

# A Study to Assess the Knowledge and Practice of Various Splints Among Staff Nurses Working in Narayana Medical College Hospital, Nellore, Andhra Pradesh

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## ABSTRACT

**Background:** Splints may be used in all stages of musculoskeletal injuries. Initially, splints may be used for fractures because they are not circumferential there by accommodating swelling without risks of constriction. They are easy to apply and remove, allowing for monitoring of soft tissue and skin integrity. A splint may be definitive treatment for sprains and some fractures. Splints may also be used after initial treatment with casting to provide continued support. There are various forms of splints made of wood states to prefabricated splints and immobilizers are pneumatic walker and wrist immobilization. **Aim:** The aim of the study was to assess the level of knowledge and practice of staff nurses regarding various splints. **Objectives:** 1. To assess the knowledge and practice regarding admission process. 2. To find an association between knowledge and practice with socio demographic variables. **Methodology:** 100 staff nurses working in NMCH, Nellore were selected by using convenience sampling method. **Results:** Regarding the level of knowledge among staff nurses, 15(15%) of students are had good knowledge, 75(75%) of them had average knowledge and only 10(10%) of them had poor knowledge regarding various splints. Among 100 staff nurses, 20(20%) of them had good practice 66(66%) of them had moderate practice and 14(14%) had poor practice.

**Keywords :** Knowledge, Practice, Splints, Staff Nurses.

## I. INTRODUCTION

Splints may be used in all stages of musculoskeletal injuries. Initially, splints may be used for fractures because they are not circumferential there by accommodating swelling without risks of constriction. They are easy to apply and remove, allowing for monitoring of soft tissue and skin integrity. A splint may be definitive treatment for sprains and some fractures. Splints may also be used after initial treatment with casting to provide continued support. There are various forms of splints made of wood states to prefabricated splints and immobilizers are pneumatic walker and wrist immobilization.<sup>1</sup>

Splints may play an important role in treating persons with musculoskeletal condition. The purpose of immobilization is to secure the injured part of the musculoskeletal system to prevent further injury, promote healing, promote a functional result and reduce pain the term s injured part that is cast among splints.<sup>2</sup>

Statistical analysis of splint is national center for injury prevention and control. National center for chronic disease prevention and health promotion and epidemiology program office centers for disease control program and prevention. The prevention of spin splint in sports systematic review of literature. The purpose are to review the published and

unpublished evidence regarding risk factors associated with shin splint. Assess the effectiveness of prevention to coaches, athletes and researchers.<sup>3</sup>

Benefits of splinting and cast serve to immobilize orthopedic injuries. They promote healing, maintain bone alignment, diminish pain, protect the injury and help compensate for surrounding muscular weakness. The benefit from immobilization fractures, sprains, severe soft tissue injuries, reduced joint dislocations, inflammatory condition: Arthritis, synovitis, deep laceration repairs across joints tendon laceration. The use of splints an essential part of the first aid treatment is immobilizing the injured part with splints so that the sharp ends of broken won't move around and cause further damage to nerve, blood vessels or vital organs.<sup>4</sup>

Splinting of a limb is one of the very common procedures adopted in the treatment of orthopedic conditions. Splints are used for various purpose as 1) to provide absolute rest to limb. As first aid to a fracture limb. This relieves the pain and the immobilization prevents complications due to movements of the fragments, as a regular treatment after reducing a fracture by the application of plaster splint as a slab or cast. To give rest to an inflamed joint to relieve pain as in the treatment of arthritis. Eg: Thomas splint for arthritis of the hip or knee.<sup>5</sup> Post-operative splints are applied after operations limb and joints to maintain correct position and relieve pain 2) To stabilize a joint that has become unstable due to dialysis of the muscle controlling the joint. Eg: Full leg, below knee. 3) Splint are used to correct certain deformities and also to maintain the correction of bone deformities. 4) To prevent overstretching of paralyzed muscles.<sup>6</sup>

Splints can be made out of metals like iron and aluminum or materials like leather plastic and

wooden planks. The most common material in use is the plaster of Paris. More recently inflatable bags are being used to splint injured limbs as first aid splints in RTA. These are radio translucent and light. They also prevent shock by preventing edema and hemorrhage.<sup>7</sup>

### **Need for the study**

A study compared surgery and splinting for subjects suffering from carpal tunnel syndrome. It was found that among 73 patients treated with surgery, there was 92% success rate. Among 83 patients treated with splint there was a 72% success rate.<sup>8</sup>

In 2009 December, a low volume urban emergency medical services (EMS) system, 16 persons (0.35%) total patients presented with mid-thigh injuries. Data collected included patients with chief complaints injury, mechanism of injury, clinical findings and splint application 12.50% of patients are used traction splints applied successfully.<sup>9</sup>

