

## Knowledge and Practice among Nurses of Traction in Patients: In A Tertiary Care Center

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**Background and purpose:** The role of nursing care among the traction patients is vital and they should be competent, experienced and educated well about the traction devices used and care to minimize the traction associated complications and infections. This study was designed to access the knowledge and practice regarding care and management of the patients with traction in orthopedic trauma by Nurses. **Material and method:** A cross sectional descriptive study was conducted on 100 eligible nursing staffs from Kathmandu Medical College Teaching Hospital. Non-probability purposive sampling technique and a self administered structured questionnaire were used to collect data. The statistical analysis was done by using the SPSS version 16. The association between the demographic factors was analyzed by using chi square test. **Result:** The working area and traction training has significant relation to knowledge and other, such as age, education, work experience, worked in orthopedic ward has no significance. There is adequate knowledge as the percentage value is 88 and practice regarding care of the patient on traction is 98%. **Conclusion:** The knowledge regarding traction care seems sufficient in this study and every orthopedic nursing should be master in traction knowledge, application and nursing care to acquire early patient recovery without significant deformity and complications.

**Key words:** Complications, Nursing care, Orthopaedic trauma, Traction.

Traction is the use of a pulling force to treat muscle and skeleton disorders, refers to the set of mechanisms for straightening broken bones or relieving pressure on the spine and skeletal system. Orthopaedic patient is that person who has problems in his/her musculoskeletal system and needs helps from the orthopaedic team.

Traction plays a very important role in many less-served parts of the world. Medical staff must be aware of the needs of these patients and ensure prophylaxis for deep vein thrombosis, pulmonary and pin-site care, skin hygiene, and timely exercise.<sup>1</sup>

Complications like physical damage, damage to the neurovascular structure, infection in pin track and pin loosening may occur following skeletal traction. Traction care has been divided into three stages

1. Pre traction care
2. During traction care
3. After traction care.<sup>2</sup>

The nurses entering practice wants to learn, to perform nursing effectively and satisfactorily for themselves and for their patients. Since nursing offered to the public as help or services, nurse should attain and maintain a high level of nursing knowledge and nursing performance, in order to be effective in practice. Nurse must gain nursing knowledge before they enter practice.<sup>2</sup>

### Material and Methods

A descriptive cross sectional study was used to assess the knowledge and practice regarding care of the patient on traction among nurses. The study population number was 100, who were nursing staffs working at ICU, orthopedic ward, high care unit, cabin, surgery and paying ward of Kathmandu Medical College, where orthopedic patient are admitted and treated. Before starting the research, permission and clearance was obtained from KMCTH regarding the research. Non-probability purposive sampling technique and a self administered structured questionnaire were used to collect data. The statistical analysis was done by using the SPSS version 16. The association between the demographic factors was analyzed by using chi square test.

### Results

All obtained data from the study was analyzed and interpreted. The findings of the study are explained as follow.

**Table 1: Demographic distribution of the nurses involved with different characteristics.**

Characteristics	Frequency	Percentage
1.Age (In Years)		
a.20-25	50	50
b.25-30	39	39
c.30-35	11	11
d.35-40	0	0
<u>Mean±SD=1.61±0.680</u>		
2.Education		
a. PCL Nursing	48	48
b. Bachelor in Nursing	52	52
c. Master in Nursing	0	0
3.Working area		
a.ICU	1	1
b. Ortho ward	10	10
c. Surgical ward	11	11
d. Others	67	67
4.Work experience		
a. More than 6 months	0	0
b. 1 to 2 year	32	32
c. 2 to 4 year	30	30
d. Above 4 year	38	38
5. Traction Training		
a. Yes	15	15
b. No	85	85
6.Worked in orthopedic		
a. Yes	48	48
b. No	52	52

Table no.1 shows that the finding of the study had 67% of working area of knowledge regarding care of the patients. As shown in table no 2 that 16.06 % of nurses had knowledge about the complications.

**Table 2: Distribution of knowledge among the study population**

Aspects of Knowledge	Total	Mean±SD	Mean Percentage
Definition	2	2.10±0.72	7.05
Prevention	2	2.96±0.89	9.94
Indication	2	1.61±0.55	5.41
Instrument	5	5.29±0.98	17.78
Purpose	1	1.41±0.55	4.73
Patient care	3	4.12±1.08	13.84
Traction care	5	4.78±0.90	16.06
<b>Total</b>	<b>20</b>	<b>22.27±5.16</b>	<b>100</b>

Table no. 3 shows association between demographic variable and knowledge where the working area and traction training has significant relation to knowledge and other such as age, education, work experience, worked in orthopedic ward has no significance.

