



# USE OF STAY S.A.F.E STRATEGY IN REDUCING MEDICATION ERRORS ACCORDING TO NABH PROTOCOL

*“Safety has to be everyone’s responsibility... everyone needs to know that they are empowered to speak up if there’s an issue”.*

– *Captain Scott Kelly*

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## Abstract

Safe medication administration is an important and potentially challenging nursing responsibility. Medication administration helps to promote the health and prevent the disease of the patient. Nurses should follow the guideline principles while administering medication to the patient to prevent medication error. Medication errors as any preventable event that may cause inappropriate medication use and patient safety. The nurses should follow the three checks and follow the rights and be sure to document the procedure.

A study was conducted to assess the effectiveness of planned teaching programme on knowledge regarding **the use of stay S.A.F.E strategy in reducing medication errors according to NABH Protocol recommendation among B.Sc(N) students in selected Nursing college at Delhi NCR**. The hypothesis of this study was association between the planned teaching programme with mean pre test knowledge score and mean post test knowledge score regarding use of stay S.A.F.E strategy in reducing medication errors among B.Sc.(N) students as evidenced by the multiple questionnaire at 0.05 level of significant.

Extensive review of literature facilitates the investigator to collect the relevant information of facts to support the study. The conceptual frame work of the present study is based on Ida Jean Orlando Deliberative Nursing Process.

Hundred fifteen student nurse who fulfilled the inclusion criteria were selected by purposive sampling technique.. A structured questionnaire was distributed to the students nurses to assess the pre test level of knowledge regarding the use of stay S.A.F.E strategy in reducing medication errors according to NABH Protocol recommendation among B.Sc (N) students Then followed by a planned teaching programme regarding safe medication administration and drug calculations were educated to student nurses.

A post test was conducted to assess the level of knowledge with the same questionnaire provided in the pre test. Analysis revealed that The mean post test knowledge score of students is 15.2 which is higher than the mean pre test knowledge score 11.6, with mean difference 3.6. the obtained mean difference was found to be statistically significant. The calculated ‘z’ value is 2.93 which is greater than the table value at 0.05 level of significance at df (109). Hence it is concluded that the structured teaching program was effective in increasing the knowledge regarding the use of stay S.A.F.E strategy in reducing medication errors.

Thus it indicates the effectiveness of planned teaching programme and level of practice regarding safe medication administration among students nurses.

## Introduction:-

Medical errors are a serious public health problem and a leading cause of death. It is challenging to uncover a consistent cause of errors and, even if found, to provide a consistent viable solution that minimizes the chances of a recurrent event. By recognizing untoward events occur, learning from them, and working toward preventing them, patient safety can be improved . Healthcare organizations need to establish a culture of safety that focuses on system improvement by viewing medical errors as challenges that must be overcome.

All individuals on the healthcare team must play a role in making the provision of healthcare safer for patients and healthcare workers. 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.

## NEED OF THE STUDY

Medication errors have significant implications on patient safety. These errors occur at all stages in medication use: ordering, prescription, dispensing, and administration. Error detection discloses those errors and thus, encourages a safe culture

Error detection through an active management and effective reporting system discloses medication errors and encourages safe practices. Objectives: To improve patient safety through determining and reducing the major causes of medication errors.

**According to the National coordinating council for medication error reporting (NCCMERP) and prevention**, a medication error is any avertable event that may root or lead to improper medication use or patient mischief while the medication is in the control of healthcare professional, patient or consumer . An error is a disorder of intentional act, something incorrectly done through ignorance. Error arises when an action is anticipated but not performed

**WHO** prescription writing guidelines for outpatients where it is found that majority of the prescriptions lack prescriber's personal contact number, patient details such as name, address and age of the patients which is similar to the study conducted by Gul W et al. where most of the prescriptions did not have patient's details and prescriber's details. Lack of patient demographic details in the prescriptions is always a foundation of potential to severe medication errors like dispensing of medication to erroneous patient. Age of the patient is essential to be mentioned in the prescriptions. This will helps the selection of accurate dose of any drug to the patients and it may also helps in dispensing the right dosage form of the drug

Medication errors have significant implications on patient safety. These errors occur at all stages in medication use: ordering, prescription, dispensing, and administration. Error detection discloses those errors and thus, encourages a safe culture (Montesi & Lechi, 2014).

In the current study: The most common stage for medication errors was during the ordering and prescription stage (38.1%), followed by the administration stage, (20.9%). Errors during monitoring, preparation and dispensing were: (18.3%), (12.3%) and (10.4%), respectively.

The study highlights the importance of error reports as sources of information for the generation of preventive strategies aimed toward medication error reduction. Reports were analyzed quantitatively and qualitatively for identification and prioritization of error medication stages, their effect on the patient and their root causes. Hence corrective actions targeted priority areas and root causes to prevent recurrence. The study emphasized both the need and effectiveness of quality-improvement programs that focus on educating the staff about the medication errors and the importance of reporting

Using multiple dosing methods for the same drug can be confusing, increasing the risk of errors. Standardizing the dosing method for I.V medications such as epinephrine, midazolam, and nitro-glycerine infusions in the ICU could minimize dosing errors. Referring to a list of high-alert drugs can help safeguard nurses from making medication errors.

Understanding the placement of decimals is crucial; for example, 0.20mg is 10 times greater than 0.02mg. Nurses need to have a clear idea of decimal placement and values to avoid calculation errors.

