



# Critical Care Nurses' Views on Handover in Chitwan, Nepal

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**Background and Objectives:** The nurses shift handover is an integral component of nursing care and a highly complex process of communication aimed at improving patients' outcomes. Despite its significance, there is no universal approach to handover protocols. Our aim was to explore critical care nurses views on handover and to explore the association between views of handover and selected socio demographic variables. **Method and Materials:** Descriptive cross-sectional research design with 108 nurses working in adult critical care units at two tertiary teaching hospitals of the Chitwan district, Nepal, by using a nonprobability, enumerative sampling technique. Data were collected through a Likert-5 scale questionnaire exploring views on the quality and effectiveness of handover among nurses. Median was used to reflect nurses' views and a cutoff value of median (99) was used to discriminate between positive and negative views. Chi square was used to test the association between views and selected sociodemographic variables. **Results:** The study findings revealed that only 50.9% of the nurses had positive views regarding handover. The significant associated variables were working hospital, working unit, level of work performance and duration of handover ( $p = 0.002$ ,  $p = 0.002$ ,  $p = 0.029$ ,  $p = 0.004$  respectively). **Conclusion:** The findings of the present study point out the need for nurses to adhere to a handover protocol, as well as the need to develop a practical and comprehensive standardized protocol to transmit crucial and relevant information related to patient care, in order to enhance the safety of nursing practice in the area of basic nursing care and communication about patients' condition.

**Keywords:** communication; nursing handover; nurses' shift change report; critical care nurse

## INTRODUCTION

Bedside handover has multifaceted benefits. It brings the nursing team together, promotes patients' safety and medication review, promotes patient-centered care, helps patients to be more informed, engaged, to recover faster, and to be more likely to adhere to prescribed treatments, and may lead to an improvement in patients' satisfaction (Chaboyer et al., 2009). Accurate and timely communication of vital information between professional registered

nurses is essential to assure patient safety. One of the most important times for nurse-to-nurse communication is during the handover when information is exchanged and the responsibility of care is transferred (Hillgoss & Cohen, 2011).

The United Kingdom (UK), Nursing and Midwifery Council (NMC, 2009) states that nursing care record-keeping and information sharing by nurses in the duration of a shift are integral, rather than optional, aspects of nursing practice

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(Athanasakis, 2013). Nurses' perceptions are a vital piece in assessing the clarity of the handover process as nurses must feel comfortable knowing that the information exchanged will ensure continuity of care for the patient (Maxson, Derby, Wroblewski, & Foss, 2012). Bedside clinical handover allows clarifications and was associated with increased patient and staff satisfaction. The presence of the patient during the bedside clinical handover prompts the outgoing shift nurses to handover pertinent patient's information and also reminds the incoming shift nurses to clarify and ask questions related to the patient and their plan of care (Spinks, Chaboyer, Bucknall, Tobiano, & Whitty, 2015).

Despite that handover remains one of the most important rituals of the nursing shift (Birmingham, Buffum, Blegen, & Lyndon, 2015), it is worth-noting that the process of handover is not part of the official education programs in nursing schools. So, nurses do not undergo any regular and particular training at the undergraduate level, and they only get introduced to handover within a specific ward culture. Part of most nurses' daily reality is nursing handover. When hospitals have no clear policy for delivering handover, each nurse applies their own method, rendering handover inconsistent and prone to errors and omissions. Therefore, although the handover is a required procedure in healthcare facility, only a few nurses comply with it (Wallis, 2010).

In a study involving ED and ICU nurses, "nurses from both may lacked clarity as to when the actual handover process began. Nurses from both settings recognized the importance of the information given and received during handover and deemed it to have an important role in influencing quality and continuity of care. Nurses from both departments would benefit from a structured framework or aide memoir to guide the handover process" (McFetridge, Gillespie, Goode, & Melb, 2007). Error studies in the ICU have shown good communication to be crucial for ensuring patient safety. Interventions to improve communication in the ICU have resulted in reduced

reports of adverse events, and simulated emergency scenarios have shown effective communication to be correlated with improved technical performance. In other medical domains where communication is crucial for safety, the relationship between communication skills and error has been examined more closely, with highly detailed teamwork assessment tools have been developed (Reader, Flin, & Cuthbertson, 2007).

