study, a study conducted by Kaur A et al (2018) tended more female participants. In relation to different studies conducted by Mohanty S (2016), Ramya KR et al (2014), Di Simone E et al. (2018) they had enrolled experienced nursing staff whereas for our study we enrolled 2nd year and 3rd year BSc nursing students.

As we analysed the study scores of pre and post-test among nursing students; the pre-test mean knowledge score on ME was 9.21(46.05%) and post-test was 13.17 (65.85%). An improvement in knowledge score was observed in post-test and this difference was statistically very highly significant. Our findings were in agreement with the study conducted among medical students by Aghakouchakzadeh et al (2015), where knowledge score had improved after educational intervention. In our study some of the attitude and practice questions emphasized on improving ME reporting skills of nursing students. 138 students (74.19%) opined that reporting of ME is a good practice while 48 students (25.8%) responded contrary. This was in consisted with the study conducted by Jember A et al (2018), where most of the participants perceived that errors should be reported as reporting occur for the safety of patients.

A study conducted by Ponnushankar S et al (2017), among general public indicated that MEs pose serious threats to people's lives which were in line with our study where 160 (86.02%) nursing students responded that ME can cause harm to the patients. Our study participant's i.e.; 131 students (70.4%) agreed that anyone can report ADR while 55 students (29.5%) responded obverse, this finding was in line to the finding of other study conducted by Alwhaibi et al (2020). among health care students identified that 23.4% of medical students, 35.2% pharmacy students, 15.8% dentistry students and 10.8% nursing students had agreed that any HCP can report ADR.

We also observed from our study that 65 students (34.9%) had agreed that they fear being blamed if they report ME and remaining 121 students 65.05%) responded contrary these results were in disparity to study conducted by Bayazidi S et al (2012). suggested that nurses do not report ME because they think that reporting would result in repercussion. A similar study identified fear of legal liability, job threat, economic adverse effect, face saving concerns and adverse consequences of reporting for the individual as the most important

barrier to error reporting (Walsh et al., 2018). A majority of participated students 154 (82.7%) opened up that they would report a ME if a patient does not receive a medication as prescribed while 32 students (17.2%) did not respond same. Studies conducted by Alsulami SL et al (2019), among HCP at tertiary care setting and by Walsh L J et al. (2018), among nursing students are indistinguishable to our finding.

Many of the nursing students 145(78%) have responded that they had observed ME done by HCP in their daily practice while 41 students (22%) responded obverse. 131 students (70.4%) had observed ME done by physicians. Observations drawn from study conducted by Hammoudi BM et al. (2018) supported our finding also this study has highlighted that poor communication with physicians was the second most highly scoring factor for MAEs by nurses. As comprehensive the intervention that was structured education regarding ME given to nursing students was effective since an improvement can be observed in the KAP score following intervention and this could be a factor for improvement of health care practice and to diminish preventable MEs providing better patient care.

CONCLUSION

Nursing students were optimistic regarding reporting of medication error. 3rd year nursing students were having better knowledge when compared to their counterpart which may attributed to one-year clinical exposure. Nursing students have perception that medication error can cause harm to the patients. Our study revealed that nursing students observed medication error done by other health care professionals in their daily routine practice but fear of being blamed if they report. Despite sufficient knowledge and favourable attitude towards medication error reporting there is still an under reporting of medication error when it comes to practice.

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