## **II. LITERATURE SURVEY**

**Zenios M et al., (2012)** was conducted a study on the use of knee splints after total knee replacements. The prospective study was selected and sample size was 81 patients undergoing total knee replacements who were randomized in to a splint and a no splint group. The results shows that 77 patients used splint total knee replacement, 4 patient no splint group achieved and 88%. Patients help to splint in knee replacement.<sup>10</sup>

**Jalen David (2011)** was conducted a study on to describe and evaluate the design and effects of splint & exercise programs in hand osteoarthritis. The descriptive design was selected and sample size 12. Convenient sample technique selected. The pretest score was 7 assessed the effect of splint, 3 the effect of exercise and 2 combinations of splints & exercise. A

meta-analysis of the randomized trials with the low risk of bias demonstrated that splints significantly reduce hand pain at short term <3 months and long term >/- 3 months, with a standardized mean difference of 0.37 (95%) confidence interval and 0.80 respectively. The results showed that splints reduces hand pain ,but limited evidence for the effects of hand exercise, and a combination of had exercise and splints in hand osteoarthritis.<sup>11</sup>

### **Problem Statement**

A study to assess the knowledge and practice of various splints among staff nurses working in Narayana Medical College Hospital, Nellore.

### **Objectives**

- To assess level of knowledge and practice regarding the various splints among staff nurses.
- To find an association between level of knowledge and practice with selected socio demographic variables.

### **Delimitations**

The study is limited to staff nurses;

- Working in Narayana Medical College Hospital in Nellore.
- The study limited to four weeks.

## **III. METHODS AND MATERIAL**

### **Research Approach:**

A quantitative approach was adopted to determine the research study.

### **Research Design:**

The present study was conducted by using descriptive research design.

### **Setting:**

Setting of the study was conducted at Narayana Medical College Hospital, Nellore.

### **Population:**

**Target population:** All staff nurses.

**Accessible population:** Staff nurses working in Narayana Medical College Hospital, Nellore.

**Sample:** Staff nurses working in Narayana Medical College Hospital, Nellore and who fulfilled the inclusion criteria.

### **Sampling Technique:**

Non-probability convenience sampling technique was adopted for the study.

**Sample Size:** The sample size selected for the present study includes 100 staff nurses.

### **Criteria for Sample Collection:**

### **Inclusion Criteria**

- The staff nurses who are willing to participate in the study.
- The staff nurses who are available during data collection.

### **Exclusion Criteria**

- Subjects who are not willing to participate in the study.
- Subjects who are working in OPD.

### **Description of the tool**

Part A → Demographic data consisting of items namely age, sex, designation, experience, religion, income and working hours.

Part B → Deals with the questionnaire on knowledge regarding various splints.

### **Variables of the study:**

**Independent variable:** Staff nurses.

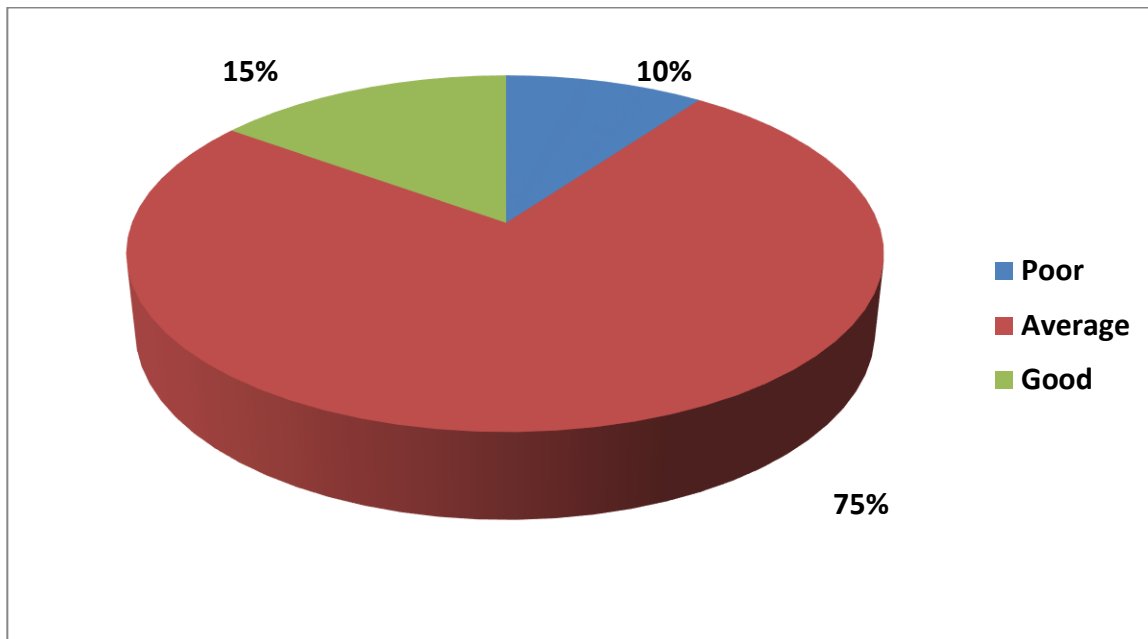
**Dependent variable:** Level of knowledge and practice.

