

A Study to Assess the Effectiveness of Kardex & ISBARE Technique on Level of Completion of Handing Over among the RN's at Apollo Speciality Hospitals, Nellore.

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Abstract

Title: A Study to Assess the Effectiveness of Kardex & ISBARE Technique on Level of Completion of Handing Over among the RN's at Apollo Speciality Hospitals, Nellore." Author: Ms.Nikethana R, M.Sc (Nursing - OBG), MBA (Hospital Administration), M.Phil (HHSM), Nursing HOD, Apollo Adlux Hospital, Angamaly.

Introduction: ISBARE improves the communication within multidisciplinary teams, ensuring accurate handover of information between shifts. 1 of the most important factors in determining the outcome of acutely/chronically ill patients is the quality of the communication between the Nurses & Clinicians involved.

Background: Hand over is a time honoured tradition & staff on every incoming shift must receive a report of patient's status before commencing care. Studies have shown that over 80% of avoidable adverse events are as a direct result of the failure to hand over effectively.

Objectives: Was to explore the challenges of handover practices among RNs in order to provide an opportunity for better understanding of the situation and help them to improve the current hand - over practices with the help of Kardex & ISBARE.

Method: An experimental study was conducted among the RNs to evaluate the effectiveness of Kardex & ISBARE technique in par with Regular Handing over process. Inferential statistics Paired "t" test, Independent "t" test & Chi Square was utilized to analyze the effectiveness.

Result: Comparison on level of Completion on Handing Over showed a Significant Difference between Pretest & Posttest in the experimental group at $p < 0.001$ & whereas in control group there was no significant difference. After the usage of Kardex & ISBARE Technique among the experimental group of RN's - 54.3% of RN's had adequate level completion of handing over & whereas 46.7% was moderately adequate. Whereas in Control group of RNs - 73.3% was inadequate & 26.7% was moderately adequate.

Conclusion: Kardex & ISBARE technique would help to reduce the errors, improve effective communication & transform the information of patient in an ISBARE format, i.e. entire information of patient is transformed without missing out anything. By implementing the Kardex & ISBARE technique, the outcomes achieved are Efficient handing & taking over.

Key word: Effectiveness, Kardex and ISBARE Technique, RN'S

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I. INTRODUCTION

"To receive everything, one must open one's hand and give!"

Handover is a time-honoured tradition and staff on every incoming shift must receive a report of patients' status before commencing care. Some nurses refuse to tend to patients until after a formal handover, illustrating its perceived importance. Part of that work involves the communication of patient's details & treatment information to ensure the smooth transition of care. Handovers occur on all wards and departments, at times the RN's would miss the minute information of patient at times.

In a high-pressure environment such as healthcare, any information mishandling, improper communication & missed information can potentially lead to devastating consequences. Where 60% of errors are been attributed due to miscommunications or failures of communication or information flow. Nurses routinely coordinate, deliver and monitor patient care at the front line managers on behalf of all involved disciplines and thus are central to ensuring effective information management and flow.

Majority of Clinical errors occur when there is improper handing over, missed information's of patients, miscommunications, poor understanding of patients information & hospital information flow practices.

A good information flow is a vital component of a patient's care and outcomes, which can be achieved by proper handing over system. A Good clinical handover is critical to safe medical care.

Clinical Handover "Is the transfer of professional Hand over that occurs between the nursing staffs is one responsibility and accountability of all aspects of care for a patient or group of patients, to another person or professional group on a temporary or permanent basis."

Standardisation of key principles for **Clinical Handover** will aid effective, concise and complete communication in all **Clinical Situations** and facilitate care delivery. This standardisation can be achieved with the help of the KARDEX & ISBARE Technique.

II. NEED FOR THE STUDY

Good communication is essential for safe patient care. Bad communication can have serious consequences. Without a framework the communication of important clinical information may be forgotten or missed. (NHS, 31st March 2013)

Handover occurs in a multitude of settings, depending on ward culture and geography. Bedside handover aims to involve patients in their care. Studies have shown that over 80% of avoidable adverse events are as a direct result of the failure to hand over effectively. The nursing handover process is considered to be a crucial part of providing quality care in and the quality of a report given may delay an individual nurse's ability to provide care for up to 1 to 2 hours modern healthcare environment. The shift report may occur in some areas up to three times a day. It may vary in length from a 'full report' lasting between 30 minutes up to an hour or longer to a 'head line report' which may give a quick overall patient update following a particular busy part of the day.

Kardex has been designed as a prompt for staff to remember what type of information should be communicated using ISBARE. Kardex system is important to communicate & to provide entire instructions for individual nursing care.

Kardex – written communication instrument constitutes a reference sources & principal point of departure for the implementation of nursing care plans & medical orders concerning the care & treatment of the individual patients. The data recorded in the Kardex are obtained by nurses from 3 main sources – The admitting services & other hospital services medical orders & nursing staffs own clinical & behavioural observations.

Each patient's Kardex is intended to encompass a wide range of clinical information apart from the demographic & service data such as medical orders for tests & treatments instructions regarding references, primary complaints, surgeries, diagnosis, diet, IV fluids, vital signs, hemodynamic status, physiotherapy, pain scores, intake & output, investigations, PFE & recommendations by the references doctors.

ISBARE improves the communication within multidisciplinary teams, ensuring accurate handover of information between shifts. One of the most important factors in determining the outcome of acutely/chronically ill patients is the quality of the communication between the Nurses and Clinicians involved. It has long been recognised that when this communication is sub-optimal, patient safety is compromised.

The ISBARE tool is a strategy to improve communication from clinician to physician, clinician-to-clinician and/or staff to manager. ISBARE was adapted from the US Navy Nuclear Submarine Service. Submarine officers and crew needed a situational briefing model to communicate clearly, effectively and efficiently. ISBARE organizes the message in a consistent and concise manner. ISBARE has been adapted successfully into health care system. ISBARE would help to reduce the errors, improve effective communication & transform the information of patient in an ISBARE format, i.e. entire information of patient is transformed without missing out anything.

ISBARE tool aides the safe transfer of patient information in clinical handover. It is generic aide and should be adapted to fit the clinical context. Adapting ISBAR for the clinical context is an opportunity for the health care team and patients to decide what essential information should always be handed over (Eg.: Estimated blood loss in the handover of a surgical patient).

Hence, the Kardex with the ISBARE technique helps the Nurses to communicate in an effective manner to transfer the clinical information about patients in a concise, rational, clear & in a time-bound manner, which is very much essential.

As Hospitals move towards totally electronic documentation of patient care, nurses are struggling in their efforts to document how they would provide safe, effective and efficient care. However the nursing Kardex with ISBARE technique helps & continues to be a valued source of information & communication during their handing over process to provide safe, effective and efficient care.

The nursing care plan outlines the expectations for a patient, while the Kardex supplies specific data about the individual patient. Essential to the shift change report is the declaration of where the patient is along the clinical pathway. Changes in nursing shift change process & communicating the correct information resulted in increased analysis and interpretation of patient care plan and an improvement in the documentation of evaluation of patient responses to the plan of care. Shift change report was viewed as ritualistic, though necessary for communicating about patient conditions.