Handover has been identified as an aspect of care at which errors are likely to occur. Failure in handover is a major preventable cause of patient harm and is principally due to the human factors of poor communication and error. These can lead to inefficiencies, repetitions, delayed decisions, repeated investigations, incorrect diagnoses, incorrect treatment, avoidable readmissions, increased costs, and poor communication with the patient.

### **AIM**

The aim of this study was to investigate critical care nurses' views on handover and to explore the association between nurses' views on handover and selected sociodemographic variables.

### **MATERIALS AND METHODS**

A descriptive cross-sectional design was used to explore views regarding handover among nurses working in critical care units at selected teaching hospitals, Chitwan, Nepal. Two teaching hospitals were selected for the study. Both hospitals were located in Chitwan, and consisted of 750 beds. Both teaching hospitals are tertiary level hospitals at Chitwan, having various critical care units with sufficient patient flow. The target population was all nurses who had acquired one of the professional qualifications, that is, Proficiency Certificate Level (PCL) nursing, Bachelor in Nursing (BN), and Bachelor of Science in Nursing (B.Sc.) working in critical care units. A non-probability, enumerative sampling technique was used to select the sample of 113.

A Likert-5 point scale was developed by the researcher after review of literature. Experts

in School of Nursing, Chitwan Medical College guided and provided their opinion throughout development of the instrument. After the development phase, the instrument was piloted. The tool was administered in English. The questionnaire was developed as a unidimensional scale.

The instrument was a 5-point Likert scale with 26 items, addressing nurses' views on the quality, merits and challenges of handover. Internal consistency reliability was calculated by using Cronbach's alpha. Total scores were calculated by summing individual item scores. Sociodemographic variables were also collected. These includes age, marital status, religion, type of family, qualification, designation, working unit, professional experiences, work shift, duration for handover, received in-service education, availability of learning resources, nurse patient ratio.

Prior to the commencement of the study, approval was acquired from the Nursing Research (Thesis) Committee (NRC), School of Nursing, Chitwan Medical College. Data were collected after getting ethical clearance from the Institutional Review Committee of Chitwan Medical College (CMC-IRC). Data collection was completed through self-administered questionnaires from 23rd June 2017 to 22nd July 2017, and was carried out by the principal investigator, at the beginning of each shift (morning at 7 a.m., evening at 12 noon, and night at 7 p.m.). Total time to fill in the questionnaire was 15 to 20 minutes for each nurse. Written informed consent was obtained from each nurse prior to data collection after explaining the purpose of the study. No respondent was forced or coerced or intimidated in any way to participate in the study.

#### **DATA MANAGEMENT AND ANALYSIS**

Data were checked for completeness, coded, entered in EpiData version 3.1 and exported to Statistical Package for Social Science (IBM SPSS) version 20 for descriptive and inferential statistics. Quantitative data were summarized by frequencies, percentages, mean, median (Md), standard deviation, inter-quartile range (IQR).

The Smirnov test was used to check the normality of variable distribution. Nurses' views on handover were additionally grouped into "mostly positive" and "mostly negative" based on a Md score (cutoff point). Chi-square test with Yate's correction and likelihood ratio were used to explore the association between nurses' views and sociodemographic variables.

Calculated Cronbach's alpha value for Likert-scale was 0.704, which showed an acceptable degree of internal consistency.

### **RESULTS**

Respondents' sociodemographic variables appear in Table 1. Age ranged from 19 to 30 years ( $22.49 \pm 1.88$ ). The majority of nurses (78.7%) were unmarried, 89.8% belonged to Hindu religion, and 74.1% came from a nuclear family.

