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A STUDY TO ASSESS THE EFFECTIVENESS OF NEWLY DEVELOPED METHOD OF HANDOVER CHARGES ON HANDOVER PROCESS AMONG STAFF NURSES IN SELECTED HOSPITALS OF CENTRAL GUJARAT

MAKWANA P[1*], DHANOPIA SD[2] AND SHARMA A[3]

1: Assistant Professor, Dinsha Patel College of Nursing, Maganbhai Adenwala Mahagujarat University, Nadiad

2: Assistant Professor, Manikaka Topawala Institute of Nursing, CHARUSAT, Changa

3: Professor cum Principal, Manikaka Topawala Institute of Nursing, CHARUSAT, Changa

***Corresponding Author: Ms. Preksha Makwana: E Mail: prekshamakwana975@gmail.com**

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ABSTRACT

"A study to assess the effectiveness of newly developed method of handover charges on handover process among staff nurses in selected hospitals of central Gujarat."

BACKGROUND OF THE STUDY

Nursing handover is an important part of nursing duty. Handover is given in written form, oral or in a telephonic way. There is one format to share patient related information while changing each shift. Some formats are according to the department and some generalized also. That will help in sharing information to the next nursing staff very exact and accurately, but without format it could be difficult and chances or occurrence of errors.

OBJECTIVE

To assess the effectiveness of newly developed method of handover charges on handover process.

METHODOLOGY

In this study quantitative approach quasi experimental Post-test only control group design was utilized. The populations considered were staff nurses working in hospitals. Samples were

selected through non-probability purposive sampling technique. Independent variable was newly developed method of handover charges. Procedure involved newly developed method of handover charges was explained to the samples of experimental group. They were followed for 7 days and taken post-test through checklist of the groups. As per score of checklist achieved by samples to see the effectiveness of newly developed method of handover process. Pilot study was conducted to assess the feasibility of the tool and practibility. Data analysis was done using inferential and descriptive statistics.

RESULT

The study findings revealed that there was significance of effectiveness of newly developed method of handover charges on handover process at 0.05 level of significance. Two sample Z test was used to check the effectiveness of newly developed method of handover charges. Z value is 59.7 corresponding p value less than 0.05, hence null hypothesis was rejected.

CONCLUSION

This study concluded that effectiveness of newly developed method of handover charges was effective on handover process of staff nurses who are working in hospital.

Keywords: Newly developed, method of handover charges, handover process, Staff nurse

INTRODUCTION

Nurses are the first contact person for the patient. In the patient care clear communication among nurses is important. Transparent communication between nurses is essential for the positive outcome of nursing care of every patient, so to achieve good outcome clear communication is necessary and this communication is only possible by the handover. Handover is an important part of daily nursing care and it is happened at the end of each shift **[1]**.

The nursing handover is frequently done at the start of a nurse's shift and is important for sustaining care continuity. Nursing handovers can communicate proper information about a patient's condition, treatment, and future requirements if information is missing or omitted, but they can also be useless or even harmful if information is missing or omitted. Clinical handover has been recognized as a national norm by the Australian Commission on Safety and Quality in Health Care, thus it is necessary to reinforce it **[2]**.

Clinical handover is a common practice in medical settings that involves the transfer of medical information between shifts and is an important part of health care delivery. To maintain patient safety, shift work relies largely on effective information sharing. The information shared during shift changes gives arriving nurses an "image of the ward," which influences the overall quality of patient care and the delivery of care for

the whole shift. Despite the fact that nurses work in shifts that overlap in time, they may not inhabit the same space during this overlap, resulting in both spatial and temporal separation. This isolation can make the shift-change procedure more difficult because it prohibits them from discussing and clarifying information interpretation while in route **[3]**.

Handoffs occur in a variety of scenarios along the health-care continuum. When a patient is transported from one location within the hospital to another, or when information and responsibility are transferred between shifts on the same unit, there are numerous sorts of handoffs from one health care practitioner to another and physicians exchange information through interdisciplinary handoffs., as well as between nurses and diagnostic staff, whereas intradisciplinary handoffs take place between physicians and nurses. Handoffs between hospitals and multiple entities, such as home health companies, hospices, and extended-care institutions, occur often.

Handoffs can include specialized technology (such as pagers, hand-held devices, audio recorder and digital records), written documents, oral communication and fax. Each type and location of handoff comes with its own set of challenges **[4]**.

NEED OF THE STUDY

Sharing the information regarding patient is by the handover and it is different as per the hospital. Methods of handovers charges gives positive or negative effect on patient care mainly in the critical care.

During handover process many times some essential data or information regarding patient care forgot by the nurses due to the method of handover or the inappropriate structure of handover. As per some of the study and my personal experience there is a need to conduct this type of study.

