

An Explorative Study to Find Out the Prevalence of Complication among Orthopaedic Patients with Skin Traction and Skeletal Traction, Admitted In Selected Hospital, Guwahati, Assam

Ms. Pacify Dkhar¹, Prof. Manashi Sengupta², Ms. Rikupar Iawim³

¹MSc. Nursing, Faculty of Nursing, Assam Down Town University, Guwahati, Assam -781026

²Dean in-charge, Faculty of Nursing, Assam Down Town University, Guwahati, Assam -781026

³Assistant Professor, Faculty of Nursing, Assam Down Town University, Guwahati, Assam -781026

Corresponding Author: Ms. Pacify Dkhar

ABSTRACT

Background: Traction is a force applied to an injured or diseased part of the body, to reduce fractures to maintain alignment and corrects deformities. Prolonged application of skeletal traction several complications such as damage to the neurovascular structure, ligament damage, pin loosening and infection in implantation site

Materials And Methods: A quantitative research approach with non experimental exploratory research design was used in the study. 60 orthopaedic patients with skin and skeletal traction were selected by purposive sampling technique. Prevalence of complication among orthopaedic patients with skin and skeletal traction were assessed by demographic performance and through observational checklist. Data were analyzed using descriptive and inferential statistics.

Results: Majority of the patients with skin traction (46.7%) and skeletal traction (36.7%) belong to age group of <31-40, gender (60 %) were male and female (53.3%), majority (43.3%) patient with skin traction and skeletal traction (70%) were Hindus. Majority of the patient with skin traction (86.7%) and skeletal traction (93.4%) were with primary education qualification, Majority of the patients with skin traction i.e (46.7) and skeletal traction i.e. (50%) were daily labourer. (96.7%) skin traction and (80%) with skeletal traction their income was < Rs 10000. The mean of overall prevalence of complication among orthopaedic with skin traction (50%), and skeletal traction (60%) it is found higher in skeletal traction than in skin traction. Out of six dependent variable in skeletal traction one variables namely gender were found statistically significant. (p<0.05).

Conclusion: On the basis of the researcher findings it may be concluded that patient with skeletal traction had some complication; it can be prevented by careful inspection and daily dressing. In order to improve the care of orthopaedic patient with traction, in-service education of nurses can be one of major way to updating the nurse's knowledge and skills.

Keywords: skin traction, skeletal traction, prevalence, complication

INTRODUCTION

Traction is a force applied in a specific direction to apply the force to an injured or diseased part of the body, to reduce fractures or dislocations, maintain alignment and corrects deformities. [1]

Prolonged application of skin traction, pressure exerted on the skin can

cause skin damage and there is a risk of ischemia also in skeletal traction it can cause severe complications such as damage to the neurovascular structure, physical damage, ligament damage, pin loosening and infection in pin tract may occur. [2,3]

According to a report worldwide orthopedics (2015) A survey of 100 patients

prospectively questioned after hip arthroscopy performed with traction indicated a 74% incidence of traction-related complications and discomfort, most of which resolved within 3 months. The male-to-female patient ratio of the group was 40:60. Overall, 74% of patients had at least one complication, with women reporting more complications than men. [4]

A related study was conducted by Dr. Musajee. M (2012). On prevalence of PTI (pin tract infection) was 24% occurring most common during the 5th and 6th week on tractions. Knee stiffness was also present and 62.7% of the study populations had stiffness by the 4th week on tractions. [4]

Objectives of the study:

- To find out the prevalence of complication among orthopaedic patients with skin traction and skeletal tractions
- To find out the associations between prevalence of complications among orthopaedic patients with the selected demographic variables

MATERIAL AND METHODS

Research approach: Quantitative Approach

Research design: Non Experimental Exploratory Research design

RESULT & DISCUSSION

SECTION 1: Assessment of demographic variables of skin traction and skeletal traction. N=60(n₁=30, n₂=30)

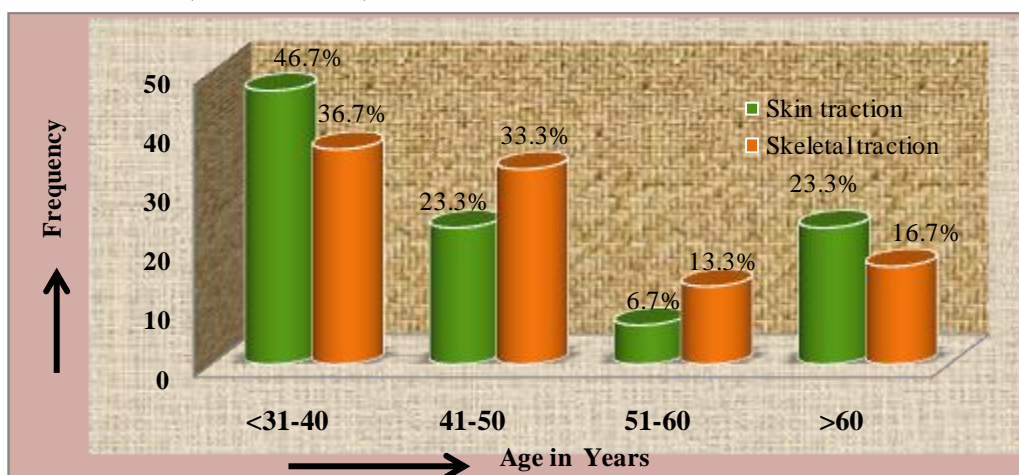


Figure 1: Percentage distribution of orthopaedic patients with skin and skeletal traction according to their age

Setting: Guwahati Medical College Hospital

Population: Orthopedic patients with skin and skeletal traction.