The majority of respondents (64.8%) had completed Proficiency Certificate Level PCL, 90.7% were staff nurses. Regarding working unit, 42.6% of nurses worked in Medical ICU, whereas 17.6% worked in Surgical and Neuro-ICU. In regards to professional experience, 30.6% had <1 year experience. More than one-third (37%) of nurses had night duty. Regarding level of work performance, 39.8% of nurses self-reported as competent. In-service education regarding handover was received by 55.6% of nurses. Regarding duration of handover, 3.7% of nurses took <2 minutes for handover. The mean duration of nursing handover was as  $2.77 \pm 0.63$  minutes.

More than half of nurses (56.5%) reported that adequate amount of resources was available regarding handover in their working unit, and the majority (73.1%) reported that they get positive reinforcement from supervisors. Half of the nurses (50.0%) reported working at a 1:3 nurse/patient ratio.

With regard to individual questionnaire items, statements with the highest average scores were "improves communication skills between health

**TABLE 1. Sociodemographic Information of the Respondents**

Variables	<i>n</i> = 108	
	Frequency	Percentage
Age group (in years)		
<20	12	11.1
20–24	81	75.0
25 and above	15	13.9
<b>Mean ± SD = 22.49 ± 1.88, Minimum = 19 years, Maximum = 30 years</b>		
Marital status		
Married	23	21.3
Unmarried	85	78.7
Religion		
Hindu	97	89.8
Buddhist	10	9.3
Christian	1	0.9
Professional qualification		
Proficiency certificate level in nursing (three years course after class 10)	70	64.8
Bachelor level in nursing (BN and B.Sc.)	38	35.2
Designation		
Staff nurse	98	90.7
Senior staff nurse	10	9.3
Working unit		
Medical ICU	46	42.6
Surgical ICU	19	17.6
Neuro ICU	24	22.2
Coronary care unit	19	17.6
Total professional experience		
<1 year	33	30.6
1–3 years	65	60.1
>3 years	10	9.3
<b>Mean ± SD = 1.55 ± 1.19, Minimum = 2 months, Maximum = 66 months</b>		
Experience in critical care unit (in years)		
<1	41	38.0
1–3	63	58.3
>3	4	3.7
<b>Mean ± SD = 1.23 ± 0.92, Minimum = 1 month, Maximum = 60 months</b>		
Working shift		
Morning	37	34.3
Evening	31	28.7
Night	40	37.0

*(Continued)*

**TABLE 1. Sociodemographic Information of the Respondents (Continued)**

Variables	<i>n</i> = 108	
	Frequency	Percentage
Level of work performance		
Advance beginner	32	29.6
Competent	43	39.8
Proficient	33	30.6
Received in-service education on handover		
Yes	48	44.4
No	60	55.6
Handover duration (in minutes)		
<2	4	3.7
2–3	67	62.0
>3	37	34.3
<b>Mean ± SD = 2.77 ± 0.63, Minimum = 1.50 minutes, Maximum = 4 minutes</b>		
Availability learning resources related to handover		
Adequate	61	56.5
Inadequate	47	43.5
Presence of positive reinforcement from supervisors		
Yes	79	73.1
No	29	26.9
Nurse–patient ratio		
1:2	12	11.1
1:3	54	50.0
More than 1:3	42	38.9

Note. *SD* = standard deviation.

team members” (4.69 ± 0.53), “patient information is provided in each shift” (4.67 ± 0.56), “good handover reduces medical errors” (4.64 ± 0.56) “provides sufficient information about patients” (4.45 ± 0.61).

In contrast, the statements with the lowest average scores were “handover should focus on subjective data (2.54 ± 1.01)”, “handover is often interrupted by patients and visitors” (2.58 ± 0.90), “handover is often interrupted by various activities in the unit” (2.62 ± 0.95), “information provided in each shift is inadequate” (2.94 ± 0.95).

Regarding nurses’ view only 50.9% of the nurses had positive views regarding handover; whereas

49.1% of nurses had negative views regarding handover.

There was no statistically significant association between nurses’ views regarding handover and nurses’ sociodemographic variables.