Technology such as smart pumps and bar code-assisted medication administration (BCMA) can help to decrease drug-dosing errors when used appropriately. Nurses using BCMA scan the patient wristband and medication codes before administering medications. In one study, BCMA decreased wrong dosage errors by 90.4%, medication administration errors by 80.7%, and medications lacking prescriptions by 72.4%.

Many hospitals use electronic reporting systems, which let the individual involved in a medication error provide information electronically. Managers and quality risk management are then notified electronically. The key benefits of the system include increased reporting of medication errors, identifying close-call events (errors that are identified and corrected before reaching the patient), and improved tracking, which is followed by action. When data from medication errors are shared, an action plan can be developed, which may reduce further errors. Reporting medication errors helps identify failures in medication processes and may help to prevent further incidents. When medication errors are reported, risk managers use the information to better understand the root causes and develop policies and procedures to prevent future patient harm. When errors are reported voluntarily in a guilt-free, blame-free system, a proper investigation can be performed and practice can be improved

### **Problem Statement**

**“A study to assess the effectiveness of planned teaching program on knowledge regarding the use of stay S.A.F.E strategy in reducing medication errors according to NABH Protocol recommendation among B.sc (N) students in selected Nursing college at Delhi NCR”.**

### **Methodology:-**

Research methodology is the specific procedures or techniques used to identify, select, process, and analyze information about a topic. In a research paper, the methodology section allows the reader to critically evaluate a study's overall validity and reliability.

### **PPOPULATION & SAMPLE**

#### **Setting of the study-**

After obtaining formal administrative approval the research study was conducted in Nightingale institute of nursing ,Noida,UP

#### **Population**

Bsc nursing students in selected nursing college at Delhi ,NCR

#### **Sample Size**

The Sample Size Will Be 110 Student Nurses.

### **DATA & SOURCES OF DATA**

**For this study the secondary data has been collected from the Article : Amal, J., et al., (2015),** conducted a descriptive correlation study to assess the adequacy of practice of intramuscular injection among staff nurses.

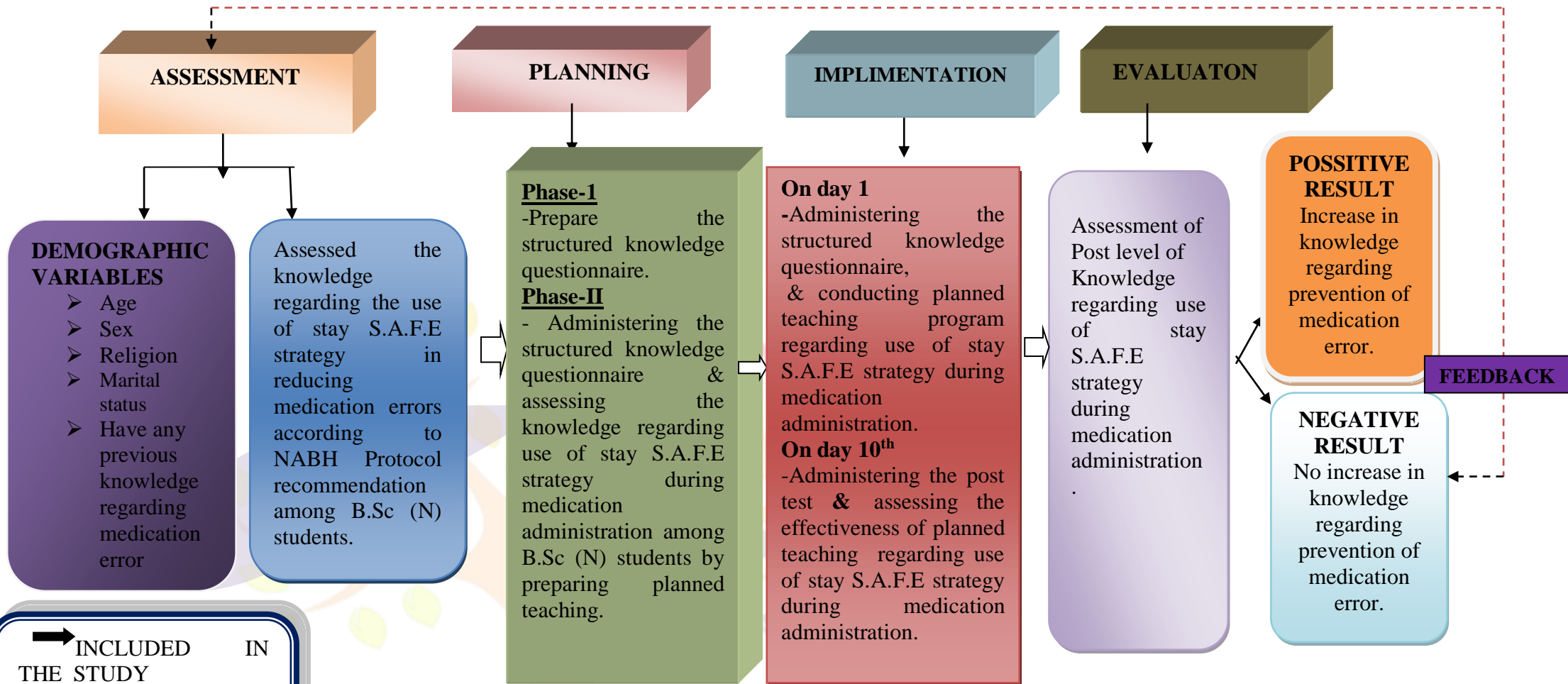
**Enokela, O., (2013)** conducted a cross sectional descriptive study to assess the knowledge and practice regarding injection safety among staff nurses.