The nursing change of shift report or handover is a valuable opportunity to transfer responsibility and accountability from one nurse to another in most hospital Wards or CCU's. Therefore, handover is a fundamental component of nursing care for a nurse to pass on patients' care plan, practices, information and priorities to the next.

Moreover, handover is an opportunity for nurse's group cohesion, professional socialization, education, interaction and emotional support. Thus, handover should be accurate, complete, specific, relevant, timely, up to date, subjective and objective. However, cases of handover that are inaccurate, incomplete and biased may lead to many errors, mislead nursing practices and increase patient complications. A key component in patient safety and care quality is accurate communication during handover.

The words nurses use in describing a family during shift report can affect how other nurses approach a family. Although the goal of shift report is to exchange objective data, value judgments and labels often accompany these data. These labels can limit the opportunity of families to learn the skills needed to manage the problems and to meet their essential needs and decreased their involvement. So, applying a standard handover is essential among the Nurses.

Hence, the aim of this study was to explore the challenges of handover practices among RNs in order to provide an opportunity for better understanding of the situation and help them to improve the current hand - over practices.

III. PROBLEM OF THE STATEMENT

A Study to Assess the Effectiveness of Kardex & ISBARE Technique on Level of Completion of Handing Over among the RN's at Apollo Speciality Hospitals, Nellore.

IV. OBJECTIVE

- a) To assess the effect of Kardex & ISBARE technique on level of completion of handing over among the experimental & control group.
- b) To evaluate the effect of Kardex & ISBARE technique on level of completion of handing over among the experimental & control group.
- c) To associate the selected demographic variables with level of completion of handing over in the experimental group.

V. HYPOTHESIS

Null Hypothesis: There is no significant difference in handing over among the experimental & control group.

VI. OPERATIONAL DEFINITIONS

A. Assess: The scientific measurement of changes related to handing over process before and after Kardex & ISBARE technique among the RN's.

B. Evaluation: Evaluation is a systematic determination and a structured interpretation of a subject's merit, by using criteria governed by a set of standards and giving of meaning actual impacts of results.

C. Effect: It is the change brought about on the handing over process after using Kardex and following ISBARE Technique among the RN's.

D. Kardex: A **Kardex** is a medical information system used by nursing staff as a way to communicate important information on their patients. It is a quick summary of individual patient needs in a written format that is updated at every shift change. Where, each nurse gives a handing over verbally with the help of the Kardex form, using the ISBARE technique.

E. ISBARE: **ISBARE** is a mnemonic created to improve safety in communicating or transferring the critical information that requires immediate attention and action.

It originates from ISBAR, the most frequently used mnemonic in health and other high risk environments such as the military.

Steps: ISBARE has 5 steps

- 1 Identification of the Patient
- 2 Situation of the Patient
- 3 Background of the Patient
- 4 Assessment of the Patient
- 5 Recommendation for the Patients
- 6 Education – Patient Family Education (PFE)

F. Handing Over among Nursing:

The **nursing** change of shift report or **handover** is a communication that occurs between two shifts of **nurses** whereby the specific purpose is to communicate information about patients under the care of **nurses** (Lamond, 2000).

Failure in Nurses **handover** is a major source of preventable patient harm.

G. RN's:

A Registered Nurse (RN) is a nurse who had undergone nursing programme from a college or university especially prepared in the scientific basis & who meets certain prescribed standards of education and clinical competence & had obtained a national legal license for the practice.

VII. ASSUMPTIONS

- ✚ To ensure that patient care continues seamlessly and safely by providing the oncoming nurses with pertinent information to begin work immediately.
- ✚ To maintain the on-going confidentiality of patient records.

VIII. REVIEW OF LITERATURE

“A review of Literature is a written summary of the state of an art on a research problem. It helps the researcher to familiarise themselves with the knowledge base. It includes the activities like identifying and searching comprehensive picture of a state of knowledge on a topic” (Polit and Hungler, 1999).

During an episode of disease or period of care, a patient can potentially be treated by a number of health-care practitioners and specialists in multiple settings, including primary care, specialized outpatient care, emergency care, surgical care & intensive care. Additionally, patients will often move between areas of diagnosis, treatment & care on a regular basis & may encounter three shifts of staff each day—introducing a safety risk to the patient at each interval. The hand-over communication between units and between and amongst care teams might not include all the essential information, or information may be misunderstood. These gaps in communication can cause serious breakdowns in the continuity of care, inappropriate treatment, and potential harm to the patient. **(Patient Safety Solutions, Volume, Solution 3, 2007).**

Meera S. Achrekar et.al (2016), conducted a study prospective study on Introduction of Situation, Background, Assessment, Recommendation into Nursing Practice. 20 Nurses active in the bed side were studied. The author reported that 70% of nurses had documented plan of care. Whereas, 76% of nurses expressed that SBAR form was useful, but 24% nurses felt SBAR documentation was time-consuming. 53% stated that the assessment was easy to document, while 53% stated that recommendation was the difficult part.

ISBAR technique have four elements including: present situation of patient, previous background of patient, assessment of patient problems & recommendations for solving the problems. By using this method, correct transfer of medical information during shift change is achievable for nurses & identification of any error in information transfer process can be possible easily **(Narges Toghian Chaharsoughi et al., 2014).**

Hand-over communication relates to the process of passing patient-specific information from one caregiver to another, from one team of caregivers to the next, or from caregivers to the patient and family for the purpose of ensuring patient care continuity and safety. Incorporating situational briefing techniques such as the SBAR process can provide a standard communication framework for patient care hand-overs. Read-back is another effective technique used in handovers, where the receiver of information writes down the information and then “reads it back” to the provider of the information to obtain confirmation that it was understood correctly. **(Patient Safety Solutions, Volume, Solution 3, 2007).**

ISBAR technique has helped nurses to have a focused and easy communication during transition of care during handover. Importance and relevance of capturing information need to be reinforced. An audit to look for reduced number of incidents related to communication failures is essential for long-term evaluation of patient outcomes. Use of standardized ISBAR in nursing practice for bedside shift handover will improve communication between nurses and thus ensure patient safety. **(Meera S. Achrekar et.al (2016).**

Today, nurses are less using standard communication methods that can help them during shift change. Ineffective communication during shift change and transfer of patients increase the rate of medical errors and may result in loss of vital medical information.¹ Therefore, using a standard tool for communication, especially at the time of shift change, is an opportunity for the creation of proper and effective communication between healthcare professionals **(Narges Toghian Chaharsoughi, Shahnaz Ahrari and Shahnaz Alikhah, 2014).**

Ineffective communication is a main factor in engender of unwanted hospital errors and impede suitable patient care. SBAR technique (Situation-Background- Assessment- Recommendation) is a standard tool for building communication among healthcare professionals.