However, we noted statistically significant associations between nurses’ views and working hospital ( $p = .002$ ), working unit ( $p = .002$ ), level of work performance ( $p = .029$ ), and handover duration ( $p = .004$ ). There was no significant association with other professional variables of nurses, nor with nurse to patient ratios, availability of learning resources, and reinforcement from supervisors.

**TABLE 2. Views Regarding Handover Among Respondents Showing Average and Standard Deviation of 5-Point Likert Scale**

<b>Statements</b>	<b>n = 108</b>	
	<b>Mean</b>	<b>Standard Deviation</b>
Provides sufficient information about patients	4.45	0.61
Helps to clarify information being given during handover	4.31	0.66
The information provided is easy to follow	4.15	0.65
Provides opportunity to discuss confidential information of patient	3.81	1.0
Handover helps to focus information being given	4.20	0.59
Provides information about all aspects of nursing care	4.13	0.81
Simplifies the acquisition of information about patient and disease	3.92	0.64
Delays in patient care can be prevented	3.73	1.09
Gives opportunity to share problems faced	4.18	0.75
Good handover reduces medical errors	4.64	0.5
Improves communication among healthcare team	4.69	0.53
Patient information is provided in each shift	4.67	0.56
Often interrupted by various activities in critical care units	2.62	0.95
I am satisfied with current handover style	3.90	0.73
Often interrupted by patients and visitors	2.58	0.90
Provides opportunity to share workload issues	3.90	0.92
Information provided in each shift is inadequate	2.94	0.95
Provides opportunity to assess patient	3.95	0.76
Takes too much time	3.14	1.01
Handover should focus on subjective data	2.54	1.01
Does not contribute to nursing process	3.78	1.17
I feel handover disturbs the patient	3.78	0.98
Patient should be involved in handover	3.32	1.09
Results in patient safety	4.26	0.74
Provides opportunity to clarify questions	4.24	0.79
Results in arguments between colleagues	3.42	1.25

*Note.* 5-point Likert scale mean = 99.25.

**TABLE 3. Views of Nurses Regarding Handover**

<b>Views</b>	<b>Frequency</b>	<b>Percentage</b>
Positive ≥ median score (99)	55	50.9
Negative < median score (99)	53	49.1
<b>Total</b>	<b>108</b>	<b>100.0</b>

*Notes.* Median = 99, Inter-quartile range (IQR) = (105 - 93.25), Minimum score = 78, Maximum score = 122, Total possible score = 130.

**TABLE 4. Association Between Views Regarding Handover Among Nurses and Sociodemographic Variables of Nurses**

Variables	<i>n</i> = 108		$\chi^2$	<i>p</i> Value
	Views			
	Positive No. (%)	Negative No. (%)		
Age in years				
<20	7 (58.3)	5 (41.7)	0.375	.829
20–24	40 (49.4)	41 (50.6)		
≥25	8 (53.3)	7 (46.7)		
Marital status				
Married	12 (52.2)	11 (47.8)	0.018	.893
Unmarried	43 (50.6)	42 (49.4)		
Religion				
Hindu	48 (49.5)	49 (50.5)	0.792	.374
Other than Hindu	7 (63.6)	4 (36.4)		
Type of family				
Nuclear family	41 (51.2)	39 (48.8)	0.013	.909
Joint family	14 (50.0)	14 (50.0)		

Note. Significant level at 0.05.