**Ahmad, R., & Shamsudhin, H., (2010)** conducted a descriptive study to assess the knowledge on preparation and administration of intravenous medications among staff nurses.

**Hsaio, J., & colleagues., (2000)** developed and validated a questionnaire to assess the knowledge of administering high-alert medications among staff nurses from eight categories cardiovascular medications, chemotherapeutic agents, narcotics, opiates, anticoagulants, benzodiazepines, neuromuscular blocking agents and electrolytes.



**THEORITICAL FRAMEWORK**



(Figure: Conceptual framework based on “Modified Ida Jean Orlando” Nursing Process Theory)

**scription Of The Tool**

- The investigators used structured knowledge questionnaires .
- The content consisted of two sections:-  
**Section 1:** Demographic variables of the staff nurses which consisted of seven items such as Age,Sex,Religion,Marital status,Have any previous knowledge regarding medication error.  
**section-2 scoring:** A structured questionnaire contains 20 questions, related to knowledge regarding the use of medication & stay S.A.F.E strategy in reducing medication errors. The each correct answer carried one score and total score was twenty. Each correct response carries “one mark” and each wrong response carries “zero mark”.
- Plan for data analysis:** Based on the objectives of the study, the data was planned to be analyzed by descriptive and inferential statistics. Frequency and percentage were used to show distribution of subjects according to demographic variables. Association between knowledge and selected demographic variables was calculated by Chi-square.

**Description Of The Study:-**

The findings are presented according to the objectives set for the study. The data are organized under the following headings:

**SECTION-1**

Finding related to frequency and percentage distribution of nursing students regarding use of stay S.A.F.E strategy in reducing medication errors of demographic variables.

**SECTION-II**

Finding related to frequency and percentage distribution of pre test & post test knowledge score regarding use of stay S.A.F.E strategy in reducing medication errors among B.sc. (N) 4<sup>th</sup> year students.

**SECTION-III**

Finding related the effectiveness of planned teaching program in terms of knowledge regarding the use of stay S.A.F.E strategy in medication errors according to NABH Protocol recommendation among B.Sc.(N) 4<sup>th</sup> year students

**SECTION-IV**

Finding the association between post test knowledge score with selected demographic variables

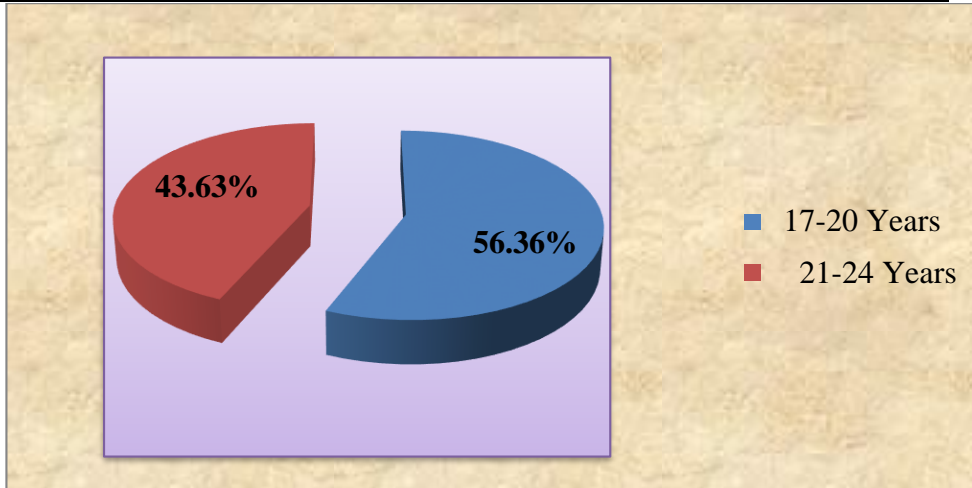
**RESULT****SECTION-1****FINDING RELATED TO FREQUENCY AND PERCENTAGE DISTRIBUTION OF NURSING STUDENTS REGARDING USE OF STAY S.A.F.E STRATEGY IN REDUCING MEDICATION ERRORS OF DEMOGRAPHIC VARIABLES**

SL NO	DEMOGRAPHIC DATA	FREQUENCY (f)	PERCENTAGE (%)
1	<b>AGE</b> <ul style="list-style-type: none"> <li>17-20 Years</li> <li>21-24 Years</li> <li>25-28 Years</li> <li>≥28 Years</li> </ul>	62 48	56.36% 43.63%
2	<b>SEX</b> <ul style="list-style-type: none"> <li>Male</li> <li>Female</li> </ul>	100	100%
3	<b>RELIGION</b> <ul style="list-style-type: none"> <li>Hindu</li> <li>Muslim</li> <li>Christian</li> <li>Sikh</li> </ul>	48 4 46 12	43.63% 3.63% 41.81% 10.90%
4	<b>MARITAL STATUS</b> <ul style="list-style-type: none"> <li>Married</li> <li>Unmarried</li> <li>Legally separated</li> <li>Divorce</li> </ul>	1 109	0.90% 99.09%
5	<b>Have any previous knowledge regarding medication error</b> <ul style="list-style-type: none"> <li>YES</li> <li>NO</li> </ul> If yes then identify the source <ul style="list-style-type: none"> <li>Mass media</li> </ul>	110  22	100%  20%

