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NATIONAL PATIENT SAFETY GOALS: AWARENESS AMONG NURSES IN SUPERSPECIALITY HOSPITAL OF DELHI

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Abstract
Death by medicine is gaining serious attention from all the stakeholders and safety is becoming central to patient care in modern medicine. PSGs are meant to ensure patient is not harmed due to hospitalization. The awareness regarding PSGs is elementary to their implementation; hence the study attempts to gauge the same. A quantitative, non-interventional and prospective study approved by Institutional Research Review Committee was carried out using a pre-tested questionnaire on 25% randomly selected nursing personnel (60) to measure their awareness regarding the PSGs. The primary objectives of the study were Assessing the awareness level among the nursing staff regarding NPSGs and identifying areas warranting immediate attention about PSGs. The study revealed that 75% nurses had diploma in GNM and 25% were graduates of nursing. The awareness level of nurses was highest for infection control at 91.4% followed by patient identification and medication safety at 86.34% and 76.6%. Effective communication among care provider stood at the last pedestal with 72.5% level of awareness. Out of total of 30 areas, 8 areas scored less than 80% on awareness scale and were triaged for focused intervention. 11 areas scored between 80-95% and will be targeted as level two for intervention followed by left over 7 areas which scored more than 95% on the scale.

Keywords: Patient safety goals, Hospital Acquired Infections, General nursing and midwifery, Adverse event, Near miss, communication, Infection control

Introduction

Patient safety is a new healthcare discipline that emphasizes the reporting, analysis, and prevention of medical error that often leads to adverse healthcare events. The international evidence base built over the last thirty years shows that all health care workers make errors and that levels of harm are comparable in all settings. It is now widely accepted that about 10% of all patients admitted to hospital will be unintentionally harmed in some way. To put that into context: there are more deaths annually as a result of health care than from

road accidents, breast cancer and AIDS combined (1). A patient safety incident is any healthcare related event that was unintended, unexpected and undesired and which could have or did cause harm to patients. It is recommended as a preferred term when considering adverse events, near misses and significant events to minimize confusion and help the formal reporting of relevant incidents.

- An **adverse event** occurred if a patient was injured by healthcare intervention rather than an underlying condition.
- A '**near miss**' (sometimes referred to as a 'close call' or 'free lesson') is any incident that could have led to harm but did not, either by chance or through timely intervention.

Common types of Error:

- **Slips** are incorrectly executed plans. They are usually the result of attention failures. For example, an anesthetist wants to adjust the airflow to a patient but turns the 'wrong' dial.
- **Lapses** occur when a plan (or part of a plan) is not executed. They are usually the result of memory failures. For example, a GP forgets to issue a promised prescription for a patient after finishing her other home visits.
- **Mistakes** are the result of choosing or executing the wrong plan. For example, a patient with shortness of breath is diagnosed with pneumonia and treated with an antibiotic. A few days later she is admitted as her condition worsens. Subsequent investigations reveal a pulmonary embolism as the true problem. This is treated with anticoagulation. Errors are **unintentional** and should not be confused with violations, negligence or recklessness:
- **Violations** are deliberate actions that are inconsistent with rules or recommended practice familiar to a health care worker. For example, inadequate record keeping may be an attempt to 'save time' during busy periods.
- **Professional negligence** or medical malpractice occurs when a health care worker, by act or omission, deviates from accepted standards of practice and causes injury or death to a patient, whether intentional or unintentional.
- **Recklessness**: someone is considered to have acted recklessly if they took a deliberate and unjustifiable risk. Cases of recklessness are usually dealt with under criminal law.

In order to evaluate the safety and the quality of care provided for patients/residents, the Joint Commission establishes National Patient Safety Goals annually (2)

Goal 1: Identify Patient Correctly

Use at least two ways to identify patients/residents. For example, use the patient's/resident's name and date of birth. This is done to make sure that each patient/resident gets the medicine and treatment meant for them. Make sure that the correct patient gets the correct blood when they get a blood transfusion: Match the blood or blood component to the order; Match the patient to the blood or blood component; and Use a two-person verification process or a one-person verification process accompanied by automated identification technology, such as bar coding.

Goal 2: Improve Staff Communication

Get important test results to the right staff person on a timely basis.

Goal 3: Use Medication Safely

Reduce the likelihood of patient/resident harm associated with the use of anticoagulant therapy.

Label all medications, medication containers, and other solutions on and off the sterile field in preoperative and other procedural settings. Note: Medication

containers include syringes, medicine cups, and basins.

Record and pass along correct information about a patient's medicines. Find out what medicines the patient is taking. Compare those medicines to new medicines given to the patient. Make sure the patient knows which medicines to take when they are at home. Tell the patients it is important to bring their up-to-date list of medicines every time they visit a doctor.

