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Effectiveness of planned teaching program regarding knowledge related medication error among staff nurses in selected hospitals of Ahmedabad

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Abstract
A Quantitative Research Approach and true experimental research design was use to assess the knowledge of Staff nurses regarding medication error. 30 Staff nurses were chosen as samples for conducting the study. The main objective of study was to assess the knowledge regarding medication error among staff nurses in selected hospitals of Ahmedabad, before and after provision of planned teaching program. Investigator prepared questionnaires on medication error and this tool is divided in to two sections: Section I is Demographic variables which include age, gender, education and Section II consist self – structured questionnaires regarding medication error. A structured questionnaire was used to assess the knowledge of people in order to achieve the objective of the study. Data gathered from the survey was analyzed and interpreted using true experimental study. The mean of knowledge regarding medication error of Staff nurses in pretest is 13.23 whereas the mean of posttest, after the planned teaching programme was administered came to be 19.8. The calculated 't' value was 8.09262 and 3.83 for the study conducted. Hence there was no evidence against null hypothesis. The result strongly suggests that Staff nurses were well acquainted with the knowledge regarding medication error after the provision of planned teaching programme.

Keywords: Medication error, medicine, planned teaching

Introduction
Elaine K Walsh *et al.* done study on economic impact of medication error the aim of this review study was to describe and quantify the economic burden associated with medication error. Methods was systemic review PubMed, Cochrane, Embase, CINAHL, EconLit, ABI/INFORM, Business Source Complete were searched. Studies was published 2004-2016 assessing the economic impact of medication error were included. Cost values were expressed in Euro 2015. A narrative synthesis was performed. Result was total of 4572 articles were identified from database searching, and 16 were included in the review. Fifteen studies expressed economic impact in monetary terms. Mean cost per error per study ranged from €2.58 to €111 727.08. So conclusion study was Considerable variability existed between studies in terms of financial cost, patients, settings and errors included and establish economic impact [1].

Nrupal Patel *et al.* done study on a study of medication errors in a tertiary care hospitals objective study was to determine the nature and types of medication errors (MEs), to evaluate occurrence of drug-drug interactions (DDIs), and assess rationality of prescription orders in a tertiary care teaching hospital. Materials and methods was a prospective, observational study was conducted in General Medicine and Pediatric ward of Civil Hospital, Ahmedabad during October 2012 to January 2014. The case records and treatment charts were reviewed. The investigator also accompanied the staff nurse during the ward rounds and interviewed patients or care taker to gather information. A total of 1109 patients (511 in Medicine and 598 in Pediatric ward) were included during the study period. Total number of MEs was 403 (36%) of which, 195 (38%) were in Medicine and 208 (35%) were in Pediatric wards. The most common ME was PEs 262 (65%) followed by AEs 126 (31%). A potential significant DDIs were observed in 191 (17%) and serious DDIs in 48 (4%) prescriptions. Majority of prescriptions were semirational 555 (53%) followed by irrational 317 (30%), while 170 (17%) prescriptions were rational. Conclusion was there is a need to

Establish ME reporting system to reduce its incidence and improve patient care and safety [2].

Dana N Rutledge *et al*. done study on barriers to medication error reporting among hospital nurses purpose was to report medication error reporting barriers among hospital nurses, and to determine validity and reliability of an existing medication error reporting barriers questionnaire. In 2017 descriptive study was used at a community hospital in California (United States) and Registered nurses (~1,000) were invited to participate in the online survey via email. Reported here are sample demographics (n = 357) and responses to the 20-item medication error reporting barriers questionnaire. Using factor analysis, four factors that accounted for 67.5% of the variance were extracted.

These factors (subscales) were labelled Fear, Cultural Barriers, Lack of Knowledge/Feedback and Practical/Utility Barriers; each demonstrated excellent internal consistency. Results was medication error reporting barriers questionnaire, originally developed in long-term care, demonstrated good validity and excellent reliability among hospital nurses. Substantial proportions of American hospital nurses (11%-48%) considered specific factors as likely reporting barriers. Average scores on most barrier items were categorised "somewhat unlikely." Conclusions was Hospitals need to determine the presence of perceived barriers among nurses using questionnaires such as the medication error reporting barriers and work to encourage better reporting [3].

Juan Escriva Gracia *et al*. done study on medication error and knowledge gaps among critical care nurses and objective of this research was to study the level of knowledge that critical-care nurses have about the use and administration of medications is related to the most common medication errors.

Mixed (multi-method) study was used with three phases that combined quantitative and qualitative techniques. In phase 1 patient medical record were reviewed, in phase 2 consisted of an interview with a focus group and an ad hoc questionnaire was carried out in phase 3. A result was the global medication error index was 1.93%. The main risk areas were errors in the interval of administration of antibiotics (8.15% error rate), high-risk medication dilution, concentration, and infusion-rate errors (2.94% error rate), and errors in the administration of medications via nasogastric tubes (11.16% error rate).

Conclusions of study that Nurses have a low level of knowledge of the drugs they use the most and with which a greater number of medication errors are committed in the ICU [4].

Method

The study was conducted in selected hospitals of Ahmedabad. Quantitative Research approach was adopted along with purposive sampling technique for the study. The sample consisted of 30 Staff nurses (21 years to 50 years) living in selected hospitals of Ahmedabad.