	<ul style="list-style-type: none"> <li>Printed material</li> </ul>	45	40.9%
	<ul style="list-style-type: none"> <li>Class/trainee</li> </ul>	43	39.09%
	<ul style="list-style-type: none"> <li>Other/specify</li> </ul>		0%

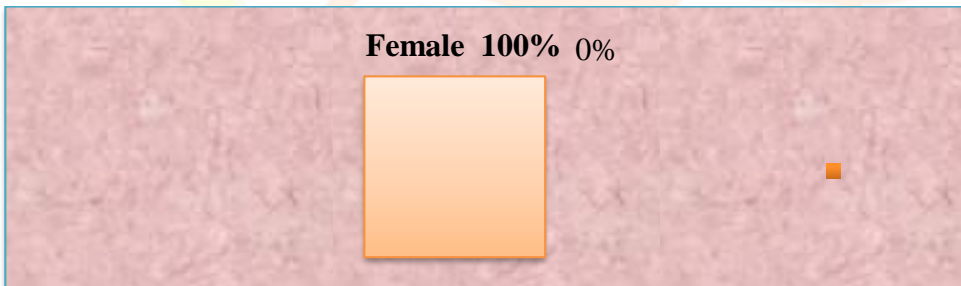
- The data presented in TABLE-1 revealed that majority of 62 (56.36%) students were in the age group of 17-20years, 48 (43.63%) were in age group 21-24years.
- Equal distribution of both male & female students the majority female student i.e. 110 (100%)
- Majority of students religion was Hindu i.e. 48(43.63%), Christian 46(41.81%).Muslim 4(3.63), Sikh 12(10.905%)
- Majority of students Marital status of the students was 109 (99.09%) married, rest of 1(0.90%) unmarried.
- Majority of students having previous knowledge regarding medication error i.e. 109 (99.00%) yes and 1(0.90%)No

**TABLE -1 DEMOGRAPHIC DATA IS ALSO DEPICTED IN THE FORM OF PIE DIAGRAM AGE**



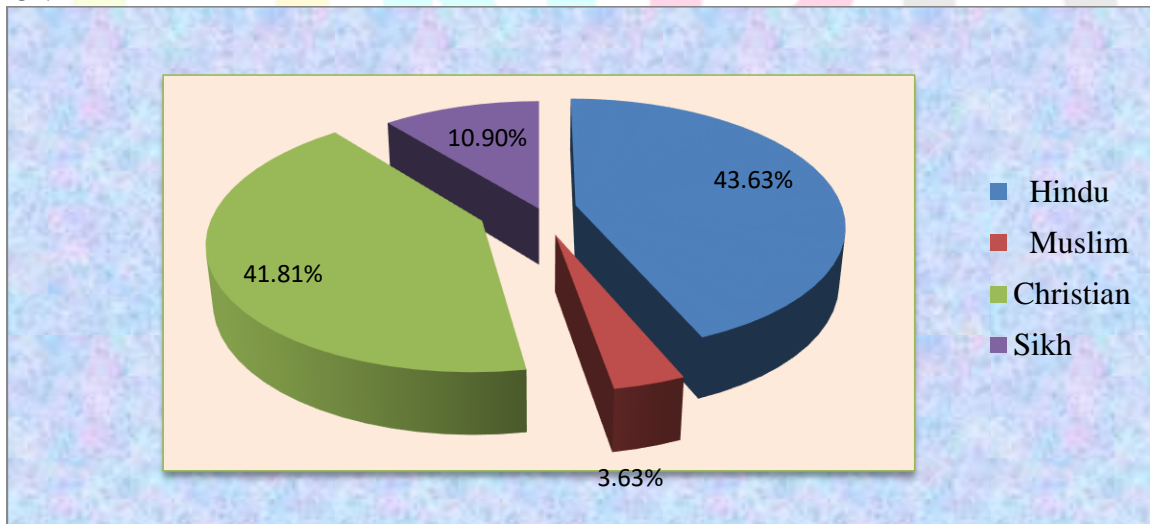
**FIG-1 Pie diagram showing percentage distribution of students according to age. N=110**

