

# Patient Satisfaction with Intensive Care Services in the Medical ICU of Shree Birendra Hospital - A Descriptive Cross-sectional Study

Anita Adhikari<sup>1</sup>, Sunita Pokharel<sup>1</sup>, Bishow Ram Amatya<sup>2</sup>, Chiranjibi Panta<sup>3</sup>, Sumitra Mulepati<sup>4</sup>

<sup>1</sup> Nursing Officer, Shree Birendra Hospital, Chhauni, Kathmandu, Nepal

<sup>2</sup> Anesthesiologist and Intensivist, Associate Professor, Shree Birendra Hospital, Nepalese Army Institute of Health Sciences (NAIHS), Sanobharyang, Bhandarkhal Kathmandu, Nepal

<sup>3</sup> Pulmonary Critical Care Specialist, Associate Professor, Shree Birendra Hospital, Nepalese Army Institute of Health Sciences (NAIHS), Sanobharyang, Bhandarkhal Kathmandu, Nepal

<sup>4</sup> Sumitra Mulepati, Former Principal, College of Nursing, Nepalese Army Institute of Health Sciences (NAIHS), Sanobharyang, Bhandarkhal Kathmandu, Nepal

## Corresponding Author

Anita Adhikari,  
Nursing Officer,  
Shree Birendra Hospital,  
Chhauni,  
Kathmandu,  
Nepal  
Email: adhikanita77@gmail.com

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## Abstract

**Introduction:** Intensive care unit is a highly sophisticated hospital area which is specifically designed, well equipped and dedicated for the management of critically ill patients. Patient satisfaction is their perception of care and quality of service which is dependent upon their needs and expectations. Thus, the objective of the study is to find out the patients' satisfaction with intensive care unit care.

**Methods:** This is a descriptive cross-sectional study conducted among the patients transferred out to different wards and discharged from medical ICU of Shree Birendra Hospital, Kathmandu, Nepal. A total of 145 patients were selected by using non-probability purposive sampling methods. Structured questionnaire in Nepali version was used to interview the patients. Data was analyzed by using descriptive statistics and inferential statistics in SPSS version 25.

**Results:** More than half (53.1%) patients were male, with mean age of 59.4 years. Around 50% of patients were from the 60 - 80 years age group. On average, patients stayed in the hospital for about six days. Most of them (84.1%) were from army families, and 15.9% were active-duty soldiers. Among 145 patients, 109 (75.2%) had high level of satisfaction and 36 (24.8%) had low level of satisfaction. There was no association between demographics variables and satisfaction level.

**Conclusions:** Most of the patients were related to military personnel with the most common reason for ICU admission being respiratory problems. Overall, most patients were satisfied with the care they received in the ICU.

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## INTRODUCTION

Intensive care unit (ICU) is a specialized hospital ward designed to provide critical care and life support for patients who are very ill and injured patients.<sup>1</sup> ICU has highly sophisticated equipment like monitors and specific organ support equipment for the management of seriously ill patients.<sup>2</sup> ICU is an important entity for the treatment and management of critically ill patients. Proper counselling to the patients and their family member tends to increase

the satisfaction of patient and their families.<sup>3</sup>

Patient satisfaction is defined as their perception of quality care which is necessary to achieving their needs and expectations.<sup>4,5</sup> In a study conducted at Patan Hospital, a major tertiary care center in Nepal, 94.3% of patients reported being satisfied with ICU care. Similarly, a study carried out in Spain found that 84.9% of patients were

satisfied with the care they received in the ICU.

The data on patient outcome differs according to the service, equipment's and skilled manpower same applies to the satisfaction of the patient treated in ICU. This study aims to find out patient's satisfaction towards ICU care in Shree Birendra Hospital.

## METHODS

The study was conducted in the Medical Intensive Care unit of Shree Birendra Hospital at Chhauni, Kathmandu, Nepal. Descriptive cross-sectional design was used to find out the satisfaction level of patients and visitors on ICU Care. Non-probability purposive sampling technique was used to select the study. A total 145 patient who has transferred from ICU to different ward and discharged from ICU were included in the study. The study was ethically approved by IRC of Nepalese Army Institute of Health Sciences (NAIHS) with ref. no. (245).