Handover is an important nursing activity and an important aspect of communication since it improves and ensures high-quality patient care in clinical practice. However, if the information given is wrong, inappropriate, or omitted, the handover may be useless and even damaging to patients and nurses. As a result, in order to provide best care and ensure patient safety, this information must be delivered accurately. Registered nurses on the unit have recently started staying late past their working hours since handover is taking longer than expected. The nurses took nearly an hour to give over their reports to the arriving staff. There was also a lot of interruption and diversion, which made the time spent giving over much longer **[5]**.

Handover is a common and complicated procedure that also entails the transfer of care responsibilities. The flaws in the process are linked to significant gaps in

clinical safety, as well as patient and professional discontent and rising health-care costs. In recent years, efforts to standardize this procedure have expanded, with several mnemonic tools surfacing **[6-11]**.

METHODS

This quasi-experimental study was conducted after institutional ethical committee approval. A pre-validated newly developed method of handover charges and demographic tool circulated among 144 staff nurses from selected hospitals of central Gujarat by used non probability purposive sampling technique within 1 month. Written informed consent was obtained from all participants. From checklist, the minimum score is 0 and maximum score is 36. The score between 0-24 indicate poor handover process, 25-36 score considered as good handover process. The nurses were included of selected hospitals of central Gujarat. Data of components were distributed in percentage based on age, gender, education, work experience, duty shift in hospital, duty in ward, language used during recording and reporting. The description of demographic variables is done and effectiveness of newly developed method of handover charges by checklist also determined.

Ethical consideration:

Ethical approval for the present study was obtained from Institutional Ethics Committee- CHARUSAT, Changa.

(**Approval No:** ECR/1507/Inst/GJ/2021)

(**Ref. No:** CHA/IEC/ADM/21/02/105.22)

RESULTS

In experimental group, 59.7% of the staff nurses had age 20-25 years, 31.9% of them had age 25-30 years, 6.9% of them had age 30-35 years and 1.4% of them had age above 35 years. In control group, 45.8% of the staff nurses had age 20-25 years, 37.5% of them had age 25-30 years, 12.5% of them had age 30-35 years and 4.2% of them had age above 35 years.

In experimental group, 23.6% of them were males and 76.4% of them were females. In control group, 16.7% of them were males and 83.3% of them were females.

In experimental group, 87.5% of them had GNM and 12.5% of them had B.Sc. nursing. In control group, 94.4% of them had GNM and 5.6% of them had B.Sc. nursing.

In experimental group, 20.8% of them had work experience less than one year, 52.8% of them had 1-5 years of experience, 20.8% of them had 5-9 years of experience and 5.6% of them had 9 and above years of work experience. In control group, 22.2% of them had work experience less than one year, 29.2% of them had 1-5 years of experience, 40.3% of them had 5-9 years of experience and 8.3% of them had 9 and above years of work experience.

In experimental group, 61.1% of them had morning shift and 38.9% of them had evening shift. In control group, 61.1% of them had morning shift and 38.9% of them had evening shift.

In experimental group, 48.6% of them were from medical ward, 18.1% from surgical ward, 20.8% of them from emergency ward and 12.5% of them were from ICU ward. In control group, 55.6% of them were from medical ward, 23.6% from surgical ward, 9.7% of them from emergency ward and 11.1% of them were from ICU ward.

In experimental group, 1.4% of them had used English language, 37.5% of them had used Gujarati language and 61.1% of them had used mixed language during recording and reporting. In control group, 30.6% of them had used Gujarati language and 69.4% of them had used mixed language during recording and reporting **(Table 1)**.

Table 1: Description of samples (staff nurses) based on their personal characteristics in terms of frequency and percentage; N=72, 72

Demographic variable	Experimental group		Control group	
	Freq	%	Freq	%
Age				
20-25 years	**43**	**59.7%**	**33**	**45.8%**
25-30 years	**23**	**31.9%**	**27**	**37.5%**
30-35 years	**5**	**6.9%**	**9**	**12.5%**
More than 35 years	**1**	**1.4%**	**3**	**4.2%**
Gender				
Male	**17**	**23.6%**	**12**	**16.7%**
Female	**55**	**76.4%**	**60**	**83.3%**
Education				
G.N.M	**63**	**87.5%**	**68**	**94.4%**
B.Sc. nursing	**9**	**12.5%**	**4**	**5.6%**
Work experience				
1 year	**15**	**20.8%**	**16**	**22.2%**
1- 5 years	**38**	**52.8%**	**21**	**29.2%**
5-9 years	**15**	**20.8%**	**29**	**40.3%**
9 years and above	**4**	**5.6%**	**6**	**8.3%**
Duty shift in in hospital				
Morning shift	**44**	**61.1%**	**44**	**61.1%**
Evening shift	**28**	**38.9%**	**28**	**38.9%**
Duty in ward				
Medical ward	**35**	**48.6%**	**40**	**55.6%**
Surgical ward	**13**	**18.1%**	**17**	**23.6%**
Emergency ward	**15**	**20.8%**	**7**	**9.7%**
ICU ward	**9**	**12.5%**	**8**	**11.1%**
Language used during recording and reporting				
English	**1**	**1.4%**	**0**	**0.0%**
Gujarati	**27**	**37.5%**	**22**	**30.6%**
Mixed	**44**	**61.1%**	**50**	**69.4%**