Dr. Michael Leonard of Kaiser Permanente, Colorado has done an extensive work with SBAR TOOL. He believes that the physician & the Nurses have been educated differently & thus communicate as if they speak different languages **(Goff & Augella, 2003).**

SBAR provides a predictable structure for the communication & promotes critical thinking. It makes use of critical language such as “I am Concerned” in order to focus the listeners attention **(Leonard et al., 2004).**

Though ISBAR is regularly used in Western world and has been found to be effective, it is time that Indian nurses understand the importance of a standardized approach to bedside shift handoff and implement in

their clinical practice to bring about a positive outcome for patients and thus play an important role in ensuring patient safety (Meera S. Achrekar et al., 2016).

Maria Randmaa et al., (2014) states that Implementing the communication tool SBAR in anesthetic clinics was associated with improvement in staff members perception of communication between professionals and their perception of the safety climate as well as with a decreased proportion of incident reports related to communication errors.

Santhirani Nagammal at al., (2017) points out that ISBAR is safe and efficient, and it can be recommended for all healthcare settings. The SBAR communication technique provides an organized logical sequence and improved communication that has been proved to ensure patient safety.

An observation audit was used to record the nurses' tasks, tools & locations at a tertiary hospital in the USA among Medical Surgical nurses. The results showed that there is no decrease in the meantime taken to make shift reports after the use of SBAR. Whereas, Nurses spent more time on report-related tasks. There was considerably more discussion & less documentation with SBAR. The study concluded that the introduction of the SBAR tool facilitated the production of comprehensive, consistent, and patient-focused reports SanthiraniNagammal at al., (Vol 7, No. 4 - 2017).

IX. METHODOLOGY

“Research methodology involves a systematic procedure in which the researcher starts from initial identification of the problem to its final conclusion”

- (Polit&Hungler 2004).

1. RESEARCH APPROACH

Experimental approach was considered to achieve the objectives of the study.

2. RESEARCH DESIGN

The research design adopted for this experimental was an experimental design: Two group pre-test – post-test design with the components of manipulation, randomisation and control.

	Group	Pretest	Intervention	Posttest
↗	Experimental group	O ₁	X	O ₂
↘	Control group	O ₁	*	O ₂

Key:

R: Random assignment of RN's.

O₁: Pretest assessment of RN's handing & taking over.

X: Intervention: Issuing of Kardex Form & enabling ISBARE Technique in handing over & taking over.

***:** Routine handing over & taking over without Kardex form.

O₂ : Posttest assessment of RN's handing & taking over.

3. MANIPULATION

Issuing of Kardex form & performing the Handing & taking over with ISBARE technique would help to reduce errors, time consuming during handing over, improve communication, effective escalation and increased safety of patient's.

4. CONTROL GROUP

The RN's who were not trained on the ISBARE technique were selected for the control group. The routine handing & taking over were carried out by these Nurse's.

5. RANDOMIZATION

The RN's who were trained for the ISBARE technique were selected for the experimental group. Here the RN's would do their handing & taking over with the help of IISBAREE.

6. VARIABLES

The independent variable for this experimental was teaching of Kardex & ISBARE technique & the dependent variable includes on level of completion of handing over.

7. SETTING OF THE STUDY

The experimental was conducted at A Ward & B Ward, ICU 3 & ICU 5 at Apollo Speciality Hospitals, Nellore. It is a multispecialty hospital with 200 beds. The A & B ward is at 4th Floor & A Ward has got 29 beds & B ward has got 30 beds. ICU 3 & 5 is situated at 1st floor, ICU 3 has got 12 beds & ICU 5 has got 9 beds. The sample size for the experimental is 30, in which for the experimental group 15 RNs from 4th B Ward & RN's from ICU 3 respectively. For control group 15 RNs from 4th A Ward & from ICU 5 have been selected. After a pre – assessment, Kardex & ISBARE technique was thought for the experimental group alone. Whereas the

control group were allowed to do the routine handing over process. After the intervention, the investigator has assessed the RN's with the help of a checklist - Kardex Efficiency Assessment Tool, for both the groups.

8. POPULATION

The target population included the RN's & accessible population those who are available in the 4th Floor A Ward & B Ward, ICU 3 & ICU 5.

9. SAMPLE

The RN's who satisfied the Inclusion criteria & who were working in the ward & critical area were considered as the sample.

10. SAMPLE SIZE

The sample consisted of 30 RN's, 15 were assigned to experimental group & 15 were assigned to control group.

11. SAMPLING TECHNIQUE

RN's working in A & B Ward & ICU 3 & 5 at Apollo Speciality Hospitals, were selected as samples.

12. SAMPLING CRITERIA

1. Inclusion Criteria

- a. RN'S those who were willing to participate in the study.
- b. RN'S those who are working in the Wards (A & B) or Critical Care Area's (ICU 3 & 5).
- c. RN's those who are assigned for the patient's.

2. Exclusion Criteria

- a. RN'S those who are working in the OPD areas.
- b. RN's those who are not willing to participate.
- c. Non – Assigned staff's. (E.g.: Charge Nurse, Medication Nurses & Shift Coordinator's).

12. INSTRUMENT & SCORING

The instrument used for this experimental had 2 sections

Section A: Demographic Variables

Section B: Check list: To assess Kardex Efficiency

Section A: Demographic Variables:

The demographic variables include Name of RN, age in years, educational qualification, overall clinical experience, Apollo experience & area of work.

Section B: Kardex Efficiency Assessment Tool:

It had the details of the subjects on the following: Communication, Handing Over time taken, Documentation Error, No. of clarification, Confidence level, Information Covered about the Patient, Frequency of Documentation, follow-up – References to the Consultants & Patient Family Education, Knowledge about the patient's prognosis & Reporting & follow up – Investigations. Each heading had 3 options underneath it.

Score Interpretation:

- First option will be scored 1
- Second option will be scored 2
- Third option will be scored 3
- **Total:** Minimum score rate is 10 & Maximum Score Rate is 30.

Grading's

S.No	Score	Interpretation
1.	<50	Inadequate
2.	50-75	Moderately Adequate
3.	>75	Adequate

13. DATA COLLECTION PROCEDURE

Permission & Ethical Permission was obtained from the Unit Head – Mr.Naveen V, Apollo Speciality Hospitals, Nellore. The period of data collection was done for a period of 6 weeks. Where 2 weeks was allotted for pre – assessment, 1 week for teaching the Kardex & ISBARE technique & 2 weeks was allotted for post – assessment.

During the data collection, using a researcher-developed checklist, the primary investigator observed the handing over process among the RNs. The participants were not informed about the observation. After the handing over process, the 2nd shift RNs were been observed during their work process.

RN's who fulfilled the inclusion criteria were selected & through the lottery method the RNs were assigned to the study (n = 15) & the control group (n = 15). The investigator selected RNs for the study group for teaching the RNs on KARDEX & ISBARE Technique & the RNs in the control group were giving routine handing over on their own style.

After the observations, the Study group RNs were gathered & given training on KARDEX & ISBARE Technique – Ward RNs – Ward Kardex Form & CCU RNs – MDCCU Kardex Form training was given by the investigator & Clinical Instructor.