**TABLE-2 SEX**



**FIG-2 Pie diagram showing percentages distribution of student according to gender N=110**

**TABLE-3 RELIGION**



**FIG-3 Pie diagram showing the percentage distribution of students according to religion N=110**

**TABLE-4MARITAL STATUS**

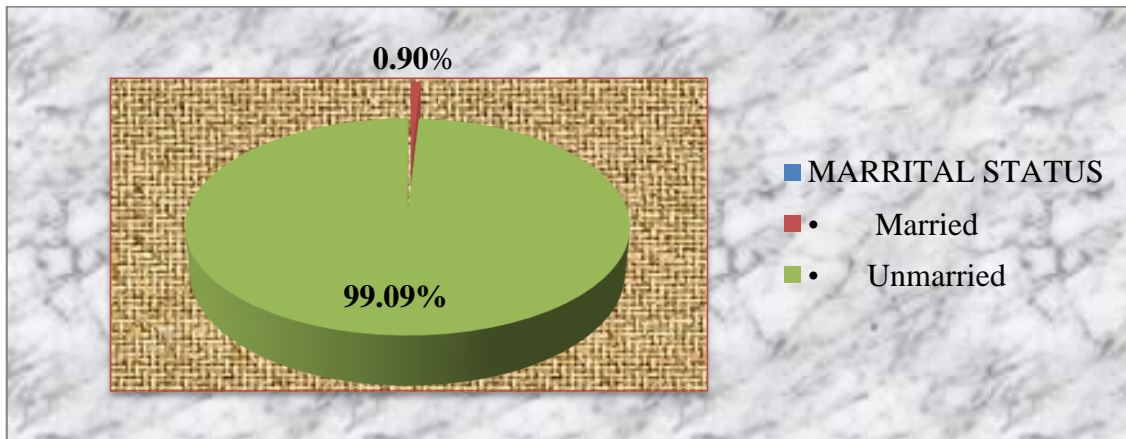


FIG-4 Pie Diagram showing percentages distribution of students according to marital status N=110

FIGURE-5 PREVIOUS KNOWLEDGE

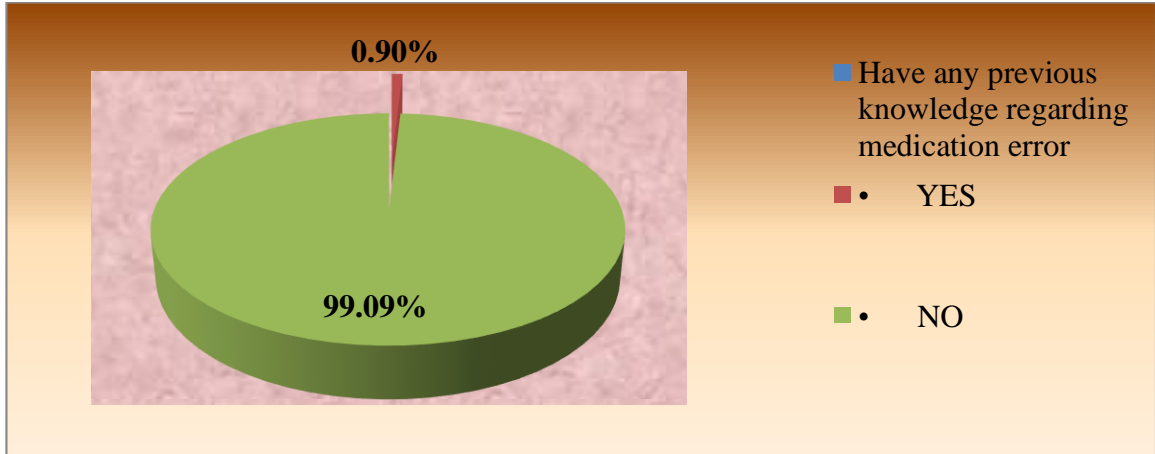
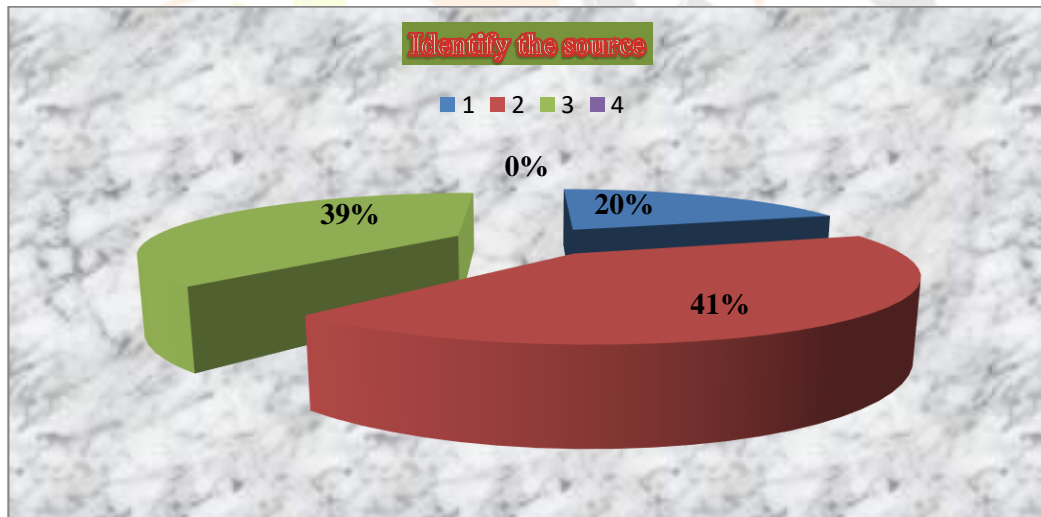


FIG-5 Pie Diagram showing percentages distribution of students according to previous knowledge regarding medication error .N=110