In experimental group, all the staff nurses had good handover process. In control group, all the staff nurses had poor handover process.

Table 2: Effectiveness of newly developed method of handover charges; N=72, 72

Handover process	Experimental		Control	
	Freq	%	Freq	%
Poor (score 0-24)	**0**	**0%**	**72**	**100%**
Good (score 25-36)	**72**	**100%**	**0**	**0%**

Researcher applied two sample z-test for the effectiveness of newly developed method of handover charges. Average score of experimental groups is 31.6 which was 8.6 for control group. Z-value for this test was 59.7. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. It is evident that the newly developed method of handover charges is significantly effective in significantly effective on handover process among staff nurses.

Table 3: Two sample z-test for effectiveness of newly developed method of handover charges; N=72, 72

Group	Mean	SD	Z	p-value
Experimental	31.6	2.0	59.7	0.000
Control	8.6	2.6		

In experimental group, 77.8% the staff nurses had filled up date and starting time of handover. In control group, 1.4% of the staff nurses filled up date and starting time of handover. In experimental group, 97.2% of them had filled up Name of ward. In control group, 66.7% of them had filled up name of the ward. In experimental group, 97.2% of them had filled up name of patient. In control group, 72.2% of them had filled up the name of the patient. In experimental group, 94.4% of them had filled up age and gender of patient. In control group, all of them had filled up age and gender of the patient. In experimental group, 62.5% of them had filled up I.P number/bed number. In control group, 4.2% of them had filled up IP.

Table 4: Item analysis: Patient information; N=72, 72

Patient information	Experimental group		Control group	
	Freq	%	Freq	%
Date and starting time of handover	56	77.8%	1	1.4%
Name of ward	70	97.2%	48	66.7%
Name of patient	70	97.2%	52	72.2%
Age and gender of patient	68	94.4%	72	100.0%
I.P number/bed number	45	62.5%	3	4.2%
Date of admission	58	80.6%	34	47.2%
Name of consultant	71	98.6%	59	81.9%
Diagnosis	72	100.0%	70	97.2%

In experimental group, 75% of them had mentioned current problem. In control group, 44.4% of them had mentioned current problem. In experimental group, 95.8% of them had mentioned vital signs. In control group, 29.2% of them had mentioned vital signs. In experimental group, 81.9% of them had mentioned Spo2 (%). In control group, 15.3% of them had mentioned Spo2 (%). In experimental group, 93.1% of them had mentioned level of consciousness. In control group, 4.2% of them had mentioned level of consciousness. In experimental group, 68.1% of them had mentioned quality of sleep hours. In control group, none of them had mentioned quality of sleep hours. In experimental group, 93.1% of them had mentioned allergy. In control group, 9.7% of

them had mentioned allergy. In experimental group, 75% of them had mentioned medical or surgical history. In control group, 13.9% of them had mentioned medical or surgical history. In experimental group, 83.3% of them had mentioned activity of daily living. In control group, none of them had mentioned activity of daily living. In experimental group, 86.1% of them had mentioned fall risk. In control group, none of them had mentioned fall risk. In experimental group, 80.6% of them had mentioned skin integrity. In control group, 62.5% of them had mentioned skin integrity.

Table 5: Item analysis: Assessment data; N=72, 72

Assessment data	Experimental group		Control group	
	Freq	%	Freq	%
Current problem	54	75.0%	32	44.4%
Vital sign	69	95.8%	21	29.2%
Spo2 (%)	59	81.9%	11	15.3%
Level of consciousness	67	93.1%	3	4.2%
Quality of sleep hours	49	68.1%	0	0.0%
Allergy to	67	93.1%	7	9.7%
History: past medical or surgical	54	75.0%	10	13.9%
Activity of daily living	60	83.3%	0	0.0%
Fall risk	62	86.1%	0	0.0%
Skin integrity	58	80.6%	5	62.5%

In experimental group, 94.4% of the staff nurses mentioned ventilation. In control group, 5.6% of them had mentioned ventilation. In experimental group, 83.3% of them had mentioned diet plan. In control group, 29.2% of them had mentioned diet plan. In experimental group, 76.4% of them had mentioned intravenous line.