After the required training the Study group RNs were re-observed by the investigator. On re assessment the Study Group RNs were given the KARDEX form during their handing over process whereas the control group was not been given.

14. FUTURE SCOPE OF WORK

- ✚ A practice development approach is useful in the provision of education to guide clinical performance in patient handover.
- ✚ Nurse Managers/Officers/Incharges can use this approach to empower their staff to make positive changes to practice.
- ✚ Further Kardex was developed for Obstetrics & Gynecology & Pediatrics – PICU.
- ✚ ISBARE Technique can be used when a patient is **Clinically Deteriorated** by Nursing Staff.

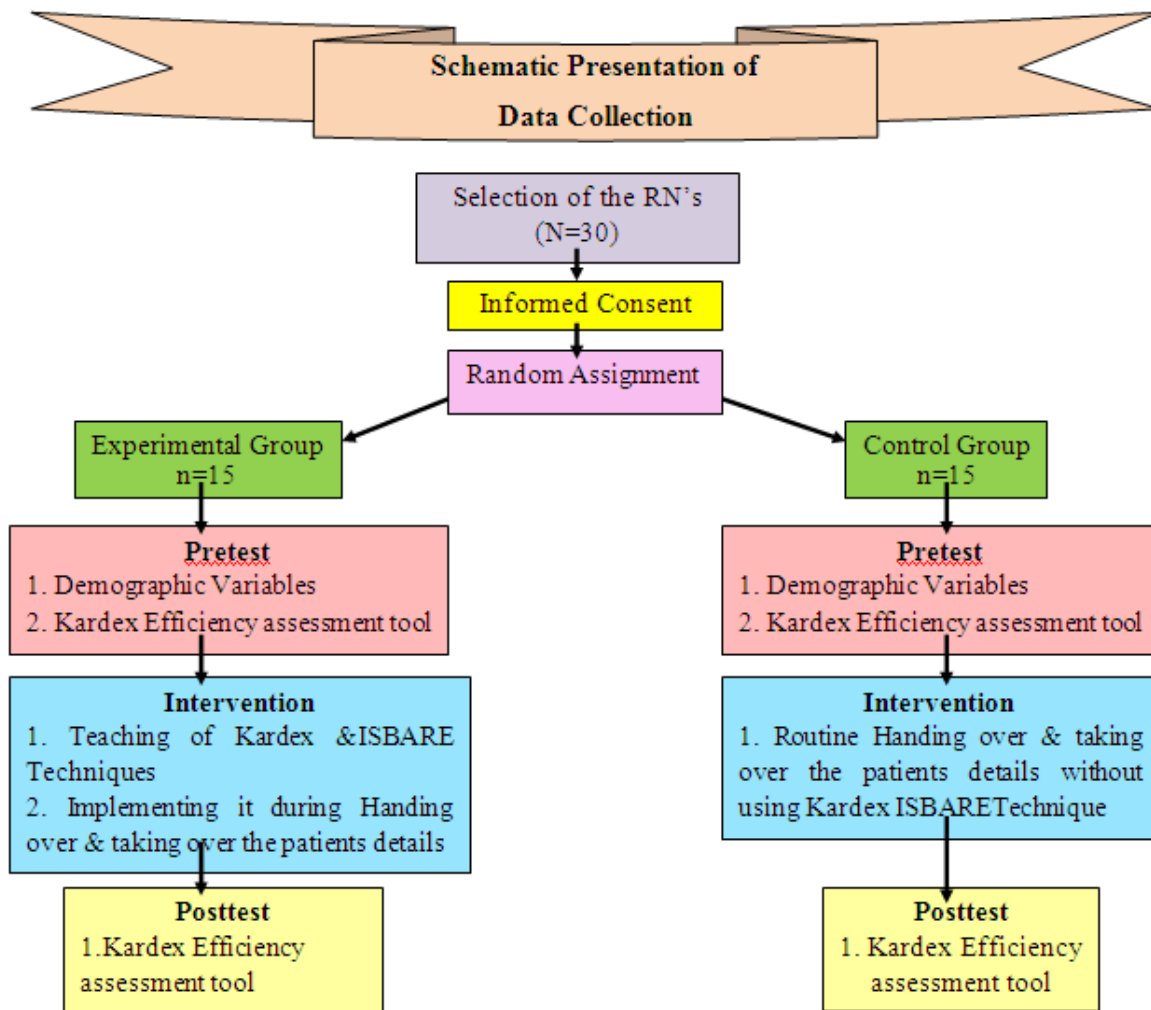
15. LIMITATIONS OF THE STUDY

- ✚ Content analysis of ISBAR Form was not done.
- ✚ The sample size was small and hence cannot be generalized.
- ✚ Training, Reinforcement & follow up of the nurses was needed

16. PLAN FOR THE DATA ANALYSIS

Descriptive statistics was used to describe & synthesize data. Average, mean, frequency & standard deviation were used under descriptive statistics. Inferential statistics included paired “t” test, independent “t” test & Chi Square.

No.	Statistics	Methods	Description
1	Descriptive statistics	Frequency, Percentage, Mean & Standard deviation	To assess the demographic variables of both the group.
2	Inferential statistics	Paired “t” test	To assess the effect of Kardex & technique of ISBARE within the group.
		Independent “t” test	To compare the effect of Kardex & technique of ISBARE between the groups before & after the intervention.
		Chi Square	To associate the selected demographic variables with completion of handing over in the experimental group.