SECTION-II

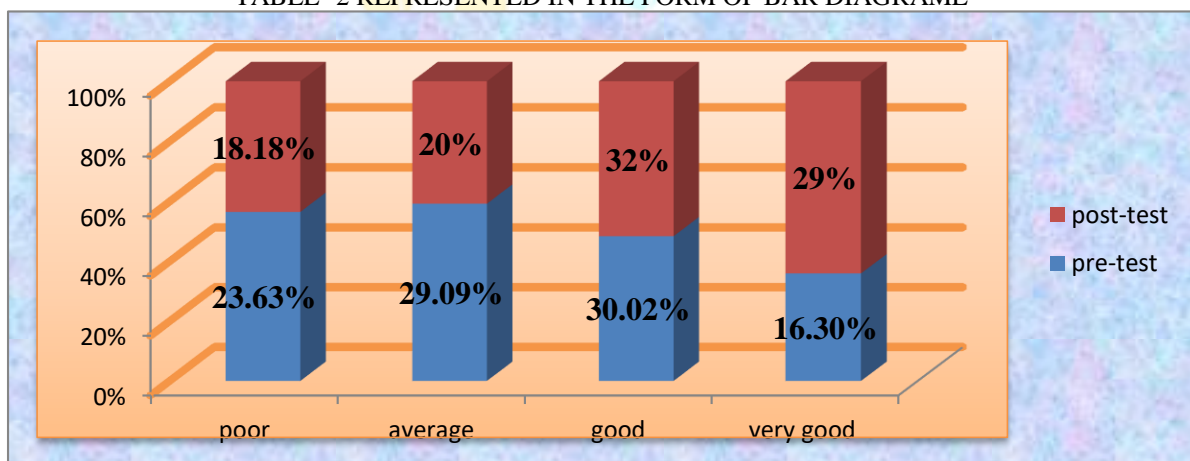
FINDING RELATED TO FREQUENCY AND PERCENTAGE DISTRIBUTION OF PRE TEST & POST TEST KNOWLEDGE SCORE REGARDING USE OF STAY S.A.F.E STRATEGY IN REDUCING MEDICATION ERRORS AMONG BSC (N)YEAR STUDENTS.

GRADING OF SCORE	GRADING OF KNOWLEDGE	PRE-TEST		POST-TEST	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1-5	Poor	26	23.63%	20	18.18%

<b>6-10</b>	Average	32	29.09%	22	20%
<b>11-15</b>	Good	34	30.02%	36	32%
<b>16-20</b>	Very good	18	16.3%	32	29%

- In Pre-test majority of students i.e. **34(30.02%)** were having good knowledge respectively, **32(29.09%)** average knowledge, **26(23.63%)** poor knowledge, **18(16.3%)** were having very good knowledge ,where as in post –test majority of student i.e. **36(32%)** were having good knowledge, **22(20%)** average knowledge score, **20(18.18%)** poor knowledge, **32(29%)** were having very good knowledge.
- hence the teaching program was effective in improving the knowledge regarding the use of stay S.A.F.E strategy in reducing medication errors

TABLE- 2 REPRESENTED IN THE FORM OF BAR DIAGRAM



**FIGURE-7** Bar diagram showing Frequency and Percentage distribution of pre-test and post-test knowledge score regarding use of stay S.A.F.E strategy in reducing medication errors.

**TABLE-3** Mean, standard deviation and Z test value of pre-test and post-test knowledge scores of samples regarding of stay S.A.F.E strategy in reducing medication errors. N =110

SL.NO	MEAN	MEAN DIFFERENCE	SD	Z -VALUE
1	11.6	3.6	6.42	2.93
2	15.2		14.06	

**Df(109)= 1.99 at 0.05 level of significance**

The data presented in table-3 that

- The mean post test knowledge score of students is 15.2 which is higher than the mean pre test knowledge score 11.6, with mean difference 3.6 .the obtained mean difference was found to be statistically significant.
- The calculated ‘z’ value is 2.93 which is greater than the table value at 0.05 level of significance at df (109).
- Hence it is concluded that the structured teaching program was effective in increasing the knowledge regarding the use of stay S.A.F.E strategy in reducing medication errors.



## SECTION - III

## FINDING THE ASSOCIATION BETWEEN POST TEST KNOWLEDGE SCORE WITH SELECTED DEMOGRAPHIC VARIABLES

SL.NO	DEMOGRAPHIC VARIABLE	KNOWLEDGE SCORE			CHI-SQUARE	df	P value	S/NS
		average	good	very good				
1	<b>AGE</b> <ul style="list-style-type: none"> <li>• 17-20 Years</li> <li>• 21-24 Years</li> <li>• 25-28 Years</li> <li>• ≥28 Years</li> </ul>				<b>06.214</b>	<b>6</b>	<b>0.177</b>	<b>NS</b>
		<b>0</b>	<b>6</b>	<b>0</b>				
		<b>12</b>	<b>27</b>	<b>9</b>				
		<b>6</b>	<b>7</b>	<b>8</b>				
		<b>10</b>	<b>20</b>	<b>29</b>				
2	<b>SEX</b> <ul style="list-style-type: none"> <li>• Male</li> <li>• Female</li> </ul>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1.272</b>	<b>2</b>	<b>0.53</b>	<b>NS</b>
		<b>30</b>	<b>36</b>	<b>44</b>				
3	<b>RELIGION</b> <ul style="list-style-type: none"> <li>• Hindu</li> <li>• Muslim</li> <li>• Christian</li> <li>• Sikh</li> </ul>	<b>16</b>	<b>28</b>	<b>11</b>	<b>3.31</b>	<b>3</b>	<b>0.96</b>	<b>NS</b>
		<b>0</b>	<b>6</b>	<b>0</b>				
		<b>10</b>	<b>11</b>	<b>4</b>				
		<b>10</b>	<b>8</b>	<b>7</b>				
4	<b>MARITAL STATUS</b> <ul style="list-style-type: none"> <li>• Married</li> <li>• Unmarried</li> <li>• Legally separated</li> <li>• Divorce</li> </ul>	<b>30</b>	<b>34</b>	<b>46</b>	<b>9.2</b>	<b>4</b>	<b>0.85</b>	<b>NS</b>
5	<b>HAVE ANY PREVIOUS KNOWLEDGE REGARDING MEDICATION ERROR</b> <ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul> If yes then identify the source <ul style="list-style-type: none"> <li>• Mass media</li> <li>• Printed material</li> <li>• Class/trainee</li> <li>• Other/specify</li> </ul>		<b>10</b>	<b>28</b>	<b>11.62</b>	<b>6</b>	<b>1.67</b>	<b>NS</b>
			<b>0</b>	<b>35</b>				
			<b>22</b>	<b>24</b>	<b>12.53</b>	<b>9</b>	<b>1.89</b>	<b>NS</b>
			<b>21</b>	<b>14</b>				
			<b>11</b>	<b>9</b>				
			<b>5</b>	<b>4</b>				

