A Study to Assess the Practices Followed By Nurses during Blood Sampling Process in Adherence with IPSG 1 in Selected Department Of Apollo Hospitals, Navi Mumbai.

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Abstract
The study was planned to identify the practices followed by nurses in adherence with IPSG 1 during sampling process in intensive care area of Apollo hospital Navi, Mumbai. Improper identification of patient during sampling process leads to sample errors. The researcher decided to conduct this study in Intensive care areas where maximum sampling occurs using a quantitative approach with a descriptive research design for this study. 100 sample were tested in ICU with the help of observation checklist. Frequency percentage was used for analysing demographic data, compliance and non-compliance practices during sampling process followed by nurses in adherence with IPSG 1. It was observed that maximum non-compliance occurs when nurses fail to recheck the patient's identification details with the lab request number on the vacutainers with 67% (N=100). However as a routine practise of rechecking by senior on duty this observation was corrected giving a 100% compliance. Association of the demographic data of nurses with experience and the highest educational qualification possessed by nurses with the practises during sampling process followed by them in adherence with IPSG 1 was computed with Chi square test square. It was found that the association of work experience of nurses with adherence to IPSG I in during sampling process was statistically significant at 0.05 level of significance whereas there is no association of the educational qualification of nurses with adherence to IPSG I.

I. INTRODUCTION

Apollo Hospital, Navi Mumbai is a JCI accredited hospital which follows the JCI standards in providing quality healthcare for all. Apollo hospitals follow the International patient safety Goals (IPSG) to maintain the JCI standard.

There are 6 IPSG goals followed in Apollo Hospitals, Navi Mumbai, they are:

IPSG 1: IDENTIFY THE PATIENT CORRECTLY
IPSG 2: IMPROVE EFFECTIVE COMMUNICATION
IPSG 3: IMPROVE THE SAFETY OF HIGH ALERT MEDICATIONS
IPSG 4: ELIMINATE WRONG SITE, WRONG PATIENT, WRONG PROCEDURE/SURGERY
IPSG 5: REDUCE THE RISK OF HEALTH CARE ASSOCIATED INFECTIONS
IPSG 6: REDUCE THE RISK OF PATIENT HARM RESULTING FROM FALL [1]

All the nursing process in Apollo hospital Navi Mumbai have IPSG as their base for practise.

IPSG.1 The hospital develops and implements a process to improve accuracy of patient identifications. Intent of IPSG.1 Wrong-patient errors occur in virtually all aspects of diagnosis and treatment. Patients may be sedated, disoriented, not fully alert, or comatose; may change beds, rooms, or locations within the hospital; may have sensory disabilities; may not remember their identity; or may be subject to other situations that may lead to errors in correct identification. The intention of this goal is firstly to reliably identify the individual as the person for whom the service or treatment is planned; secondly, to match the service or treatment to that individual [1]

Safe care begins with proper identification. The identification process used in the hospital requires at least two ways to identify a patient, such as the patient's name, identification number, birth date, a bar-coded wristband. The patient's room number or location in the hospital should not be used for identification. The two different patient identifiers used should be different in different circumstances. For example, during a verbal

patient interaction, the patient identifiers used may consist of patient name and patient birth date. However, when labelling specimens, reporting diagnostic test results, or determining the unique identifier for the patient's medical record, the patient's name and an identification number may be used. The two identifiers used must be consistent within an area

Nowadays patient safety is a new healthcare issue in the healthcare organizations that includes the reducing and preventing medical fault that often leads to harmful health consequences. Health care has become more efficient and more complex, with greater application of newer technologies and therapies, which needs adopting with the international patient safety goals to improve the patient safety environment. The concept of patient safety has been variously conceptualized. Patient safety forms the basis of healthcare allocation just as physiological and biological; safety needs form the basis of Maslow's hierarchy (Maslow, 1954) [2]. Likewise, can be achieved if the patient does not feel safe but the healthcare system is exceedingly complex and ensuring patient safety needs the ongoing, focused efforts of every member of the healthcare team (Ulrich& Kear, 2014) [3]. The simplest definition of patient safety by World Health Organization (WHO), is the prevention of mistakes and effects to patients associated with health care (WHO, 2016). Patient safety in health care hospitals has presented with awareness to reinforce patient safety culture. "To Err Is Human," the Institute of Medicine defines patient safety as "freedom from accidental injury, Error is defined as" the failure of a planned action to be completed as prepared or the use of a wrong plan to achieve an objective." (Kohn et al, 2000) [4]

