

# Effectiveness of Nursing Handoff Education Programme on Competencies of Handing Over among Nursing Students Posted in Selected Hospital of Ambala, Haryana

Nidhi Sahu<sup>1</sup>, Jyoti Sarin<sup>2</sup>, Parvinder Kaur<sup>3</sup>

<sup>1</sup> M.Sc Nursing, <sup>2</sup> Director-Principal, <sup>3</sup> Assistant professor, Department of Child Health Nursing, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana, Haryana, India

## Abstract

**Background:** An effective handover supports the transition of critical information and provides continuity of care, whereas poor communication at handover can harm patient safety. **Objectives:** To assess and compare the competencies of handing over among nursing students before and after administration of Nursing Handoff Education Programme, to determine the association of competencies of handing over among nursing students with selected sample characteristics of nursing students. **Design:** Quasi-Experimental research design “Non equivalent control group pre test-post test design was used. **Participants:** Data was collected from 60 nursing students (30 in each group) by convenience sampling technique. **Setting:** Pediatric laboratory setting and Pediatric medical and surgical wards of MMIMS&R Hospital. Structured handing over checklist was used to collect data. **Results:** the mean post test competency scores of nursing students regarding of case scenario was higher in experimental group (28.3) than in the comparison group (20.93). No significant association was found in case scenario I, II, III regarding handing over among nursing students with their sample characteristics.

**Key words:** Effectiveness, Nursing Handoff Education Programme, competencies, handing over, nursing students.

## Introduction

A healthy nation they say is a wealthy nation. Healthcare is important to the society because people get ill, accidents and emergencies do arise and the hospitals are needed to diagnose, treat and manage different types of ailments and diseases.<sup>1</sup> Health care professionals typically take great pride and exert painstaking effort to meet patient needs and provide the best possible care. A common problem regarding hand-offs, or hand-over, centers on communication: expectations can be out of

balance between the sender of the information and the receiver. This misalignment is where the problem often occurs in hand-off communication.<sup>2</sup>

The joint commission on accreditation of health care organization (JCAHO) defines handoff as “Interactive process of exchange patient specific information from one caregiver to another for the purpose of ensuring the continuity and safety of patient care. Poor communication might lead to inaccurate sharing information about patient details and some important aspects may be missed. Staff communication should be more developed and facilitated in healthcare organizations.<sup>3</sup>

---

### Corresponding Author:

**Nidhi Sahu**

M.Sc Nursing Department of Child Health Nursing, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana- 133 207, Ambala District, Haryana, India  
nidhisahu1406@gmail.com Mobile- +919821270026

In handing over the methods of communication is verbal, written, electronic and sometimes combination of them. These are permanent and legal document. Written documentation is done with the help of ISBAR format,

## I- Identification

S – Situation (discussion of the current patient condition).

B – Background (discussion of the background and patient history).

A – Assessment.

R – Recommendations (and orders that need to be completed).<sup>4</sup>

Mindful communication as a safety practice is relatively unexplored in healthcare, and specifically nursing. Refinement of this concept is needed as is a 'peeling the onion' approach to develop and refine its theoretical and empirical foundation. As safety is a fundamental societal contract, communication is a fundamental part of the fabric of professional nursing practice.<sup>5</sup>

## Methodology

The study was conducted during the period from March 2018 to June 2019 in the state of Haryana, India. A sample of 60 nursing students (30 in experiment and 30 in comparison group) participated in this study with the prior permission from the principals of Maharishi Markandeshwar Colleges of Nursing. Quasi-Experimental research design "Non equivalent control group pre test-post test design" was used in this study. In this study Sample comprised of Bsc Nursing 3rd year students of MM College of Nursing who had Pediatric posting at the time of data collection. 30 B.Sc 3rd year students posted in Child Health Nursing clinical area from 8th September to 8th October 2018 comprised of Comparison Group and 30 B.Sc 3rd year students posted in Child Health Nursing clinical area from 9th October to 9th of November 2018 consisted of Experimental Group. Data was collected by sample characteristic perform and structured handing over checklist.

### Description of Tool

#### 1. Sample Characteristic Performa

It consists of 7 items in which age, gender, previous year practical marks (medical surgical), percentage of marks scored in theory (medical surgical), previous knowledge of handing over, duration of handing over,

clinical attendance of the present ward, interest in clinical and the technique used was self report paper and pencil.