In control group, 34.7% of them had mentioned intravenous line. In experimental group, all of them had mentioned medication. In control group, 56.9% of them had mentioned medication. In experimental group, 83.3% of them had mentioned restrain. In control group, none of them had mentioned restrain. In experimental group, 87.5% of them had had mentioned any order/planning regarding procedure, therapy, diagnostic study, surgery. In control group, 22.2% of them had mentioned any order/planning regarding procedure, therapy, diagnostic study, surgery. In experimental group, 77.8% of them had mentioned intervention advised. In control group, 11.1% of them had mentioned intervention advised. In experimental group, 88.9% of them had mentioned special investigation. In control group, 4.2% of them had mentioned special investigation. In experimental group, 94.4% of them had mentioned repost value. In control group, none of them had mentioned the report value. In experimental group, 87.5% of them had mentioned special instruction. In control group, none of them had mentioned special instruction.

Table 6: Item analysis: Services by staff nurse; N=72, 72

Services by staff nurse	Experimental group		Control group	
	Freq	%	Freq	%
Ventilation	68	94.4%	4	5.6%
Diet plan	60	83.3%	21	29.2%
Intravenous line	55	76.4%	25	34.7%
Medication	72	100.0%	41	56.9%
Restrain	60	83.3%	0	0.0%
Any order/planning regarding procedure, therapy, diagnostic study ,surgery	63	87.5%	16	22.2%
Intervention advised	56	77.8%	8	11.1%
Special investigation	64	88.9%	3	4.2%
Report value	68	94.4%	0	0.0%
Special instruction	63	87.5%	0	0.0%

In experimental group, 98.6% of them had mentioned completed task. In control group, 29.2% of them had mentioned completed task. In experimental group, 87.5% of them had mentioned due task. In control group, 22.2% of them had mentioned due task. In experimental group, 77.8% of them had mentioned pending report. In control group, 1.4% of them had mentioned pending report. In experimental group, 91.7% of them had mentioned referral. In control group, 9.7% of them had mentioned referral. In experimental group, 93.1% of them had mentioned shift from to. In control group, 2.8% of them had mentioned shift from to. In experimental group, all of them had mentioned date and ending time of handover. In control group, none of them had mentioned date and ending time of handover. In experimental group, all of them had mentioned handed over by. In control group, 26.4% of them had mentioned handed over by. In experimental group, all of them had mentioned taken over by. In control group, 5.6% of them had mentioned taken over by.

Table 7: Item analysis: Mentions reports/records; N=72, 72

Mentions reports/records	Experimental group		Control group	
	Freq	%	Freq	%
Completed task	71	98.6%	21	29.2%
Due task	63	87.5%	16	22.2%
Pending report	56	77.8%	1	1.4%
Referral	66	91.7%	7	9.7%
Shift from to	67	93.1%	2	2.8%
Date and ending time of handover	72	100.0%	0	0.0%
Handed over by	72	100.0%	19	26.4%
Taken over by	72	100.0%	4	5.6%

DISCUSSION

This study was done to assess the effectiveness of newly developed method of handover charges on handover process. in this study finding showed that average score of experimental group is 31.6 which was 8.6 for the control group. SD of experimental group is 2.0 and for control it was 2.6.Z

value for this test was 59.7.corresponding p value (0.000), the null hypothesis is rejected. It is evident that newly developed method of handover charges is significantly effective on handover process among staff nurses. In this study findings showed that in experimental group, all the staff nurses had good handover process. In control group, all the staff nurses had poor handover process. This is supported by an experimental study on implementation of evidence based practice nursing

CONCLUSION

According to findings of this study, this mainly focuses to assess the effectiveness of newly developed method of handover charges. 144 samples were drawn from selected hospitals of central Gujarat. Non-probability purposive sampling method was used. Administered newly developed method of handover charges on experimental group. The data were obtained by checklist and interpreted by applying descriptive and inferential statistical method. After the detailed analysis, this study brought out the following conclusions: two sample Z test for the effectiveness of newly developed method of handover charges. Z value is 59.7 corresponding p value was less than 0.05, hence null hypothesis was rejected. . It is evident that newly developed method of handover charges is significantly effective on handover process among staff nurses

Limitation:

Since the study focuses only on 144 nurses from selected hospitals in central Gujarat, the findings may not be applicable to nurses in other regions or to the general population. The study might have been conducted within a limited timeframe, which could have impacted the depth of data collection and analysis. A longer duration might have allowed for a more comprehensive study. The extraneous variables could not be control by the investigator.

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