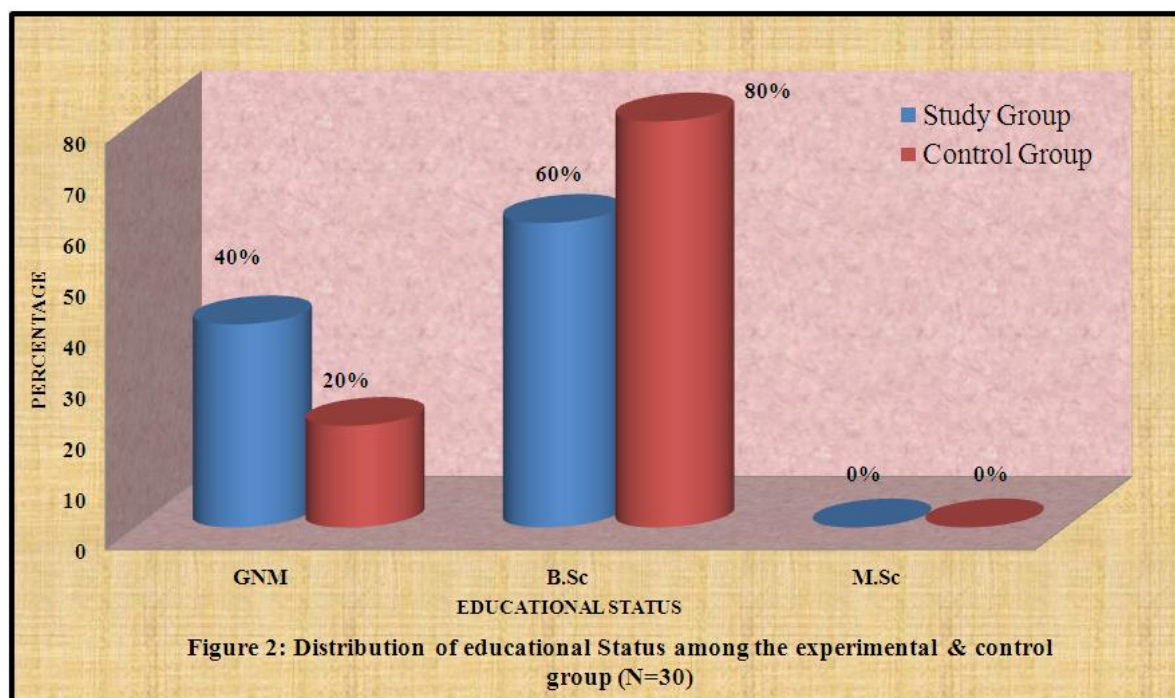
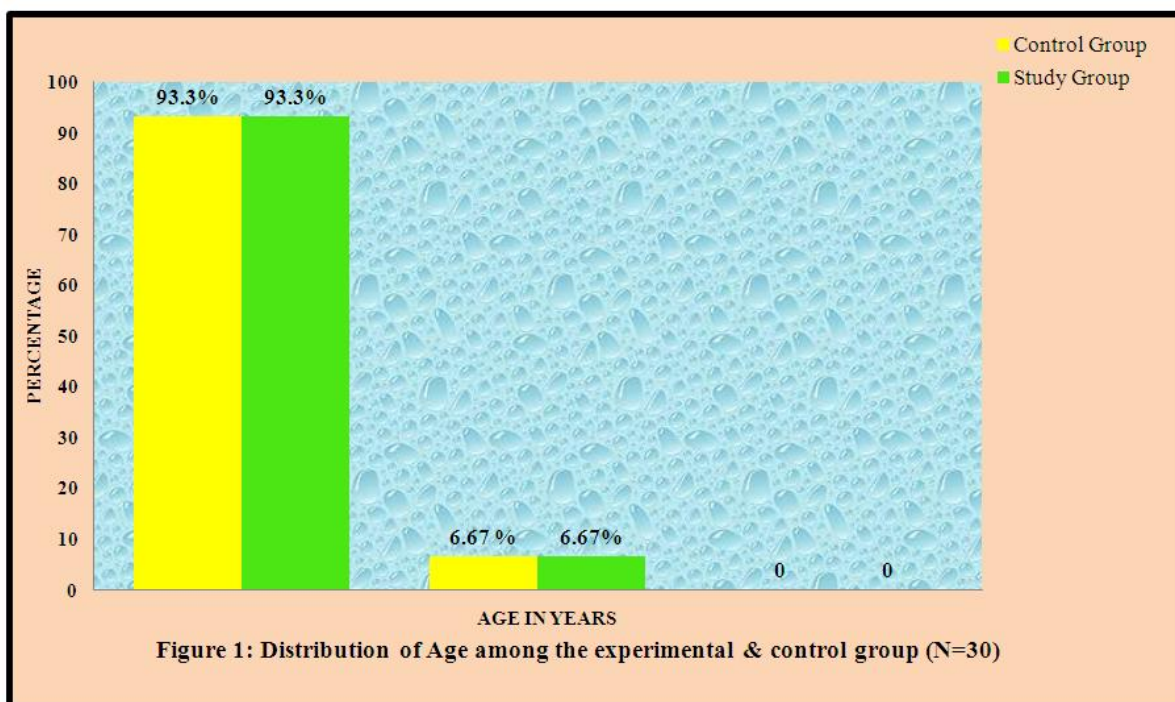
X. DATA ANALYSIS & INTERPRETATION

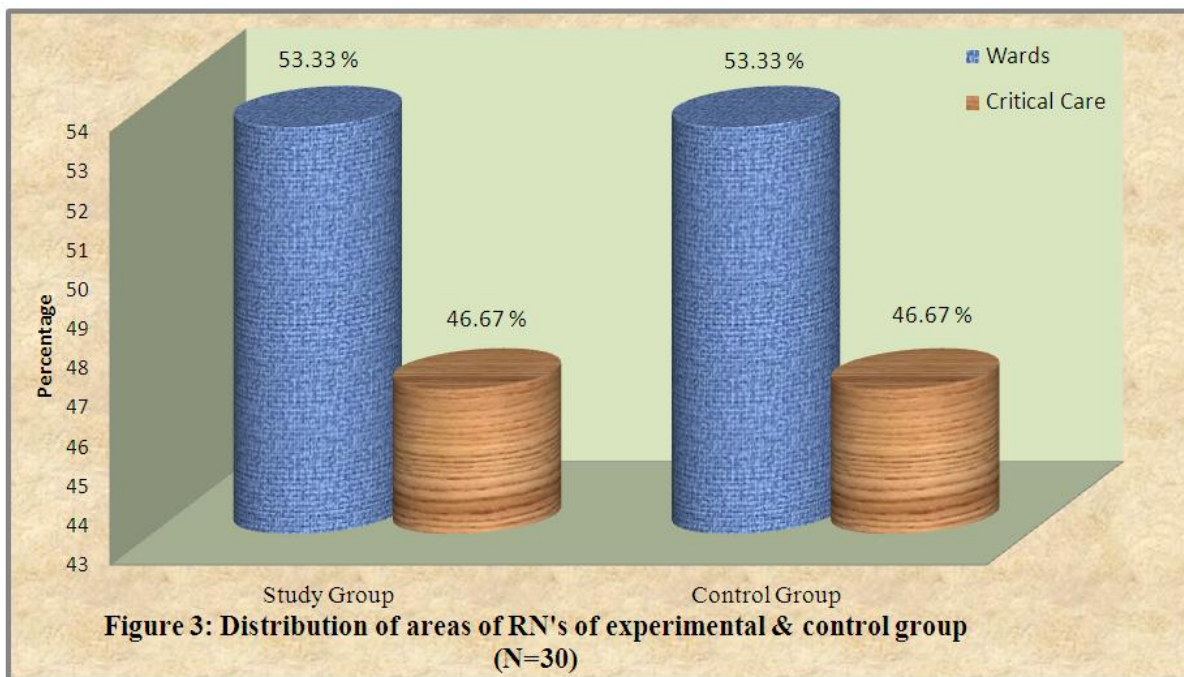
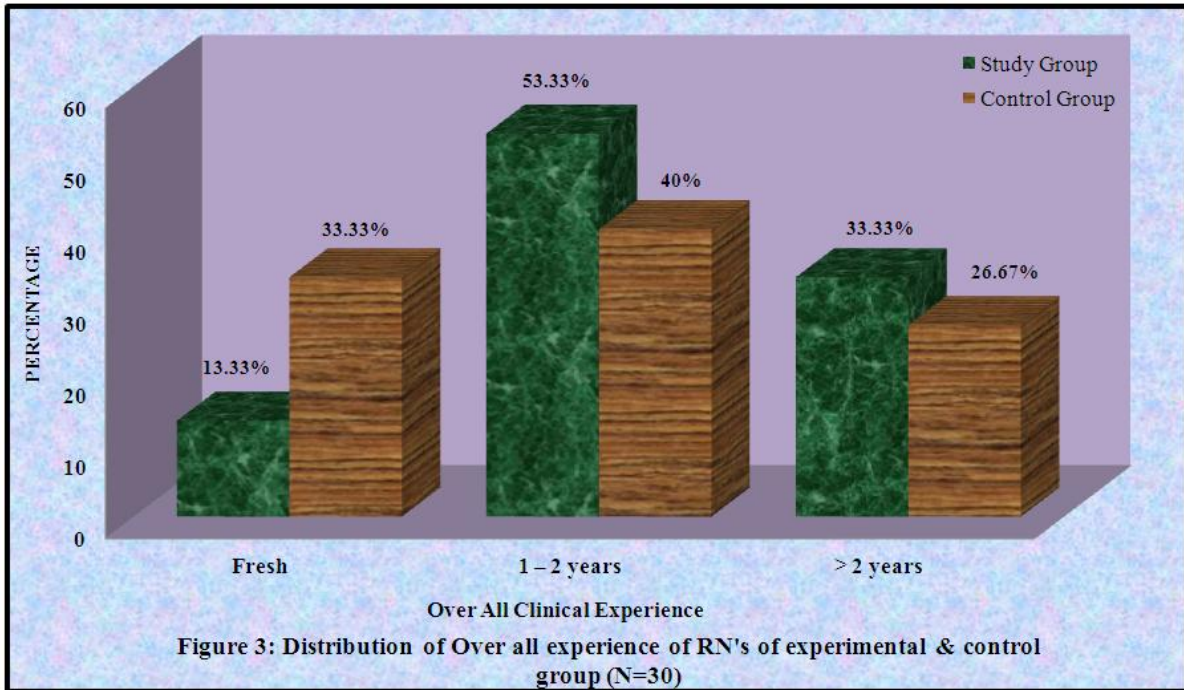
Table 1: Frequency, percentage distribution of Demographic variables among the RN's in the experimental & control group (N=30).