Sample Size: Sample size was calculated taking a level of significance (α) as 5% and power as 90% Hence sample size was 60, 30 for skin traction and 30 for skeletal traction.

Sampling techniques: Purposive sampling technique

Selection criteria:

Inclusion criteria: Patient with skin traction and skeletal traction are included

Exclusion criteria: Patient who are not willing and paediatric patient are excluded

Tool of the study: Demographic proforma and observational checklist.

Ethical consideration: Ethical approval was obtained from the institutional Ethical committee, concerned hospital authorities and the participants.

Data analysis: The collected data was analyzed in terms of objectives of the study by using descriptive analysis (frequency, percentage, mean and standard deviation) and inferential statistics (chi-square test was applied. A significance level of 0.05 was used.)

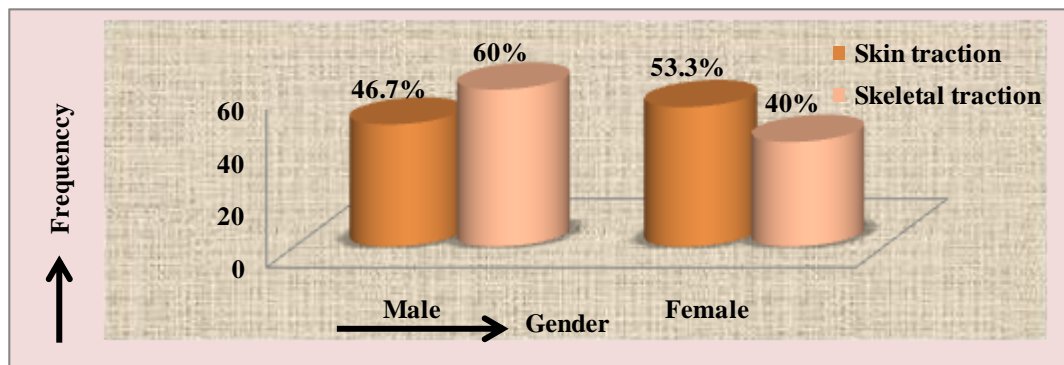


Figure 2: Percentage distribution of orthopaedic patients with skin and skeletal traction according to their genders

SECTION 2: Table 1: Frequency and percentage distribution of skin traction with demographic variables
N=60(n₁=30)

Demographic	Frequency (f)	Percentage (%)
Religion		
Hindu	13	43.3
Christian	-	-
Muslim	17	56.7
Others	-	-
Educational qualification		
Primary education	26	86.7
Secondary education	4	13.3
Higher education	-	-
Graduation	-	-
Post graduate and above	-	-
Daily work schedule		
Daily labourer	14	46.7
Sedentary worker	14	46.7
Heavy worker	-	-
Farmer	2	6.6
Income/ month		
< Rs 10000	24	80
Rs 10001-15000	5	16.7
Rs 15001-20000	1	3.3
>Rs 20000	-	-

SECTION 2: Table 2: Frequency and percentage distribution of skeletal traction with demographic variables
N=60(n₂=30)

Demographic	Frequency (f)	Percentage (%)
Religion		
Hindu	21	70
Christian	-	-
Muslim	9	30
Others	-	-
Educational qualification		
Primary education	28	93.4
Secondary education	-	-
Higher education	1	3.3
Graduation	1	3.3
Post graduate and above	-	-
Daily work schedule		
Daily labourer	15	50
Sedentary worker	13	43.3
Heavy worker	-	-
Farmer	2	6.7
Income/ month		
< Rs 10000	24	80
Rs 10001-15000	5	16.7
Rs 15001-20000	1	3.3
>Rs 20000	-	-

SECTION 2: Assessment for the prevalence of complication among orthopedic patients with skin traction.

To find out the prevalence of complication among orthopedic patients with skin traction and skeletal tractions through observational checklist was administered.

Table 3: Frequency, percentage distribution, Mean and Standard Deviation of prevalence of complication of skin traction
N=60(n₁=30)

Skin traction complication	Total no	Overall prevalence percentage %	Mean	Standard deviation
Present	15	50%	3.7	0.9
Absent	15	50%		

The data presented in table no-1 shows that maximum 15 nos (50%) of them are present of complication and 15 nos (50%) of them are absent of complications.

SECTION 3: Assessment for the prevalence of complication among orthopedic patients with skeletal traction.

Table 4: Frequency, percentage distribution, Mean and Standard Deviation of prevalence of complication of skeletal traction
N=60(n₂=30)

Skeletal traction complication	Total no	Overall prevalence percentage %	Mean	Standard deviation
Present	18	60%	4.1	5.1
Absent	12	40%		

The data presented in table no-2 shows that maximum 18 nos (60%) of them are present of complication and 12 nos (40%) of them are absent of complications.