A structured questionnaire was developed by the researcher to answer the research question based on the research objective. The research instrument consisted of three parts. Part I related to socio-demographic information which included 5 points. Part II was Likert Scale question related to satisfaction with ICU care. It was measured by 5-point Likert Scale which was rated as very dissatisfied (1), dissatisfied (2), neither satisfied nor dissatisfied (Neutral 3), satisfied (4), and very satisfied (5). The level of satisfaction was calculated by obtaining the mean score of minimum and maximum value. Less than mean value is low satisfaction and more than mean value is high satisfaction status. Part III Open ended question of the ICU care. The contents validity of the research instruments was maintained through review of literature. The questionnaire was translated into Nepali language and back translated into English language with the help of bilingual subject experts. Data collection was initiated after ethical approval from NAIHS. Verbal consent was taken from respondents after explaining objectives of the study. Face to face interview was taken for 15 - 20 minutes maintaining confidentiality. Respondents' dignity was maintained by giving right to discontinue from the study at any time. Finally, the researcher thanked the respondents for their cooperation and coordination. Data analysis was done using SPSS version 25 for windows. Data was analyzed by using descriptive statistical methods like frequency, percentage, mean, standard deviation, median, and inferential statistics like chi square was used to measure the association between socio demographic variables and patient satisfaction level.

## RESULTS

The study showed that, age of patient ranged from 14 year to 90 years and mean age of the patients was  $59.41 \pm 18.10$  years. The length of the hospital stay ranged from 0 to 22 days ( $5.87 \pm 4.17$ ). Among 145 patients, 109 (75.2%) had high level satisfaction and 36 (24.8%) had low level satisfaction with ICU care of Shree Birendra Hospital, Chhauni, Kathmandu, Nepal. Regarding the open ended questions on suggestions to improve ICU care, most of the patients (90%) had no comments regarding ICU care whereas the need to counsel the patient party more on regular basis was the view by around (10.52%) and entry problems to entry the ICU was mentioned by very few (8.7%) as a scope for improvement in patients and visitors satisfaction.

Table 1 depicts the demographic variables of the study population. Among the 145 respondents, 44.8% were aged between 61 and 80 years, with a mean age of 59.4 years. This is as expected in ICU admissions which is overwhelmed with ageing population. Over half (53.1%) of the patients were males, and the majority (84.1%) were family members of the serving army personnel. Shree Birendra Hospital, Chhauni, Kathmandu, Nepal is the tertiary care central hospital established for taking health care needs of the army personnel and their dependents. Hence, more admitted patients are army personnel families rather than the serving army personnel themselves.

**Table 1:** Demographic characteristics of the respondents (N = 145)

Variables	Frequency	Percentage
<b>Age in completed years</b>		
< 20	2	2.8
21 - 40	24	16.6
41 - 60	34	23.4
61 - 80	65	44.8
> 80	18	12.4
Mean age $\pm$ SD	59.41 $\pm$ 18.10	
<b>Sex</b>		
Male	77	53.1
Female	68	46.9
<b>Category of patients</b>		
Family	122	84.1
Regular	23	15.9

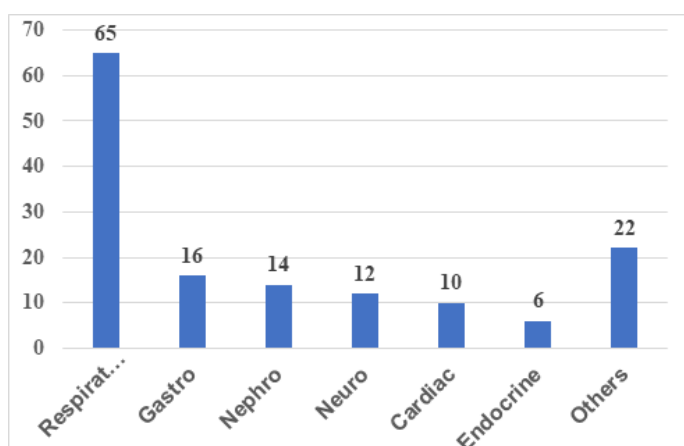
Table 2 shows the duration of ICU stay of the patients. The study found out that nearly half (47.6%) of the respondents

were staying in the ICU for three to five days whereas less than decile (8.3%) respondents had stayed in ICU for around nine to 11 days.

**Table 2:** Duration of ICU stay of the respondents (N = 145)

Variables	Frequency (N)	Percentage (%)
<b>Duration of ICU stay (Days)</b>		
0 - 2	17	11.7
3 - 5	69	47.6
6 - 8	33	22.8
9 - 11	12	8.3
> 11	14	9.7
Mean Duration of ICU stay $\pm$ SD	5.87 $\pm$ 4.17	

This dataset shows the disease distribution among the study population. In the present study, respiratory illness are the most frequent cause of ICU admissions, followed by gastrointestinal and nephrological diseases. Neurological, cardiac and endocrine conditions are less common in the present study. A smaller number of cases fall into an 'other' category. The data provides a clear picture of the most prevalent health concerns within the studied population, with respiratory illnesses significantly outnumbering other categories.



**Fig 1:** Distribution of the disease patterns of the admitted patients.

Table 4 illustrates the level of satisfaction regarding ICU care in the study population. Out of 145 respondents, 109 (75.2%) had high satisfaction of the care they received and 36 (24.8%) had low satisfaction regarding ICU care they had been provided with in ICU of Shree Birendra Hospital, Chhauni, Kathmandu, Nepal.