S.no.	Demographic variables	Experimental Group (n=15)		Control Group (n=15)	
		No.	%	No.	%
1	Age in years				
a.	21 – 25	14	93.3	14	93.3
b.	26 – 30	01	6.67	01	6.67
2.	Educational Qualification				
a.	GNM	06	40	03	20
b.	B.Sc (Nursing)	09	60	12	80
3.	Over all Clinical Experience				
a.	Fresh	02	13.33	05	33.33
b.	1 – 2 years	08	53.33	06	40
c.	> 2 years	05	33.33	04	26.67
4.	Area				
a.	Wards	08	53.33	08	53.33
b.	Critical Area	07	46.67	07	46.67
5.	Apollo Experience				
a.	Fresh	03	20	06	40
b.	1 – 2 years	07	46.67	05	33.3
c.	> 2 years	05	33.33	07	26.67

The Significant findings of the experimental were:

- ✓ 93.3% of RN's in the experimental & control group were in the age group between 21 – 25 years.
- ✓ 60% & 80% of RN's in the experimental & control group education is up to B.Sc (Nursing).
- ✓ 53.33% & 40% of RN's in the experimental & control group has got 1-2 years of overall Clinical Experience.
- ✓ 53.33% of RN's in the experimental group were from critical areas & 100% of RN's in the control group were from control group.
- ✓ 46.67% of RN's in the experimental group has got 1-2 years Apollo Clinical Experience & 40% of RN's in the control group were fresh.





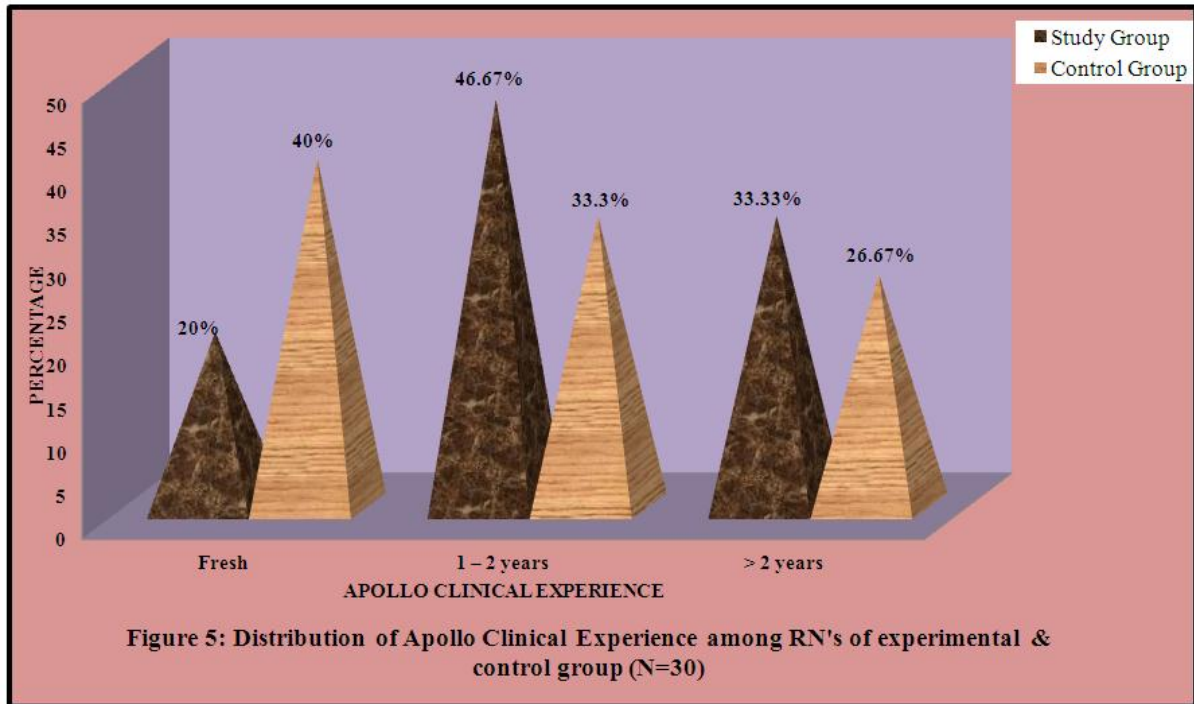


Figure 5: Distribution of Apollo Clinical Experience among RN's of experimental & control group (N=30)

Table 2: Frequency, percentage distribution of effect of Kardex & ISBARE technique among the RN's in the experimental group (n=15)

S.no.	Components	Pretest (n=15)		Posttest (n=15)	
		No.	%	No.	%
1	Communication				
a.	Poor	10	66.67	00	00
b.	Improvement	05	33.33	10	66.67
c.	Clear & Precise	00	00	05	33.33
2.	Handing Over Time Taken				
a.	45 mins	10	66.67	00	00
b.	30 mins	05	33.33	09	60
c.	15 mins	00	00	06	40
3.	Documentation Error				
a.	Yes	11	73.33	00	00
b.	Partial	04	26.67	08	53.33
c.	No	00	00	07	46.67
4.	No. Of Clarification				
a.	4	09	60	00	00
b.	3	06	40	09	60
c.	2	00	00	06	40
5.	Confidence Level				
a.	Inadequate	08	53.33	00	00
b.	Partial	07	46.67	08	53.33
c.	Complete	00	00	07	46.67
6.	Information Covered About the Patient				
a.	Incomplete	07	46.67	00	00
b.	Partial	08	53.33	07	46.67
c.	Complete	00	00	08	53.33
7.	Frequency Of Documentation				
a.	Once in a day	08	53.33	00	00
b.	Each shift	07	46.67	10	66.67

Table 2: Frequency, percentage distribution of effect of Kardex & ISBARE technique among the RN's in the experimental group (n=15).Cont.....