Aim and objective

The study aims at:

- ✓ Assessing the awareness level among the nursing staff regarding national patient safety goals
- ✓ Establishing the baseline of knowledge of nursing staff regarding national patient safety goals
- ✓ Identify the specific areas in which targeted intervention is required

Materials and methods

A quantitative, non-interventional and prospective study approved by Institutional Research Review Committee was conducted for a period of one week. A pre-tested questionnaire having 30 questions was used to evaluate awareness of nursing staff on the following PSGs:

Identify patients correctly

1. Improve staff communication
2. Use medicines safely

Sampling

25% of nursing staff on rolls of hospital was randomly selected using a single blind method to measure their awareness regarding the PSGs.

Sample size

The study was conducted on 60 nursing staff who were randomly selected and participated in the study at their own will. The indirect identifier was used for staff and informed consent was obtained from all the volunteer participants. There was no conflict of interest of the researcher, hospital administration or any other personnel in the study.

Inclusion Criteria

- ✓ Subjects who are nurses of ISIC
- ✓ Subjects who were willing to participate in the study.

Collection of data

A pre-tested questionnaire with thirty questions was used for collecting data from the selected group of nurses. The questionnaire comprised of multiple choice, true/ false and yes/ no type of questions. The questions were self explanatory in nature. The questionnaire was administered by an independent staff member (not related with nursing team) and collected back after 48 hours of distribution. The respondents were oriented and explained the purpose and importance of the study. They were assured about the confidentiality of their responses. All the questionnaires were numbered serially for analysis of results. SPSS 16 was used for analyzing the data on the listed parameters.

Results and discussion

Percentage distribution for characteristics of nurses

Table no. 1

Age of Nurses	
20-25	25% (15)
25-30	60% (36)
30-35	11.7% (7)
35-40	1.7% (1)
40-45	1.7% (1)
Ward wise Distribution	

Casualty	20% (12)
Everest ward	15% (9)
Heritage ward	16.7% (10)
General ward	21.7% (13)
New ward	26.7% (16)
Educational Qualification	
BSc Nursing	18.3% (11)
GNM (General Nursing and Midwifery)	81.7% (49)

The above table shows that 60% of nurses belong to the age group 25-30, followed by 25% of nurses belonging to age group 20-25, followed by 11.7% of nurses between age group 30-35 and only 1.7% of nurses belong to age group 35-40 and 40-45 respectively.

Table no. 2: Distribution of Nurses Educational qualification and their respective ward

Educational Qualification	Casualty	Everest Ward	Heritage Ward	General Ward	New Ward	Total
BSc Nursing	1 (9.1%)	2 (18.2%)	2 (18.2%)	3 (27.3%)	3 (27.3%)	11 (100%)
General Nursing and Midwifery (GNM)	11 (22.4%)	7 (14.3%)	8 (16.3%)	10 (20.4%)	13 (26.5%)	49 (100%)
Total	12 (20%)	9 (15%)	10 (16.7%)	13 (21.7%)	16 (26.7%)	60 (100%)

The above table shows the distribution of nurses Educational qualification in respective ward. 3/4th of nurses have pursued diploma in General Nursing and Midwifery (GNM) and 1/4th of the nurses have pursued graduation in BSc Nursing.

Table no. 3: Distribution of Nurses Designation and their Age group

Designation	Age Group					Total
	20-25	25-30	30-35	35-40	40-45	
In charge	0	0	2 (50%)	1 (25%)	1 (25%)	4 (100%)
Assistant In charge	0	2 (33.3%)	4 (66.6%)	0	0	6 (100%)
Staff Nurse	15 (30%)	34 (68%)	1 (2%)	0	0	50 (100%)
Total	15 (25%)	36 (60%)	7 (11.6%)	1 (1.6%)	1 (1.6%)	60 (100%)

The above table illustrates the relationship between the nurses' designation and the age group in which they fall. There are in total 4 in charge nurses which fall under age group 30-45 and 6 Assistant In charges which fall under age group 25-35. Rest 50 is the staff nurses which fall under age group 20-35.

Table no. 4: Percentage distribution of Nurses awareness for patient identifiers for correct patient identification

Educational Qualification	Patient identifiers for correct patient identification		Total
	Unaware	Aware	
BSc nursing	1 (9.1%)	10 (90.9%)	11 (100%)
GNM	2 (4.1%)	47 (95.9%)	49 (100%)
Total	3 (5%)	57 (95%)	60 (100%)

The table shows that 10 (90.9%) nurses with educational qualification as BSc nursing were aware out of 11 nurses and 47 (95.9%) nurses with educational qualification as General nursing and midwifery were aware out of 49 nurses. Higher is educational qualification, higher is there level of awareness. The chi square value obtained is 0.475.The null hypothesis is rejected.