**Table 4:** Overall satisfaction of patients regarding ICU Care (N = 145)

Level of satisfaction	Frequency	Percent
Low satisfaction	36	24.8
High satisfaction	109	75.2

**Table 5:** The mean score of the different eight dimensions of satisfaction level

Dimensions	Range	Mean (SD)
Satisfaction regarding information of ICU care	1 - 5	4.46 (0.55)
Satisfaction on behavior towards patients	1 - 5	4.64 (0.52)
Satisfaction on consent before treatment of patient	1 - 5	4.41 (0.52)
Satisfaction on treatment system of patient	1 - 5	4.52 (0.50)
Satisfaction on availability of medicine & timely treatment	1 - 5	4.60 (0.53)
Satisfaction on maintainence of personnel hygiene	1 - 5	4.27 (0.69)
Satisfaction on cleanliness of ICU	1 - 5	4.32 (0.61)
Satisfaction on overall service providing to patient	1 - 5	4.58 (0.52)

## DISCUSSION

The findings showed that the mean age of patients was 59.41 years. Similar study reported in Spain<sup>7</sup> by Holanda P et al and in Iran<sup>8</sup> a by Goudarzi F et al also showed similar findings. In their study, the mean age of patient was 53.14 years and 59 respectively in Spain and in Iran. This subtle differences in age group could have been resulted due to the difference in geographic as well as socioeconomic conditions of the different study population. The present study showed that most of the study population were of the age group of 61 - 80 years (44.8%). Similar study done in Norway<sup>9</sup> showed that around 54.4% of the ICU patients were of 61 to 80 years. These data show that more vulnerable elderly groups of patients used to be admitted more frequently in ICUs.

The present study noted that around 53.1% were male patients. Similar studies done in the past in Nepal<sup>2</sup> by Vaidya PR et al and in Iran<sup>8</sup> by Goudarzi F et al showed that 58% and 59.6% were male patients respectively. In this study, the mean duration of hospital stay was 5.80 days. Similar study done in the past in our country by Hamal AB et al<sup>2</sup> also showed that the average duration of ICU stay was 6.67 days. However, a study done in Iran<sup>8</sup> by Goudarzi

F et al had noted the average duration of stay in ICU was 3.80 days. These variations could have been resulted as each of the treating physicians as well as the institutional policy would be different in the management of patients in ICU.

The present study revealed that the majority (75.2%) of the patients were satisfied with ICU care. A similar study done from Patan Hospital, Lalitpur, Nepal in the past by Vaidya PR et al also had shown that the 94.3% of patients were satisfied with ICU care. Similarly, a similar study by Holanda P et al in Spain found a slightly lower rate of patient satisfaction with 84.9%. This discrepancy may have been resulted because at our institute, the Army provides all the healthcare facilities for free for the soldiers and their dependents. This may have been resulted with less satisfaction among the patient party as most patients would be considering it as their right and hence would have no realization of financial value with the free service being provided by the Army. Similarly, another aspect that should be kept under consideration is that the maintenance of standard nurse patient ratio and multidisciplinary team approach in ICU patients which is very important for patient care as well as satisfaction. As our Hospital is generally overburdened with patients, this ideal nurse patient ratio may not have been fulfilled. Without the standard nurse patient ratio and multidisciplinary team approach, care could have been compromised. The study also showed that 49% of patients were satisfied regarding information on ICU care. Similar study done in India<sup>10</sup> by Janardhanlyengar SM et al had reported that 71.46% of patients were satisfied with the ICU care they had received. The variation might be the systematic information and communication system provided to patients regarding treatment and care by hospital and medical staff. Literature review has shown that satisfaction rate was higher in developed country than developing countries toward ICU care. This could be correlated with the strong economic conditions of the developed regions. Uniform patient admission protocol, following latest and standard treatment guidelines, regular and effective communication system, counselling on regular basis to family member, maintenance of staff patient ratio and regular assessment with multidisciplinary team might help to improve the satisfaction level of patients and visitor in ICU care and may contribute to the better outcome of the ICU patients.

The major limitation of this study is that the present study has been conducted among a limited population of Nepalese Army personnel and their relatives only. And this is one of the unique hospitals in the country where all the services provided are completely free. Hence, generalization of the findings of the present study may not

be too rational for the entire Nepalese population.

## CONCLUSIONS

The majority cases admitted in ICU of Shree Birendra Hospital were cases with respiratory problems. More than two thirds of patient were highly satisfied with ICU care. The highest percentage of patient was from the family category rather than the Army Personnel themselves. More than two third patient were highly satisfied with ICU care provided at Shree Birendra Hospital, Chhauni, Kathmandu, Nepal.

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