S.no.	Components	Pretest (n=15)		Posttest (n=15)	
		No.	%	No.	%
c.	Then & there	00	00	05	33.33
8.	Follow up – References to the consultants & PFE				

a.	None	09	60	00	00
b.	Delayed	06	40	07	46.67
c.	Timely	00	00	08	53.33
9.	Knowledge about the Patients Prognosis				
a.	Average	10	66.67	00	00
b.	Good	05	33.33	11	73.33
c.	Through	00	00	04	26.67
10.	Reporting & Follow up				
a.	None	08	53.33	00	00
b.	Delayed	07	46.67	07	46.67
c.	Timely	00	00	08	53.33

Table 3: Frequency, percentage distribution of effect of Kardex & technique of ISBARE among the RN's in the control group (n=15).

S.no.	Components	Pretest (n=15)		Posttest (n=15)	
		No.	%	No.	%
1	Communication				
a.	Poor	08	53.33	11	73.33
b.	Improvement	07	46.67	04	26.67
c.	Clear & Precise	00	00	00	00
2.	Handing Over Time Taken				
a.	45 mins	08	53.33	12	80
b.	30 mins	07	46.67	03	20
c.	15 mins	00	00	00	00
3.	Documentation Error				
a.	Yes	10	66.67	13	86.67
b.	Partial	05	33.33	02	13.33
c.	No	00	00	00	00
4.	No. Of Clarification				
a.	4	13	86.67	15	100
b.	3	02	13.33	00	00
c.	2	00	00	00	00
5.	Confidence Level				
a.	Inadequate	12	80	14	93.33
b.	Partial	03	20	01	06.67
c.	Complete	00	00	00	00
6.	Information Covered About the Patient				
a.	Incomplete	10	66.67	14	93.33
b.	Partial	05	33.33	01	06.67
c.	Complete	00	00	00	00
7.	Frequency Of Documentation				
a.	Once in a day	12	80	14	93.33
b.	Each shift	03	20	01	06.67

Table 3: Frequency, percentage distribution of effect of Kardex & technique of ISBARE among the RN's in the control group (n=15).Cont.....

S.no.	Components	Pretest (n=15)		Posttest (n=15)	
		No.	%	No.	%
c.	Then & there	00	00	00	00
8.	Follow up – References to the consultants & PFE				
a.	None	14	93.33	15	100
b.	Delayed	01	06.67	00	00
c.	Timely	00	00	00	00
9.	Knowledge about the Patients Prognosis				
a.	Average	10	66.67	14	93.33
b.	Good	05	33.33	01	06.67
c.	Through	00	00	00	00
10.	Reporting & Follow up				
a.	None	11	73.33	10	66.67
b.	Delayed	04	26.67	05	33.33
c.	Timely	00	00	00	00

Table 4: Comparison of Mean, Standard deviation, Paired “t” test & Independent “t” test among the experimental& control group.

S.no.	Group	Period	Mean	Standard Deviation	Paired “t” test	Independent “t” test
1.	Experimental Group	Pretest	13.2	2.26	11.44***	8.74***
		Posttest	24.07	4.48		
2.	Control Group	Pretest	11.4	1.04	1.98	
		Posttest	12.53	2.62	NS	

Note: ***p<0.001 – Significance, NS – Non Significance.

Table 4 represents the comparison of level completion of handing over between experimental& control group. In pretest the mean score was 13.2 with the Standard deviation of 2.26 and in posttest mean score was 24.07 with the Standard deviation of 4.48, with a statistical significance of p<0.001. Whereas in control group the pretest the mean score was 11.4 with the Standard deviation of 1.04 & posttest mean score was 12.53 with the Standard deviation of 2.62, which implies that there is no significant difference.

Between the groups the independent “t” test implies that there is a significant difference between the experimental& control group at a statistical difference of p<0.001.

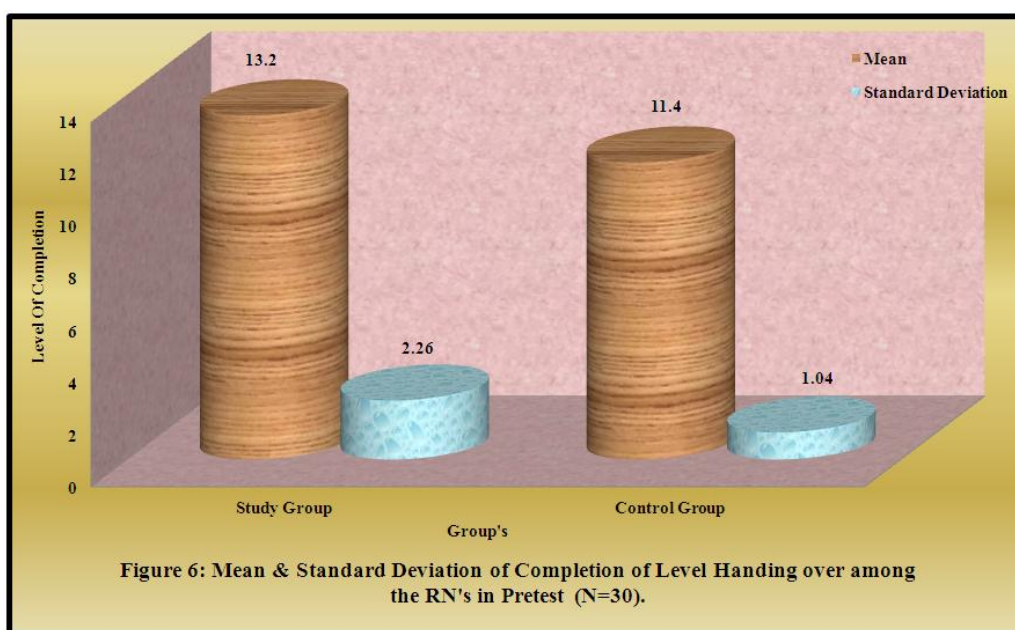


Figure 6: Mean & Standard Deviation of Completion of Level Handing over among the RN's in Pretest (N=30).