#### 2. Structured Handing Over Checklist

The Structured handing over Checklists were developed according to ISBAR format, identification, situation, background, assessment, recommendation. The items in the checklist were prepared by the researcher. 3 different Structured Handing over Checklist were used for 3 case scenarios and all three checklists were having separate marking. The checklist were divided into 5 parts that is I=identification, S= situation, B=background, A=assessment, R= recommendation<sup>6</sup>. The scoring for the checklist was 1 for the right response and 0 for the wrong response. Technique used for collecting data was audio recording and self report.

#### Procedure

Formal administrative permission was obtained from the Principal MM. College of Nursing, Mullana, Ambala, Haryana. Data collection was done in the month of October 2018 and November 2018.

The consent form was taken from the students, purpose of the study was told by the researcher and the students were also informed about the audio recording, that their responses will be recorded and kept confidential. 68 students were taken in the study (34 in Comparison group and 34 in Experimental group) but 8 students were drop outs. Total 60 students were in the study (30 in Comparison group and 30 in Experimental group).

In Comparison group, on day 1, pre test was taken by giving three case scenarios (2 of medical condition and one of surgical condition). The students recorded their responses and the checklist was filled by the researcher by listening to those recordings. Each recording was of 1.5 to 2.5 minutes. On day 2 and 3, the students attended the clinical postings in respective wards. On day 4<sup>th</sup> Post-test I in Pediatric Laboratory setting was conducted and the students were given three case scenarios (2 of medical condition and one of surgical condition). The students recorded their responses and the checklist was filled by the researcher by listening to those recordings. Clinical post test II was conducted on day 6. The students

were assigned patient in the medical and the surgical wards and at the shift change, students recorded their handing over according to the patient's condition.

In Experimental group, on day 1, pre-test was taken by giving three case scenarios (2 of medical condition and one of surgical condition). The students recorded their responses and the checklist was filled by the researcher by listening to those recordings. Each recording was of 1.5 to 2.5 minutes. On the same day after the pre-test, Nursing Handoff Education Programme including introduction about handing over definition, purposes, techniques, advantages and introduction to ISBAR format i.e., (Identification, Situation, Background, Assessment, Recommendation) format was taught to the students. On day 2, 3 administration and discussion of case scenarios was done, handouts of right responses given and students were sensitized with checklists for self evaluation. The case scenarios which were given for the pre test to the students were used to develop the competencies in lab settings and students recorded their response of each case scenario and students filled the checklist by their own for every single attempt until they achieve 100% of the competencies and their responses

were crosschecked by the researcher and the right response of the cases was dictated by the researcher. On day 6, post test II in clinical setting was conducted, where the students were assigned patient in the medical and the surgical wards and at the shift change students recorded their handing over according to the patient's condition.

### Data Analysis

Kolmogorov- Smirnov test was applied to check the normality of data distribution. Data was normally distributed in both experimental and comparison groups, hence parametric tests were applied.

#### Descriptive statistics:

Frequency, percentage, mean, mean percentage, Standard Deviation and range of score to describe the competencies of handing over among nursing students.

#### Inferential statistics:

ANOVA and T-test for association selected sample characteristics of competencies of handing over among nursing students.

### Findings

**Table 1: Mean, Mean difference, Standard deviation, Standard error of mean difference and 't' value of Competencies of Handing Over before administration of Nursing Handoff Education Programme in Experimental and Comparison Group**

N=60

Case scenario	Mean±SD	Mean%	MD	SEMD	't' value	df	P value
CS I (Medical) Exp group (n = 30) Comp group (n = 30)	12.37±2.26 12.23±2.25	51.5% 50.9%	0.13	0.584	0.22	58	0.82NS
CS II (Medical) Exp group (n = 30) Comp group (n = 30)	16.03±5.00 14.00±2.40	45.8% 40.00%	2.03	1.01	2.00	58	0.05NS
CS III (Surgical) Exp group (n = 30) Comp group (n = 30)	17.00±4.42 13.30±2.40	47.8% 35.00%	3.7	0.92	4.24	58	0.04*
Total mean score	Exp group 15.5 Comp group 13.5						

NS -Not significant (p>0.05) \*- significant (p <0.05)

t (58)=2.001

**Table 1** It infers that at the baseline both the groups had no significant difference in competencies of handing over in case scenario I and case scenario II but the p-value for case scenario III was found to be statistically significant, which indicates that both the group were homogenous in terms of competencies of handing over in case scenario I and II.