The aim of this study is to identify practices followed by nurses in adherence with IPSG 1. Apollo hospital Navi Mumbai follows International patient safety goals to ensure high quality care is given to all patients availing their care. Blood sampling is the most common investigations that are carried frequently for diagnosing and treating a patient. It was found in the internal audits in Apollo Hospital Navi Mumbai, that sampling errors are the most common observation which hinder the treatment process. Also, Intensive care units are the departments where maximum sampling process occurs. Hence the researchers decided to conduct a study in the Intensive care units. The results of this study, will help to rectify the weak areas and also help in strengthening on job training focusing on the parameters of non-compliance.

Blood sampling is one of the common procedures done in every ICU for diagnosis, treatment and prognosis. Daily hundreds of samples are collected from different ICU but lack of appropriate knowledge of blood sampling process by paramedical staff and accidental errors make the samples inappropriate for testing. These errors can be avoided with proper identification of patient, investigations advised and proper training on sampling process.

PROBLEM STATEMENT
A study to assess the practices during sampling process followed by nurses during blood sampling process in adherence with IPSG 1 in selected department of Apollo hospitals, Navi Mumbai.
OBJECTIVES OF THE STUDY-
1.   To observe the practices followed by nurses in adherence with IPSG 1 for blood sampling procedure.
2.   To analyse the association of selected demographic data with the practises followed by nurses in adherence with IPSG 1.

II. MATERIAL AND METHODS
- **Research approach:** Quantitative approach
- **Research design:** Descriptive
- **Settings of the study-** Intensive care areas of Apollo hospitals, Navi Mumbai
- **Duration of the study:** Three months (October, November, December)
- **Data collection method-** Direct observation
- **Target population:** Nurses working in ICU at Apollo hospitals, Navi Mumbai
- **Sample:** The samples selected are nurses working in ICU at Apollo hospitals, Navi Mumbai fulfilling inclusion criteria
- **Sampling Method:** In this study, purposive sampling

- **Inclusion criteria-**
a)   ICU Nurses with minimum of 1 month experience from the date of joining in Apollo Hospital Navi Mumbai
b)   ICU Nurses with less than 12 month experience from the date of joining in Apollo Hospital Navi Mumbai
c)   Nurses who have undergone hospital orientation training.
- **Exclusion criteria-** Nurses working in Covid ICU and not undergone hospital orientation training

TOOL USED FOR DATA COLLECTION:
TOOL 1: Observation checklist
DATA COLLECTION PROCEDURE

A formal permission was obtained from the ethical committees of Apollo hospitals, Navi Mumbai. A total of 100 nurses were selected for the study as per the inclusion criteria of study. Self- introduction was given to the nurses and the purpose of the study was explained. A written consent was obtained and data was collected using an observational checklist. The sample nurse was observed for her practices followed during complete sampling process of a single patient in one single observation.

III. RESULTS

Frequency percentage was used for analysing demographic data, compliance and non-compliance practices followed by nurses in adherence with IPSG 1.Chi square test was used for analysing the association of the educational qualification and experience to practices followed by nurses in adherence with IPSG 1.
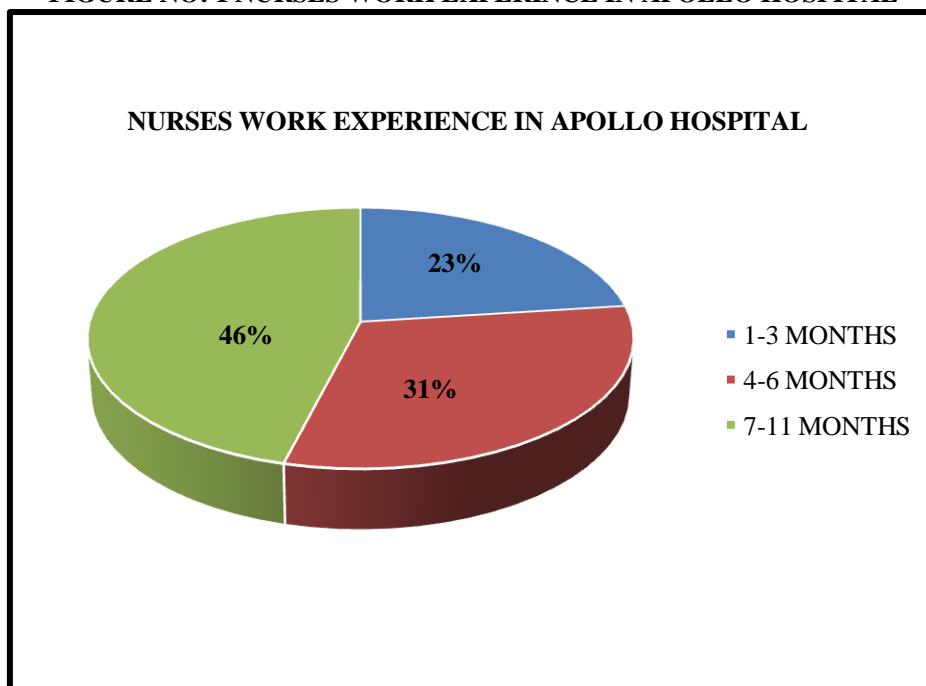
A total of 100 nurses were selected from Intensive care areas of Apollo Hospital, Navi Mumbai for the study. The data of the study subjects were analysed using descriptive statistics and were presented in terms of frequency and percentage as shown in Table No: 1