Table no 5: Association of prevalence of complication of skin traction with selected demographic variable N=60 (n₁=30)

Demographic	Prevalence of Complication		χ ²	df	Table value	Inference
	Present	Absent				
1.Age in year						
<31-40	7	7	3.94	3	7.82	NS
41-50	4	3				
51-60	1	1				
>60	2	5				
2.Gender						
Male	8	9	0.5	1	3.84	NS
Female	7	7				
3.Religion						
Hindu	6	7	0.1	1	7.82	NS
Christian	-	-				
Muslim	9	8				
Others	-	-				
4.Educational qualification						
Primary education	13	13	0	4	9.49	NS
Secondary education	2	2				
Higher education	-	-				
Graduation	-	-				
Post graduate and above	-	-				
5.Daily work schedule						
Daily labourer	7	7	0	3	7.82	NS
Sedentary worker	7	7				
Heavy worker	-	-				
Farmer	1	1				
6.Income/ per month						
<Rs 1000	15	9	1.02	3	7.82	NS
Rs 10001-15000	2	3				
Rs 15001-20000	1	-				
>Rs 20000	-	-				

NB: *S= Significant NS=Not significant p ≤ 0.05 level of significant

The result of chi square analysis presented in the table no 3 indicates that there is no significance association between the prevalence of complication of skin traction and its socio demographic variable age of orthopaedic patient with skin traction. Thus the research hypothesis (H₂) is retained.

Table no 6: Association of prevalence of complication of skeletal traction with selected demographic variable n=60,n₁=30,n₂=30

Demographic	Prevalence of complication		χ ²	df	p value	Inference
	Present	Absent				
1.Age in year						
<31-40	8	3	3.94	3	7.82	NS
41-50	7	3				
51-60	1	3				
>60	2	3				
2.Gender						
Male	16	2	8.9	1	3.84	S
Female	2	10				
3.Religion						
Hindu	15	6	5.65	3	7.82	NS
Christian	-	-				
Muslim	3	6				
Others	-	-				
4.Educational qualification						
Primary education	17	11	2.17	4	9.49	NS
Secondary education	2	2				
Higher education	1	-				
Graduation	-	1				
Post graduate and above	-	-				
5.Daily work schedule						
Daily labourer	10	4	27.48	3	7.82	NS
Sedentary worker	6	8				
Heavy worker	-	-				
Farmer	2	-				
6.Income/ per month						
<Rs 1000	15	9	1.56	3	7.82	NS
Rs 10001-15000	2	3				
Rs 15001-20000	1	-				
>Rs 20000	-	-				

NB: *S= Significant NS=Not significant p ≤ 0.05 level of significant

The result of chi square analysis presented in the table no 4 indicates that there is a significance association between the prevalence of complication of skeletal traction and its socio demographic variable age of orthopaedic patient with skeletal traction. Thus the research hypothesis (H₂) is retained.

From the result of the present study, it is observed that the overall prevalence of complication among orthopaedic with skin traction (50%), and skeletal traction (60%). A similar study conducted by Dr. Mohammed Rashid M, (2016) has found that). Incidence of pin tract infection was 87.7 % (64 of 73 patients).staphylococcus aureus (30.2%) and coagulate negative staphylococci (16.3%) were the commonest causative organism.

CONCLUSION

On the basis of the researcher findings it may be concluded that patient with skeletal traction had some complication such as pin tract infection, erythema raising body temperature. These complications can be prevented by careful inspection and daily dressing. In order to improve the care of orthopedic patient with traction, in-service education of nurses can

be one of major way to updating their knowledge and skills.

Limitations

The sample size of the present study was small; hence the results of the study may not be generalized. It is also due to long stayed of the patient in hospital.

REFERENCES

1. Nettina M.S Lippincott Manual of Nursing Practice 9th edition. New Delhi. Wolters Kluwer Pvt Ltd .2010
2. <https://study.com/academy/lesson/skeletal-traction-types-complications.html> [internet] cited 27 may 2018
3. <https://www.healio.com/orthopedics/arthroscopy/news/print/orthopedics-today/%7B88fc5195-58de-4084-a007-5d9cea18bcde%7D/high-incidence-of-traction-related-complications-seen-after-hip-arthroscopy>[internet] cited 22 December 2017
4. Dr. Musajee. M conducted a study on outcome of skeletal tractions in patients with femoral shaft fractures at Kenyatta national hospital (2012) Oct. [Internet] cited 18 December 2018 Available from. <https://www.scribd.com/document/343609066/Outcome-of-Skeletal-Traction-in-Patients-With-Femoral-Shaft-Fractures-at-Kenyatta-National-Hospital>

How to cite this article: Dkhar P, Sengupta M, Iawim R. An explorative study to find out the prevalence of complication among orthopaedic patients with skin traction and skeletal traction, admitted in selected hospital, Guwahati, Assam. *Int J Health Sci Res.* 2019; 9(10):131-135.