**Table 2: Mean, Mean difference, Standard deviation, Standard error of mean difference and 't' value of Post-Test Competencies of Handing Over (Pediatric Laboratory Setting) among Experimental and Comparison Group**

N=60

Case scenario	Mean±SD	Mean %	MD	SEMD	't' value	df	Pvalue
CS I(Medical) Exp group (n = 30)  Comp group (n = 30)	20.13±2.17 17.13±2.96	83.87% 71.37%	3.00	0.67	4.46	58	0.00*
CSII (Medical) Exp group (n = 30) Comp group (n = 30)	30.40±3.04 21.3±7.52	86.85% 60.37%	9.26	1.48	6.25	58	0.00*
CSIII (Surgical) Exp group (n = 30) Comp group (n = 30)	34.3±2.63 24.53±3.83	90.44% 64.55%	9.83	0.85	11.57	58	0.00*
Total mean score	Exp group 28.3 Comp group 20.93						

NS -Not significant (p>0.05) \*- significant (p < 0.05)

t (58)=2.001

Table 2. The findings of the table showed that after administering Nursing Handoff Education Programme both the groups had significant difference in case scenario I, II & III. Hence, the research hypotheses was accepted and the null hypotheses was rejected.

**Table 3: Mean, Mean difference, Standard deviation, Standard error of mean difference and 't' value of Post-Test Competencies of Handing Over (Clinical setting) among Experimental and Comparison Group**

N=60

Clinical Post test	Mean±SD	Mean %	MD	SEMD	't' value	Df	Pvalue
Exp group (n = 30)	27.23±2.95	66.4%	15.50	0.73	21.06	58	0.00*
Comp group (n = 30)	11.73±2.74	28.6%					

<sup>NS</sup> -Not significant (p>0.05) \* - significant (p <0.05)

t(58)=2.001

**Table 3.** The clinical exposure of the nursing students was effective but not as much as Nursing Handoff Educational Programme.

**Table 4: Mean, Mean difference, Standard deviation, Standard error mean difference, "t" value of Pre test and Post-test scores of Competencies of Handing over (Pediatric laboratory setting) among Nursing students in Experimental and Comparison Group**

N=60

Case scenario	Mean	Mean%	MD	SEMD	't' value	Df	Pvalue
Experimental group							
CS I(Medical)							
Pre test	12.37	51.54%	7.76	0.52	14.7	29	0.00*
Post test	20.13	83.87%					
Cs II (Medical)							
Pre test	16.03	45.8%	14.3	1.08	13.2	29	0.00*
Post test	30.40	86.85%					
CS III (Surgical)							
Pre test	17.87	47.02%	16.5	0.85	19.0	29	0.00*
Post test	34.37	90.77%					
Comparison group							
CS I (Medical)							
Pre-test	12.23	50.95%	4.9	0.63	7.69	29	0.00*
Post-test	17.13	71.37%					
CS II (Medical)							
Pre-test	14.00	40.00%	7.13	1.24	5.74	29	0.00*
Post-test	21.13	60.37%					
CS III (Surgical)							
Pre-test	13.30	35.00%	11.2	0.78	9.62	29	0.00*
Post-test	24.53	64.5%					

**Cont... Table 4: Mean, Mean difference, Standard deviation, Standard error mean difference, “t” value of Pre test and Post-test scores of Competencies of Handing over (Pediatric laboratory setting) among Nursing students in Experimental and Comparison Group**

**N=60**

Total mean score	Experimental group					
	Pre-test 15.42					
	Post-test 28.3					
	Comparison group					
	Pre-test 13.17					
	Post-test 20.93					

<sup>NS</sup>-Not significant (p>0.05) \* - significant (p <0.05)

t (29)=2.04

**Table 4.** Hence, it infers that in Experimental and Comparison group there was a significant difference (p=0.00) in pre test and post test (Pediatric laboratory setting) all the case scenario at <0.05 level of significance within the group.