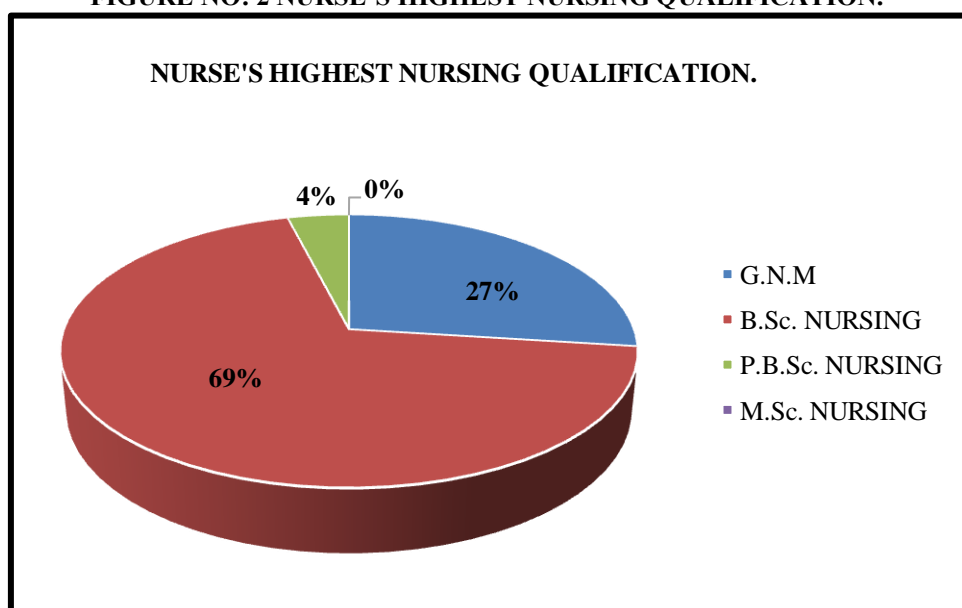**TABLE NO: 1   DEMOGRAPHIC DATA OF STAFF NURSES N=100**

CHARACTERISTICS	LEVELS	RESULTS %
EXPERIENCE	1-3 MONTHS	23%
	4-6 MONTHS	31%
	7-11 MONTHS	46%
EDUCATION	G.N.M	27%
	B.Sc. Nursing	69%
	P.B.Sc. Nursing	4%
	M.Sc. Nursing	0%

The above data describes the demographic data of nurses. 23% were with 1-3 month experience, 31% were with 4-6 month experience, 46% were with 7-11 month experience.
Educational qualification showed that 27% were GNM nurses, 69% were B.S.c Nurses and 4% were Post Basic B.Sc Nurses.

FIGURE NO: 1 NURSES WORK EXPERINCE IN APOLLO HOSPITAL

FIGURE NO: 2 NURSE'S HIGHEST NURSING QUALIFICATION.