The shows evident that there is no significant association between the mean post–test knowledge score with the selected demographic variables as calculated ‘P’ value is greater than 0.05 level of significance. There for, Null hypothesis is accepted and research hypothesis is rejected.

TABLE-5

Coefficient of correlation between knowledge pre- tests knowledge score and post test knowledge score regarding use of stay S.A.F.E. strategy in reducing medication errors.

VARIABLE	MEAN	SD	r
Pre-test knowledge score	11.6	9.37	0.96
Post-test knowledge score	13.2	6.84	

The data shows evident that coefficient between knowledge pre- tests score and post test score regarding the use of stay S.A.F.E strategy in reducing medication errors according to NABH Protocol recommendation was ( $r = 0.96$ ).

## MAJOR FINDINGS OF THE STUDY

### SECTION-I

#### FINDING RELATED TO FREQUENCY AND PERCENTAGE DISTRIBUTION OF NURSING STUDENTS REGARDING USE OF STAY S.A.F.E STRATEGY IN REDUCING MEDICATION ERRORS OF DEMOGRAPHIC VARIABLES

The data presented in TABLE-1 revealed

- Highest percentage of students i.e. 48 (43.63%) were under the age group of 21-24 years, least percentage i.e. 62(56.36%) were in age group 17-20 years.
- Equal distribution of both male & female students the majority female student i.e. 110 (100%).
- Highest percentage of students i.e. 27 (90%) were married and least 3 (10%) were unmarried.
- Majority of students religion was Hindu i.e. 48(43.63%), Christian 46(41.81%),Muslim 4(3.63),Sikh 12(10.905%).
- Majority of students having previous knowledge regarding medication error & its prevention i.e 109 (99.00%) and least of the students having previous knowledge regarding medication error & its prevention 1(0.90%).
- Majority of students 45 (40.9%) got previous knowledge from printed material and least 22 (20%) got it from mass media, 43(39%) got it from class/trainee

### SECTION-II

#### FINDING RELATED TO FREQUENCY AND PERCENTAGE DISTRIBUTION OF PRE TEST & POST TEST KNOWLEDGE SCORE REGARDING USE OF STAY S.A.F.E STRATEGY IN REDUCING MEDICATION ERRORS AMONG BSC (N) YEAR STUDENTS.

Data presented in the Table 2 shows that

1. In Pre-test majority of students i.e. **34(30.02%)** were having good knowledge respectively,**32(29.09%)** average knowledge,26(23.63%)poor knowledge,**18(16.3%)** were having very good knowledge regarding use of stay S.A.F.E. strategy in reducing medication errors
2. In post test majority of student i.e. **36(32%)** were having good knowledge,**22(20%)**average knowledge score,**20(18.18%)** poor knowledge,**32(29%)** were having very good knowledge regarding regarding use of stay S.A.F.E. strategy in reducing medication errors
3. Hence the teaching program was effective in improving the knowledge regarding the use of stay S.A.F.E. strategy in reducing medication errors.

**TABLE-3**

Mean, standard deviation and Z test value of pre-test and post-test knowledge scores of samples regarding of stay S.A.F.E strategy in reducing medication errors. N =110

The data presented in table-3 that

- The mean post test knowledge score of students is 15.2which is higher than the mean pre test knowledge score 11.6, with mean difference 3.6 .the obtained mean difference was found to be statistically significant.
- The calculated 'z' value is 2.93 which is greater than the table value at 0.05 level of significance at df (109).
- Hence it is concluded that the structured teaching program was effective in increasing the knowledge regarding the use of stay S.A.F.E strategy in reducing medication errors.

### SECTION - III

#### FINDING THE ASSOCIATION BETWEEN POST TEST KNOWLEDGE SCORE WITH SELECTED DEMOGRAPHIC VARIABLES

1. The data presented in table-4 is evident that there is no significant association between the mean post–test knowledge score with the selected demographic variables as calculated 'P' value is greater than 0.05 level of significance, So, Null hypothesis is accepted and research hypothesis is rejected.

**TABLE-5**

#### COEFFICIENT OF CORRELATION BETWEEN KNOWLEDGE PRE- TESTS KNOWLEDGE SCORE AND POST TEST KNOWLEDGE SCORE REGARDING USE OF STAY S.A.F.E STRATEGY IN REDUCING MEDICATION ERRORS.

The data shows evident that coefficient between knowledge pre- tests score and post test score regarding the use of stay S.A.F.E strategy in reducing medication errors according to NABH Protocol recommendation was ( $r = 0.94$ ).