**Table 3: Association between different variable and knowledge among nurses**

Characteristics	Adequate		Inadequate		Chi Square	P Value
	Freq	Per	Freq	Per		
Age						
20-25	45	45	6	6		
25-30	35	35	4	4		
30-35	7	7	3	3	37.669	0.15
35-40	0	0	0	0		
Education						
PCL	42	42	6	6		
Bachelor	46	46	6	6		
Master	0	0	0	0	14.453	0.49
Others	0	0	0	0		
Working area						
ICU	12	12	0	0		
Ortho	10	10	0	0		
Surg	11	11	0	0	69.949	0.01*
Other	67	67	0	0		
Work experience						
More than 6 months	0	0	0	0		
1 to 2 year	28	28	4	4		
2 to 4 year	24	24	6	6	29.446	0.49
Above 4 year	35	35	3	3		
Traction Training						
Yes	18	13	3	13	24.342	0.06
No	74	74	10	10		
experience in ortho unit						
Yes	46	46	6	6	18.438	0.24
No	41	41	7	7		

\*Significant P Value, PCL: Proficiency Certificate Level

## Discussion

Our study shows that 67% of working area had knowledge regarding care of the patients on traction that is better than a study conducted abroad by Ivan Mwebaza in 2014 which showed there is much lacking skill of traction care and knowledge among nursed regarding information and care of the patients in traction.<sup>3</sup>

A descriptive study done in Mulago National Referral Hospital, Uganda in 2014 showed forty-four percent were able to identify at least five facts about pressure ulcers. Less than half (39.3%) of the participants were aware that pressure ulcer management requires interdisciplinary collaboration. Less than half (42.9%) did not know that pressure ulcers develop in stages. Half (50%) of the participants did not know that pressure ulcers could lead to permanent disabilities like bone destruction.<sup>3</sup> which is much lower than our study where 88% nursing staffs know the traction care and possible complications. Similar study was conducted in Iran revealed; overall mean score of quality of care was  $10.20 \pm 2.64$ . The quality of establishing traction was good in 55% of patients, but the quality of care was poor in the domains of recording care (88%) and patient education (96%). Total mean of quality of care was significantly different between male and female patients.<sup>1</sup> Current study (Table no 3) shows association between demographic variable and knowledge where the working area and traction training has significant relation to knowledge and other such as age, education, work experience, worked in orthopedic ward has no significance, which is consistent with study conducted by Shirley Teng KY and group in 2012, which states that nurses should identify the defects in nursing care, and institute appropriate changes to improve the quality of nursing care in order to increase patients' satisfaction.<sup>4</sup>

‘Bedridden Patient Care’ and ‘Activity and Exercise’ are the main fields of concepts, theories, principles and practices of nursing. Given this fact, learning evidence based interventions, preparing and implementing nursing care plans, taking precautions to avoid complications and assessing outcomes are responsibilities of nurses in care of patients with hip fracture.<sup>5</sup>

More the nurse training schools, universities need to examine their curricula to address issues related to pressure ulcers prevention and treatment. Hospitals also need to devote more resources to prevent and manage pressure ulcers. Professionals should also meet their responsibility to provide continuous nursing education (CNE) and continuous medical education (CME) to staffs about pressure ulcers.<sup>6</sup> Good collaboration between the nurse and physiotherapist is critical for achieving good pain relief before mobilization.<sup>7</sup> A literature review study done in USA in 2012 recommend that vigilant nursing assessment and prompt intervention may needed to prevent the development of the complications. Patients should be mobilized as soon as medically stable (i.e. within 12–24 h of surgery).<sup>8</sup>

## Limitation

This study was conducted only among 100 nurses who were working in ICU, Orthopedic and high care unit, cabin, surgery and paying ward of Kathmandu medical college, public limited. Study particularly focused on nurses only, so the result may not reflect other medical persons. The result could not be generalized because there is large number of nurses in hospital who are not working in selective ward.

## Conclusion and Recommendation

On the basis of findings, there is adequate knowledge among the nurses in study group as the percentage value is 88 and practice regarding care of the patient on traction is 98%. The working area and traction training has significant relation to knowledge and others such as age, education, work experience, worked in orthopedic ward has no significance.

More the nurse training schools, universities need to examine their curricula about possible complications of traction, its prevention and treatment. Medical Centers should have strict guidelines and treatment plans to prevent and manage pressure ulcers. Regular classes for nurses, continue nursing education (CNE) must be adopted in all hospitals and should be taught by professionals about the complications and possible prevention and treatment.

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