### Discussion

In the present study more than half of the students were female (in Exp group=63.3% & Comp group=50%) and males were 36.7% in experimental group and 50% in the comparison group. These findings are contrast with the study conducted by Abeer Mohamed Seada, Somaya Ahmed Bayoumy (2017) among nursing interns where the number of male nurse intern were more than half (63.7%) age group of less 22-less than 24 but in this study most of the participant were in the age group of 21-22 ,experimental group=43% and comparison group =70% and some were in the age group of 19-20, experimental group=56.7% and comparison group=30%.<sup>7</sup>

In this study the highest mean score for the right response in post test II (clinical setting) was 2.00 (100%) for Identification (name, unit, dr. incharge, date of hospitalization) and for diagnosis and vital signs were also high (2.00, 100%). This finding is in contrast with the findings of the study of Bev O’ Connell, Kate Macdonald & Cherene Kelly in which they had calculated the mean, percentage and SD for the items, it was a three point Likert scale they have used for taking the responses like disagree, neither agree nor disagree

and agree was 94.3% of the participants had agreed to the response “I am able to clarify information that has been provided to me” and the lowest mean score was 2.15 (9.1% participants agreed for “I find handover takes too much time).<sup>8</sup>

### Conclusion

Nurses play an important role in providing safe handing over of the patient. The nurse-to-nurse handover is not taught formally during training, yet it is one of the most important rituals of the nursing shift. Nurses are the backbone of the hospital and the health care team. The Nursing Handoff Education Programme was effective to improve the competencies of handing over among nursing students as there was a significant difference between experimental and comparison group in pediatric laboratory setting as well as clinical setting.

**Acknowledgement:** The authors express their whole hearted thanks to Dr. (Mrs.) Jyoti Sarin, Director-Principal, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar (Deemed to be University), Mullana, Haryana India towards her timely support for this study.

**Conflict of Interest:** NIL

**Funding Sources:** NIL

**Ethical approval:** The ethical clearance was obtained from university research ethics committee of Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala (MMU/IEC/1167) and the study was carried out in accordance with the guidelines laid

by Indian Council of Medical Research ICMR. The permission was taken to conduct the study from the principals of the selected institutes. The written consent from the students was collected prior to the study. The purpose for carrying out research project was explained and assurance of confidentiality was given to the participant.

### References

1. Healthcare Is Important To The Society Health Essay [Internet]. [cited 2019 Jan 30]. Available from: <https://www.uniassignment.com/essay-samples/health/healthcare-is-important-to-the-society-health-essay.php>
2. Joshi M, Currier A, Brien O', Rush S. Bedside reporting: Dynamic dialogue [Internet]. Vol. 7, Nursing Management. 1998 [cited 2019 Jan 16]. Available from: <https://www.kcl.ac.uk/nursing/research/nru/policy/By-Issue-Number/Policy--Issue-36.pdf>
3. O.Bljaskina. slideshare on patient handing over and types - Google Search [Internet]. [cited 2019 Feb 1]. Available from: <https://www.google.com/search?q=slideshare+on+patient+hnding+over+and+types&oq=slideshare+on+patient+hnding+over+and+types&aqs=chrome..69i57j0j7&sourceid=chrome&ie=UTF-8>
4. ISBAR - Identify, Situation, Background, Assessment and Recommendation. [cited 2019 Feb 13]; Available from: <https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/clinical+resources/clinical+topics/clinical+handover/isbar+-+identify+situation+background+assessment+and+recommendation>.
5. Periard M, Knecht L, Birchmeier N. A State Association Surveys School Nurses to Identify Current Issues and Role Characteristics. *The Journal of School Nursing*. 1999;15(4):12-18.
6. Healthcare Is Important To The Society Health Essay [Internet]. [cited 2019 Jan 30]. Available from: <https://www.uniassignment.com/essay-samples/health/healthcare-is-important-to-the-society-health-essay.php>
7. Seada AM, Bayoumy SA. Abeer Mohamed Seada, Somaya Ahmed Bayoumy. Effectiveness of Handoff Educational Program on Nurses Interns' Knowledge, and Communication Competence. *Am J Nurs Sci* [Internet]. 2017 [cited 2019 Jan 16];6(6):467-77. Available from: <http://www.sciencepublishinggroup.com/j/ajns>
8. O'Connell B, Macdonald K, Kelly C. Nursing handover: It's time for a change. *Contempt Nurse* [Internet]. 2008 Aug 18 [cited 2019 Feb 14];30(1):2-11. Available from: <http://www.tandfonline.com/doi/abs/10.5172/conu.673.30.1.2>