### SUMMARY

The chapter dealt with the summary of the findings with results of the study

### DISCUSSION, SUMMARY, CONCLUSION

This chapter deals with the discussion, summary, conclusion, implication for students Recommendations for future research in the field of nursing have also been presented.

### DISCUSSION

“A study to assess the effectiveness of planned teaching program on knowledge regarding the use of stay S.A.F.E strategy in reducing medication errors according to NABH Protocol recommendation among B.Sc. (N) students in selected Nursing college at Delhi NCR”.

A Study showed that having the clinical skills such as administer the medications and knowledge about drugs are very important for nurses which they can lead to acting professionally in high level (Adib Hajbaghery & Eshraghi Arani, 2018). Another strategy to prevent medication errors is motivating the nurses to report them, then they can consider how to decrease errors (Tehrani, 2015). So providing a motivating mechanism for reported medication errors can help to decrease the prevalence of medication errors in hospitals.

(Härkänen, Turunen, & Vehviläinen-Julkunen, 2020) Officials can help the nurses decrease medication errors and report more errors by training them and providing a safe therapeutic environment for better treatment of patients (Dirik et al., 2019). Although acting professionally was one of the results of the present study, it should be mentioned that nursing is known as a profession; therefore nurses must be dedicated to their professional principles. As studies have shown, the carelessness of nurses for their profession leads to bad professional performance.

A study of Sarfati et al (2019) showed that attending to professional standards while giving the medication is a preventive strategy. Accreditation reflects hospital commitment to meeting standards. Nurses’ awareness of medication errors greatly affect the follow-up, reporting, and prevention of similar cases. The majority (70.2%) of nurses was aware of this fact; also, most of them knew what to report as an error to doctors.

In another study, Prescription errors (138; 70.40%) are the most common among the types of errors. Similar findings were reported by different studies indicating prescription errors as commonly perceived errors 2, 6,11 Among the different prescribing errors, omission of dose (53%) and frequency errors (14%) were the most frequently occurring errors. The consequences of prescribing errors may lead to a reduced probability of effective treatment being timely or increase in risk of harm among patients due to drug related adverse effects or drug interactions. During the study period, frequency of medication administration errors was found to be 29.59%. In many studies, the frequency of medication administration errors ranges from 14 to 46 %. 2,10,9 The higher incidence of medication administration error occurs results in higher chances of morbidity and mortality in the patients.

Jordan stated clearly that nurses should proceed in the direction of changes in the nursing field and expecting a little information emerged from research papers.<sup>37</sup> Since the assessment of the majority of the contributing factors to medication error had been done, the application of relevant measures is crucial. To prevent the occurrence of any medication error type, future interventional studies should target in the direction of testing strategies which might have an effect in the reduction of medication error incidence.<sup>24,37</sup> Additionally, when healthcare organizations promote adjustments in patient care procedures, the estimation of their impact (positive or negative) both for patients and the staff, is useful to be explored as well.<sup>30</sup> Another impetus for research is the examination of medication errors in various clinical settings .

## CONCLUSION

➤ The following conclusion were drawn from the findings of the study

Data shows that

- Highest percentage of students i.e. 48 (43.63%) were under the age group of 21-24 years, least percentage i.e. 62(56.36%) were in age group 17-20 years.
- Equal distribution of both male & female students the majority female student i.e. 110 (100%).
- Highest percentage of students i.e. 27 (90%) were married and least 3 (10%) were unmarried.
- Majority of students religion was Hindu i.e. 48(43.63%), Christian 46(41.81%)., Muslim 4(3.63),Sikh 12(10.905%).
- Majority of students having previous knowledge regarding medication error & its prevention i.e. 109 (99.00%) and least of the students having previous knowledge regarding medication error & its prevention 1(0.90%).
- Majority of students 45 (40.9%) got previous knowledge from printed material and least 22 (20%) got it from mass media, 43(39%) got it from class/trainee

Data shows that

1 -In Pre-test majority of students i.e. 34(30.02%) were having good knowledge respectively,32(29.09%) average knowledge,26(23.63%)poor knowledge,18(16.3%) were having very good knowledge regarding use of stay S.A.F.E. strategy in reducing medication errors

2- In post –test majority of student i.e. 36(32%) were having good knowledge,22(20%)average knowledge score,20(18.18%) poor knowledge,32(29%) were having very good knowledge regarding use of stay S.A.F.E. strategy in reducing medication errors

3- Hence the teaching program was effective in improving the knowledge regarding the use of stay S.A.F.E. strategy in reducing medication errors.

The data shows that

- The mean post test knowledge score of students is 15.2which is higher than the mean pre test knowledge score 11.6, with mean difference 3.6 .the obtained mean difference was found to be statistically significant.
- The calculated ‘z’ value is 2.93 which is greater than the table value at 0.05 level of significance at df (109).
- Hence it is concluded that the structured teaching program was effective in increasing the knowledge regarding the use of stay S.A.F.E strategy in reducing medication errors.

The data shows that

is evident that there is no significant association between the mean post–test knowledge score with the selected demographic variables as calculated ‘P’ value is greater than 0.05 level of significance, So, Null hypothesis is accepted and research hypothesis is rejected.

The data shows evident that coefficient between knowledge pre- tests score and post test score regarding the use of stay S.A.F.E strategy in reducing medication errors according to NABH Protocol recommendation was ( $r = 0.94$ )

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