A true experimental approach with one group pretest posttest research design was selected for the study. Approval taken from selected hospitals ethical committee. A pretest was conducted using self-structured questionnaire followed by planned teaching, regarding medication error. Posttest was conducted one week later. The purpose of the study was explained, and informed consent was taken from all respondents prior to the study.

Result

Table 1: Consist demographic data of samples N=30

Sr. No.	Demographic variable	Category	Frequency	Percentage
1		21-30years	18	60%
2	Age of Staff nurses	31-40years	6	20%
3		41-50 years	6	20%
1		GNM	1	3.33%
2	Educational status	P.B.Sc.	12	40%
3		B.Sc.	17	56.60%
1	Gender	Male	15	50%
2		Female	15	50%

An analysis of data related to assessment of knowledge regarding medication error before and after administration of planned teaching among Staff nurses in selected hospitals of Ahmedabad.
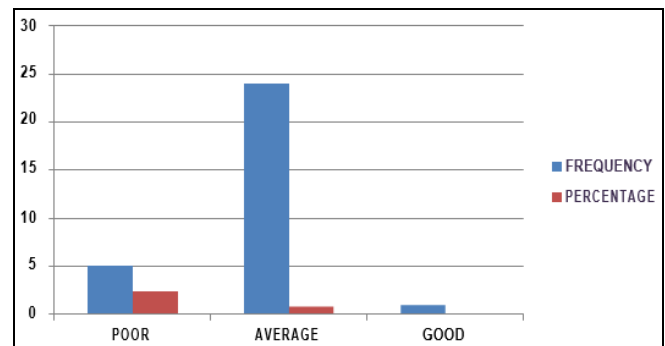

Fig 1: Consists about knowledge of Staff nurses in selected hospitals of Ahmedabad regarding medication error before administration of planned teaching.

Table 2: Consist pretest and posttest knowledge of Staff nurses in selected hospitals of Ahmedabad. N=30

Knowledge	Pretest		Posttest	
	Frequency	Percentage	Frequency	Percentage
Poor (score 0-9)	5	16.67%	0	0%
Average (score 10-19)	24	80%	12	40%
Good (score 20-29)	1	3.33%	18	60%

Table 3: Consists of paired t-test for effectiveness of planned teaching on knowledge of Staff nurses in selected areas of Ahmedabad. N=30

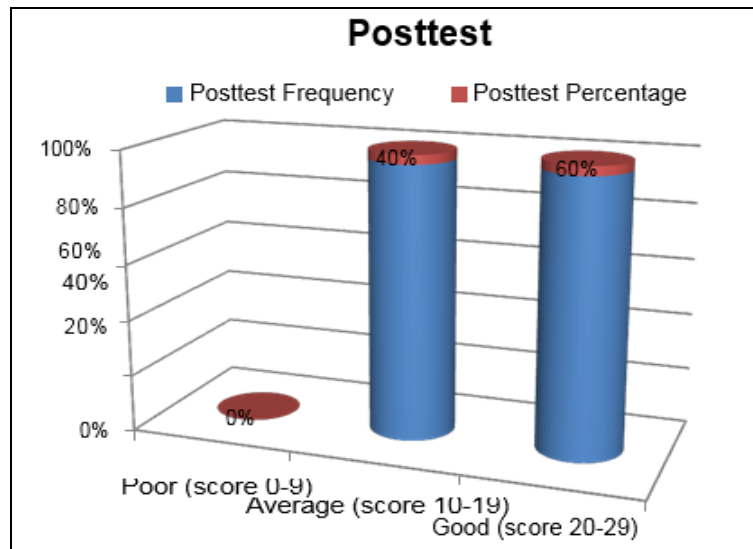| Administration	Mean	SD	Calculated 't' value	Table value	p-value
Pretest	13.23	3.289	8.09262	3.460	0.05
Posttest	19.8	2.99			

Fig 2: Consist of knowledge of Staff nurses in selected hospitals of Ahmedabad regarding medication error after administration of planned teaching.

An analysis of the data related to the effectiveness of planned teaching program on the knowledge regarding medication error on Staff nurses in selected hospitals of Ahmedabad.

Discussion
Medication error is an important part which to contribute to health care. If medication error is prevented and medication administration practiced appropriately, it has major benefits for the patients such as complication of medications and decreased expenses of patients as well as hospitals.

Sara Dionisi *et al*. done study on the application of the theory of planned teaching behavior to prevent medication error. The aim is to search the existing literature on the medication errors and the TPB to predict the intentions that foreshadow risk behaviors of nursing interns. This scoping review method was used grounded by Arksey and O'Malley's framework and the results was many students reporting an error would lead to a loss of trust in the nursing profession and this could prevent the report and they observed that a better education on safety raised the level of self-confidence and the sense of responsibility of the students, making them more inclined to the drug therapy management. A conclusion of the study was the Theory of planned behavior is essential to forerun the behavioral intention of students on the pharmacological safety and the collaborative practice through predictive factors, as attitude, subjective norms and perceived behavioral control [5].

Hence it was decided to conduct a planned teaching program on medication error to increase knowledge of Staff nurses in selected hospital of Ahmedabad.

Conclusion
The present study assessed the knowledge of Staff nurses from selected hospitals of Ahmedabad, related to medication error and concluded that planned teaching is an effective method of improving knowledge among staff nurses.

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