Table no. 5: Percentage distribution for Nurses awareness about patient identifiers used in ISIC hospital

Educational Qualification	patient identifiers used in ISIC hospital		Total
	Unaware	Aware	
BSc nursing	3 (27.3%)	8 (72.7%)	11 (100%)
GNM	7 (14.7%)	42 (85.7%)	49 (100%)
Total	10 (16.7%)	50 (83.3%)	60 (100%)

The table shows 8 (72.7%) nurses with educational qualification as BSc nursing were aware out of 11 nurses and 42 (85.7%) nurses with educational qualification as General nursing and midwifery were aware out of 49 nurses. Higher the educational qualification, higher is there level of awareness. The chi square value obtained is 1.091. The null hypothesis is rejected.

Table no. 6: Percentage distribution of Nurses awareness about steps that should be followed before initiating a blood/ blood component transfusion.

Educational Qualification	Steps that should be followed before initiating a blood/ blood component transfusion.		Total
	Unaware	Aware	
BSc nursing	1 (9.1%)	10 (90.9%)	11 (100%)
GNM	4 (8.2%)	45 (91.8%)	49 (100%)
Total	5 (8.3%)	55 (91.7%)	60 (100%)

The table shows10 (90.9%) nurses with educational qualification as BSc nursing were aware out of 11 nurses and 45 (91.8%) nurses with educational qualification as General nursing and midwifery were aware out of 49 nurses. Nurses with educational qualification of GNM and more year of experience are more aware. The chi square value is 0.010. The null hypothesis is rejected.

Table no. 7: Percentage distribution of Nurses awareness if any delay occurs in critical diagnostic reports

Educational Qualification	Any delay occur in critical diagnostic reports		Total
	Unaware	Aware	
BSc nursing	6 (54.5%)	5 (45.5%)	11 (100%)
GNM	26 (53.1%)	23 (46.9%)	49 (100%)
Total	32 (53.3%)	28 (46.7%)	60 (100%)

The chi square value obtained is 0.008. The null hypothesis is accepted. This is because only 5 (45.5%) nurses with educational qualification as BSc nursing were aware out of 11 nurses and 23 (46.9%) nurses with educational qualification as General nursing and midwifery were aware out of 49 nurses. Nurses with higher educational qualification are not aware.

Table no. 8: Percentage distribution of Nurses awareness regarding the correct sample collection procedure

Educational Qualification	The correct sample collection procedure		Total
	Unaware	Aware	
BSc nursing	0	11 (100%)	11 (100%)
GNM	1 (2.1%)	48 (97.9%)	49 (100%)
Total	1 (1.7%)	59 (98.3%)	60 (100%)

The chi square value obtained is 0.228. The null hypothesis is rejected; 11 (100%) nurses with educational qualification as BSc nursing were aware and 48 (97.9%) nurses with educational qualification as General nursing and midwifery were aware out of 49 nurses. Higher the educational qualification, higher is the level of awareness.

Table no. 9: Percentage distribution of Nurses awareness if they find open medication/ solution unlabelled

Educational Qualification	Find open medication/ solution unlabelled		Total
	Unaware	Aware	
BSc nursing	0	11 (100%)	11 (100%)
GNM	0	49 (100%)	49 (100%)
Total	0	60 (100%)	60 (100%)

The chi square value cannot be obtained; 11(100%) nurses with educational qualification as BSc nursing were aware and all 49 (100%) nurses with educational

qualification as General nursing and midwifery were aware. There is 100% awareness in nurses irrespective of educational qualification.

Table no. 10: Percentage distribution of Nurses awareness about the factors that are responsible to harm the patient during anticoagulation medication.

Educational Qualification	Factors responsible to harm the patient during anticoagulation medication.		Total
	Unaware	Aware	
BSc nursing	8 (72.7%)	3 (27.3%)	11 (100%)
GNM	33 (67.3%)	16 (32.7%)	49 (100%)
Total	41 (68.3%)	19 (31.7)	60 (100%)

The chi square value obtained is 0.120. The null hypothesis is rejected; 1/3rd i.e. (27.3%) nurses with educational qualification as BSc nursing were aware out of 11 nurses and only 1/3rd (32.7%) nurses with educational qualification as General nursing and midwifery were aware out of 49 nurses. Higher proportions of nurses with educational qualification as BSc nursing are unaware.

Table no. 11: Percentage distribution of Nurses awareness about the ways that are used to assess patient's base line coagulation status.