TABLE NO: 2 PRACTICES FOLLOWED BY THE STAFF NURSES IN ADHERENCE TO THE IPSG 1 DURING BLOOD SAMPLING PROCESS AT APOLLO HOSPITAL NAVI MUMBAI (N=100)

SR NO	CHARACTERISTICS		n	%
1.	Checks for written investigation order.	Non-Compliance	3	3
		Compliance	97	97
2.	Raises request in Med Mantra as per doctor's written orders	Non-Compliance	1	1
		Compliance	99	99
3.	Applies lab request number stickers over appropriate sample containers (e.g., Vacutainers)	Non-Compliance	20	20
		Compliance	80	80
4.	Patients are identified with Name & UHID by nurses before sample collection?	Non-Compliance	30	30
		Compliance	70	70
5.	If conscious oriented Confirms Name on lab request sticker by asking patient, if intubated checks lab request number NICU PICU with on duty nurse (NICU PICU)	Non-Compliance	67	67
		Compliance	33	33
		Compliance	100	100
6.	Enters patient details in Lab register or sends via pneumatic chute wherever applicable.	Non-Compliance	2	2
		Compliance	98	98

It was observed that maximum non-compliance occurs when nurses fail to recheck the patient's identification details with the lab request number on the vacutainers with 67% (N=100)
However as a routine practise of rechecking by senior on duty this observation was corrected giving a 100% compliance.

TABLE NO 3 ASSOCIATION OF EXPERIENCE & EDUCATION QUALIFICATION OF NURSES WITH THE PRACTISES DURING BLOOD SAMPLING PROCESS FOLLOWED BY THEM IN ADHERENCE WITH IPSG 1

Sr. No	Characteristics		Score <=3	Score 4	Score 5	Score 6	Table Value	Degree of freedom (df)	Chi square	P value	Significance
1	EXPERIENCE	1-3 Months	4	6	10	3			14.637	0.02	SIGNIFICAN

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		4-7 Months	0	17	18	7	12.59	6			
		8-11 Months	2	5	18	10					
2	EDUCATION QUALIFICATION	GNM	0	7	13	7	12.59	6	5.427	0.796	NOT SIGNIFICANT
		B.Sc. NURSING	6	20	30	13					
		P.B.Sc. NURSING	0	1	2	0					

As per SPSS Analysis, an association of the demographic data of experience of nurses and the highest educational qualification possessed by nurses with the practises during sampling process followed by them in adherence with IPSG 1 was computed by using Chi square test.

Table No 3 shows the association of experience & education qualification of nurses with the practises during sampling process followed by them in adherence with IPSG 1

It was found that there was maximum non-compliance with IPSG 1 practises during sampling process in nurses with less experience (1-3 months) and maximum compliance to IPSG 1 practises in nurses as their experience increases. (Maximum in 8-11 month). The 'p' value computed was 0.023 which was found to be statistically significant to prove that there is an association of the experience of nurses with the practises during sampling process followed by them in adherence with IPSG 1 whereas there is no association of the educational qualification of nurses with the practises followed by them in adherence with IPSG 1 **as** the 'p' value computed was 0.796 which was found to be statistically not significant to prove that there is no association of the educational qualification of nurses with the practises during sampling process followed by them in adherence with IPSG 1

IV. DISCUSSION:

The above study was aimed to assess the practices during sampling process followed by nurses in adherence with IPSG 1 in selected department of Apollo hospitals, Navi Mumbai. 100 ICU nurses were selected for this study who had a minimum of 1 month experience and a maximum of 11 month experience in Apollo Hospital Navi Mumbai. An Observational checklist was used which assess the sampling process in adherence to IPSG 1- Identification of patient. Association of the demographic data of experience of nurses and the highest educational qualification possessed by nurses with the practises during sampling process followed by them in adherence with IPSG 1 was computed using Chi square.

It was found that the association of work experience of nurses with practises during sampling process followed by them in adherence with IPSG 1 was statistically significant as the P value shows 0.023

It was also found that there is no association of the educational qualification possessed by the nurses with practises during sampling process followed by them in adherence with IPSG 1 as the P value shows 0.796 which was statistically not significant.

This study showed that few nurses working in ICU of Apollo Hospital had missed checking the lab request number with patient identification in some cases. This was corrected by the senior on duty nurses in the next step of rechecking, giving it a 100% compliance. This study also shows there is no relation with their educational qualification and practises followed by them, hence suggesting an ongoing training for all nurses on the steps of sampling process and IPSG 1 guidelines.

V. CONCLUSION

Identification of patient during sampling process is a key factor to avoid sampling errors. The results of this study revealed that checking the identification of patient with lab request number is the step which needs to be strengthened. Result of this study helps the researcher to focus and prepare a planned teaching on sampling process with adherence to IPSG 1.Continous training on regular basis will help the new nurses to improve their practises in adherence with IPSG 1

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