**TABLE 5. Association Between Views Regarding Handover and Professional Characteristics**

Variables	<i>n</i> = 108		$\chi^2$	<i>p</i> Value
	Views			
	Positive No. (%)	Negative No. (%)		
Professional qualification				
Proficiency certificate level in nursing	33 (47.1)	37 (52.9)	1.139	.286
Bachelor level in nursing	22 (57.9)	16 (42.1)		
Designation				
Staff nurse	50 (51.0)	48 (49.0)	0.001	1.00 <sup>‡</sup>
Senior staff nurse	5 (50.0)	5 (50.0)		
Working hospital				
Chitwan Medical College, Teaching Hospital	45 (60.8)	29 (39.2)	9.190	.002
College of Medical Science and Teaching Hospital	10 (29.4)	24 (70.6)		
Working unit				
Medical ICU	32 (69.6)	14 (30.4)	14.696	.002
Surgical ICU	4 (21.1)	15 (78.9)		
Neuro ICU	12 (50.0)	12 (50.0)		
Coronary care unit	7 (36.8)	12 (63.2)		

(Continued)

**TABLE 5. Association Between Views Regarding Handover and Professional Characteristics (Continued)**

Variables	<i>n</i> = 108		$\chi^2$	<i>p</i> Value
	Views			
	Positive No. (%)	Negative No. (%)		
Total professional experience (in years)				
<1	16 (48.5)	17 (51.5)	0.132	.936*
1–3	34 (52.3)	31 (47.7)		
>3	5 (50.0)	5 (50.0)		
Work experience in the critical care unit (in years)				
<1	19 (46.3)	22 (53.7)	0.580	.748*
1–3	34 (54.0)	29 (46.0)		
>3	2 (50.0)	2 (50.0)		
Working shift				
Morning	19 (51.4)	18 (48.6)	0.681	.712
Evening	14 (45.2)	78 (54.8)		
Night	22 (55.0)	18 (45.0)		
Received in-service education on handover				
Yes	24 (50.0)	24 (50.0)	0.030	.863
No	31 (51.7)	29 (48.3)		
Level of work performance				
Advance beginner	10 (31.2)	22 (68.8)	7.107	.029
Competent	26 (60.5)	17 (39.5)		
Proficient	19 (57.6)	14 (42.4)		
Handover duration				
≤3 minutes	29 (40.8)	42 (59.2)	8.427	.004
>3 minutes	26 (70.3)	11 (29.7)		

Notes. Significant level at 0.05.

\*Likelihood ratio.

\*Yates correction.

## DISCUSSION

### Views Regarding Handover Among Nurses

Findings of the study showed only 50.9% of the nurses had positive views regarding handover. The mean rating of views was 99.25 which are higher than the few studies that unveiled mean score of perception 82.5 and 96.8 respectively (Kim, Ko & Kim, 2016; O’Connell, Macdonald, & Kelly, 2008).

Though the Md score of nurses’ view was 99 ± 11.75, only half of the nurses had positive views regarding handover. This might be explained due to the lack of any in-service training, lack of

self-directed learning, very busy schedule due to which nurses have had less chance to access up-to-date information, dissatisfaction with handover practice. Only one-fifth of nurses strongly agreed that they were satisfied with the current handover practice, which is much lower compared to results of a European study which revealed that nurses dissatisfied with handovers was 22% in England and 61% in France (Meißner et al., 2007).

### Association Between Views on Handover and Selected Variables

The mean age and years of nursing experience of respondents in this study reflects the high



turnover rate of nurses, and recruitment of new graduates with less professional experience. Our sample was younger and with less experience compared to an earlier study (Kim et al., 2016). It is unclear, how less experience might have affected respondents' expectations and their satisfaction with handover.

In the current study, positive views were significantly associated with working hospital, working unit, level of work performance, and duration of handover. In contrast to an earlier study, no association was observed with working experience (Ozturk, 2017). These differences might be due to high turnover rate of nurses, due to a trend of nurses going abroad.

More than half of respondents reported that they had not received any in-service education regarding handover, which might be a factor in their low satisfaction and views. An earlier study has shown significant differences between pre- and post-educational session nursing handover nurses' views, and the quality of handover and impact on patient care ( $p = .034$ ) (Elhanafy & Hammour, 2014). Therefore, educational interventions are imperative in improving the quality and impact of handover, as there is a need of continuous nursing education program incorporating evidence around handover.

## CONCLUSION

Only half of nurses have positive views regarding handover. Significant variables that associated with nurses' views were working hospital, working unit, level of work performance, and handover duration.

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