Educational Qualification	The ways that are used to assess patient's base line coagulation status.		Total
	Unaware	Aware	
BSc nursing	5 (45.5%)	6 (54.5%)	11 (100%)
GNM	24 (49%)	25 (51%)	49 (100%)
Total	29 (48.3%)	31 (51.7%)	60 (100%)

The chi square value obtained is 0.045. The null hypothesis is accepted; half of the nurses (54.5%) with educational qualification as BSc nursing were aware out of 11 nurses and half of the nurses (51%) with educational qualification as General nursing and midwifery were aware out of 49 nurses. There is no relationship between nurses' educational qualification and level of awareness.

Table no. 12: Percentage distribution of Nurses awareness about the elements that are included to educate patient/ family for anticoagulant therapy.

Educational Qualification	Elements that are included to educate patient/ family for anticoagulant therapy.		Total
	Unaware	Aware	
BSc nursing	2 (18.2%)	9 (81.8%)	11 (100%)
GNM	11 (22.4%)	38 (77.6)	49 (100%)
Total	13 (21.7%)	47 (78.3%)	60 (100%)

The chi square value obtained 0.096. The null hypothesis is rejected; 9 (81.8%) nurses with educational qualification as BSc nursing were aware out of 11 nurses and 38

(77.6%) nurses with educational qualification as General nursing and midwifery were aware out of 49 nurses. Higher the educational qualification, higher is the awareness.

Table no. 13: Percentage distribution of Nurses awareness about medication trays.

Educational Qualification	Medication trays		Total
	Unaware	Aware	
BSc nursing	2 (18.2%)	9 (81.8%)	11 (100%)
GNM	2 (4.1%)	47 (95.9%)	49 (100%)
Total	4 (6.7%)	56 (93.3%)	60 (100%)

The chi square value obtained is 2.870. The null hypothesis is rejected; 9 (81.8%) nurses with educational qualification as BSc nursing were aware out of 11 nurses and 47 (95.9%) nurses with educational qualification as General nursing and midwifery were aware out of 49 nurses. Nurses with educational qualification as BSc nursing and GNM are more aware.

Table no. 14: Percentage distribution of Nurses awareness about benefits of medication reconciliation.

Educational Qualification	Benefits of medication reconciliation		Total
	Unaware	Aware	
BSc nursing	3 (27.3%)	8 (72.7%)	11 (100%)
GNM	18 (36.7%)	31 (63.3%)	49 (100%)
Total	21 (35%)	39 (65%)	60 (100%)

The chi square value obtained is 0.354. The null hypothesis is rejected; 8 (72.7%) nurses with educational qualification as BSc nursing were aware out of 11 nurses and 31 (63.3%) nurses with educational qualification as General nursing and midwifery were aware out of 49 nurses. Higher the educational qualification, higher is the level of awareness

Table no. 15: Percentage distribution of Nurses awareness about information that should be included to label medication/ other solutions.

Educational Qualification	Information that should be included to label medication/ other solutions		Total
	Unaware	Aware	
BSc nursing	0	11 (100%)	11 (100%)
GNM	1 (2%)	48 (98%)	49 (100%)
Total	1 (1.7%)	59 (98.3%)	60 (100%)

The chi square value obtained is 0.228. The null hypothesis is rejected; 11 (100%) nurses with educational qualification as BSc nursing were aware and 48 (98%) nurses

with educational qualification as General nursing and midwifery were aware out of 49 nurses. Higher the educational qualification, higher is the level of awareness.

Table no. 16: Percentage distribution of Nurses awareness about the time at which current medication information should be obtained.

Educational Qualification	Time at which current medication information should be obtained.		Total
	Unaware	Aware	
BSc nursing	7 (63.6%)	4 (36.4%)	11 (100%)
GNM	21 (42.9%)	28 (57.1%)	49 (100%)
Total	28 (46.7%)	32 (53.3%)	60 (100%)

The chi square value obtained is 1.558. The null hypothesis is rejected; 4 (36.4%) nurses with educational qualification as BSc nursing were aware out of 11 nurses and 28 (57.1%) nurses with educational qualification as General nursing and midwifery were aware out of 49 nurses. Nurses with educational qualification as BSc nurses are less aware.

Conclusion

The growing number of medical services, complex procedures, medications and patients significantly increase the potential number of adverse events, which lead to human loss and suffering and are costly for the health-care system and to society in general. Despite the best of intensions of healthcare provider, healthcare associated infections (HAIs) occur in hospitals every day.

The study was conducted in INDIAN SPINAL INJURIES CENTER, VASANT KUNJ to assess nurses awareness on National patient safety goals shows that out of 60 nurses 11 nurses had Educational qualification as BSc nursing and 49 nurses were diploma holder in General nursing and midwifery. The 11 nurses with educational qualification as BSc nursing were more aware about patient safety goals compared to other nurses. There are lot of possibilities of improvement in both the cadres.

Acknowledgment

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