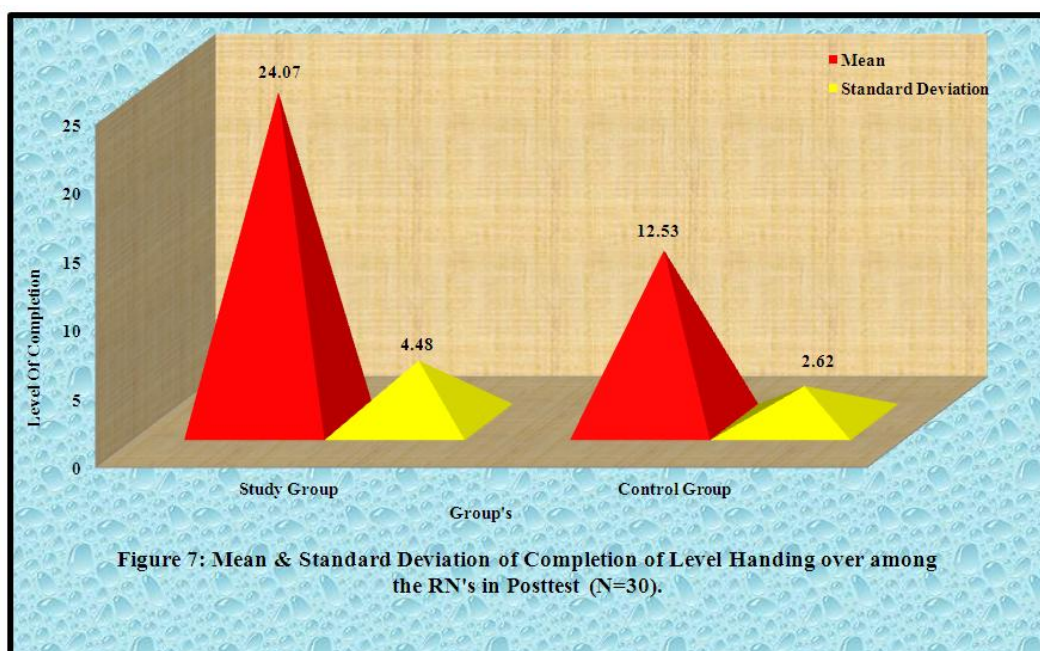


Figure 7: Mean & Standard Deviation of Completion of Level Handing over among the RN's in Posttest (N=30).

Table 5: Association between the selected demographic variables with level of completion of handing over in the experimental group (n=15).

S.No.	Background Variables	Inadequate	Moderately Adequate	Adequate	Chi Square
1.	Age				
a.	21 – 25	00	07	07	0.938 df= 1 p<0.333 NS
b.	26 – 30	00	00	01	
2.	Educational Qualification				
a.	GNM	00	01	05	3.62 df= 1 P<0.057*
b.	B.Sc (Nursing)	00	06	03	
3.	Over all Clinical Experience				
a.	Fresh	00	01	01	0.134 df=2 p<0.447 NS
b.	1 – 2 years	00	04	04	
c.	> 2 years	00	02	03	
4.	Area				
a.	Wards	00	03	05	0.579 df=1 P<0.447 NS
b.	Critical Area	00	04	03	
5.	Apollo Experience				
a.	Fresh	00	01	02	0.612 Df=2 P<0.736 NS
b.	1 – 2 years	00	04	03	
c.	> 2 years	00	02	03	

*p< 0.05 significance, NS – Non Significance

Table 5 depicts that there is a significant association between educational qualification & completion of handing over at p < 0.05 in the study group.

Table 6: Frequency & Percentage Distribution of level of completion of handing over in the Experimental Group (n=15).

S.No.	Components of Grading	n	%
1.	Inadequate	00	00
2.	Moderately Adequate	07	46.7
3.	Adequate	08	54.3

Table 6 shows that majority of nurses - 8 (54.3%) was adequate level completion of handing over & 7 (46.7%) was moderately adequate among the experimental group.

Table 7: Frequency & Percentage Distribution of level of completion of handing over in the Control Group (n=15).

S.No.	Components of Grading	n	%
1.	Inadequate	11	73.3
2.	Moderately Adequate	04	26.7
3.	Adequate	00	00

Table 7 shows that majority of nurses - 11 (73.3%) was inadequate & 04 (26.7%) was moderately adequate among the control group.

XI. RESULT

- ✚ 93.3% of RN's in the experimental & control group were in the age group between 21 – 25 years.
- ✚ 60% & 80% of RN's in the experimental & control group education is up to B.Sc (Nursing).
- ✚ 53.33% & 40% of RN's in the experimental & control group has got 1-2 years of overall Clinical Experience.
- ✚ 53.33% of RN's in the experimental group were from critical areas & 100% of RN's in the control group were from control group.
- ✚ 46.67% of RN's in the experimental group has got 1-2 years Apollo Clinical Experience & 40% of RN's in the control group were fresh.
- ✚ In the comparison of level completion of handing over between experimental & control group – the pretest the mean score was 13.2 with the Standard deviation of 2.26 and in posttest mean score was 24.07 with the Standard deviation of 4.48, with a statistical significance of p < 0.001. Whereas in control group the pretest the mean score was 11.4 with the Standard deviation of 1.04 & posttest mean score was 12.53 with the Standard deviation of 2.62, which implies that there is no significant difference.
- ✚ Comparison on level of completion on handing over showed a significant difference between pretest & posttest in the experimental group at p < 0.001.
- ✚ After the usage of Kardex & ISBARE Technique among the experimental group of RN's - 54.3% of RN's had adequate level completion of handing over & whereas 46.7% was moderately adequate.

- ✚ Whereas in Control group of RNs - 73.3% was inadequate & 26.7% was moderately adequate.
- ✚ Hence the stated **Null Hypothesis “There is no significant difference in handing over among the experimental & control group”** is rejected.
- ✚ **Introduction of ISBARE had showed following results in Experimental Group:**
 - ✚ Proved to be more accurate and a much less time consuming method
 - ✚ Reduction in handover time
 - ✚ Improved effective escalation
 - ✚ Increased safety of patient
 - ✚ Reduced the error in Documentation
 - ✚ RN’s have gained confidence
 - ✚ RN’s have improved in their communication skills.

XII. DISCUSSION

By implementing the Kardex & ISBARE technique, the outcomes achieved are Efficient handing & taking over. Pre-prepared handover sheet & it is passed to the next shift in conjunction with a verbal handover, almost entirely eliminated the loss of data during handover. Improved loss of data had almost had an impact upon the quality of patient care.

Implementing the communication tool ISBAR technique during handing over can improve communication among nurses, improve the safety climate and reduce incidents caused by communication errors.

XIII. RECOMMENDATIONS

- ✚ Similar study could be replicated with the larger sample size
- ✚ A study could be conducted in the other department’s like – Emergency, PICU & Labour Ward

XIV. CONCLUSION

The Experimental had demonstrated that the KARDEX handovers with ISBARE technique have proved to be more accurate and a much less time consuming method. In this way valuable time could be saved and documentation is said to be clear, concise and maintained on a regular basis. It showed good reliability and was easy for Nurses to use.

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