**Score interpretations:**

#### IV. DATA ANALYSIS AND DISCUSSION

**Table-1** : Frequency and percentage distribution of level of knowledge among staff nurses. (N=100)

Level of Knowledge	Frequency (F)	Percentage (%)
Good knowledge	15	15
Average knowledge	75	75
Poor knowledge	10	10



**Fig 1** : Frequency and percentage distribution based on level of knowledge among staff nurses.

**Table 2** : Frequency and percentage distribution of Mean and Standard deviation of knowledge. (N=100)

CATEGORY	MEAN	S.D
Level of knowledge	15.66	4.74

**Table-3** : Frequency and percentage distribution of level of practice among staff nurses. (N=100)

Level of practice	Frequency (F)	Percentage (%)
Good practice	20	20
Moderate practice	66	66
Poor practice	14	14

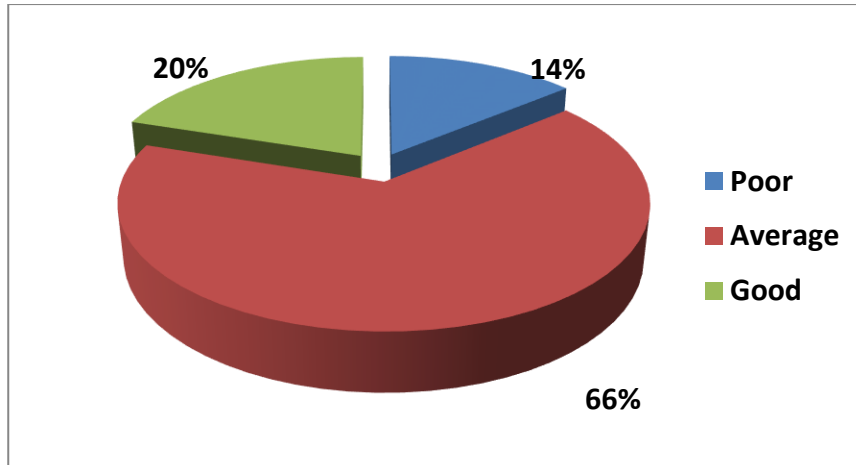


Fig 1 : Frequency and percentage distribution based on level of practice among staff nurses.

Table 4 : Frequency and percentage distribution of Mean and Standard deviation of practice. (N=100)

CATEGORY	MEAN	S.D
Level of practice	7.23	2.37

Table 3 : Association between level of knowledge and socio demographic variables among staff nurses. (N=100)

S. No	Demographic Variables	Inadequate knowledge		Moderate knowledge		Adequate knowledge		Chi Square
		F	%	F	%	F	%	
1.	<b>Gender</b>							C=14.359 T=9.77 Df=4 P<0.05 S*
	a. Male	9	9	8	8	3	3	
	b. Female	1	1	67	67	12	12	
2.	<b>Experience</b>							C=16.274 T=11.82 Df=4 P<0.05 S*
	a. < 1 year	5	12	27	27	8	8	
	b. 1-3 yrs	4	4	22	22	5	5	
	c. 4-7 yrs	1	1	22	22	2	2	
	d. > 7 yrs	-	-	3	3	-	-	
3.	<b>Designation</b>							C=22.107 T=14.53 Df=6 P<0.05 S*
	a. ANM	4	4	15	15	3	3	
	b. GNM	3	3	23	23	4	4	
	c. B.Sc	3	3	34	34	8	8	
	d. PP BSc	-	-	3	3	-	-	

4.	<b>Any CNE/Work shop attended</b>								C=18.25 T=14.74 Df=4 P<0.05 S*
	a. Yes	5	5	10	10	10	10		
	b. No	5	5	65	65	5	5		

### V. MAJOR FINDINGS OF THE STUDY

- ❖ Regarding the level of knowledge among staff nurses, 15(15%) of students are had good knowledge, 75(75%) of them had average knowledge and only 10(10%) of them had poor knowledge regarding various splints.
- ❖ Among 100 staff nurses, 20(20%) of them had good practice 66(66%) of them had moderate practice and 14(14%) had poor practice.
- ❖ Among staff nurses, mean knowledge score was 15.66 with standard deviation 4.74. And mean practice score was 7.23 with standard deviation 2.37.

### VI. CONCLUSION

Hence it can be concluded that majority of the staff nurses (71%) had average knowledge and moderate practice (66%) regarding various type of splints. Hence there is an immense need to implement an educational programme for all staff nurses regarding type of splints, its uses and method of application with principles and after care etc.

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