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Effectiveness of STP on the knowledge regarding care and management of fractures among the staff nurses involved in the care of trauma patients in Pravara Rural Hospital at Loni

Sharad Varkhedkar[1], Sumit Shejwal[1], Kashid Abhishek[2], Rajendra D Lamkhede[3]
[1] Department of Nursing, Clinical Instructor, Smt. Sindhutai Eknathrao Vikhe Patil College of Nursing, Loni, Maharashtra, India
[2] Assistant Professor, Department of Medical Surgical Nursing, Smt. Sindhutai Eknathrao Vikhe Patil College of Nursing, Loni, Maharashtra, India
[3] Principal, Department of Nursing, Smt. Sindhutai Eknathrao Vikhe Patil College of Nursing, Loni, Maharashtra, India

Abstract
Human body having 206 bones, if any bone having any problem like breakage so imaging how it will be harmful, so immediate and other management is very important, so we are the part of health care delivery system and we should know the all aspects of fracture care[1]. A fracture is break down and continuity of bone. A fracture occurs when the stress placed on a bone greater than the bone can absorb. Objective: -1) To assess the knowledge of care and management of fracture among the staff nurses.2) To determine the effectiveness of structured teaching programme on care and management of fracture. 3) To find out the association between pretest knowledge score with selected demographic variables. Material and method: - The study was conducted on staff nurses of orthopedic ward of Pravara Rural Hospital, Loni. Descriptive evaluatory research approach was used in this study.30 staff nurses were selected for the study. Structured Knowledge Questionaire on knowledge was prepared regarding fracture and its management, including demographic variables will be used for the study. Result: Majority of study subject i.e. 33% were in the age group of 36 and above and 10% between 31-35 years. Majority of the study subject are Female i.e. 90 % whereas 30 % of Male.97 % of study subject degree holder i.e. RGNM whereas only 03% degree holder are PBBSC. Most of the Study subject having experience 1-3 and 10 and above years i.e. 33.33%. Among the 30 study subject, 97% Staff nurses not attending the previous in service education on fracture care. The total number of subject taken for data collection in pretest was 30 and mean value is obtained is 12 in which mean percentage as 40 and standard deviation is 3.82.

Keywords: Knowledge, fracture, staff nurse

Introduction
Human body having 206 bones, if any bone having any problem like breakage so imaging how it will be harmful, so immediate and other management is very very important, so we are the part of health care delivery system and we should know the all aspects of fracture care [1].

Anatomy and physiology of bone
Bone is living tissue that makes up the body's skeleton. There are three types of bone tissue, including the following:

- Compact tissue - the harder, outer tissue of bones.
- chancellors tissue - the sponge-like tissue inside bones.
- Subchondral tissue - the smooth tissue at the ends of bones, which is covered with another type of tissue called cartilage. Cartilage is the specialized, gristly connective tissue that is present in adults, and the tissue from which most bones develop in children.

Functions of bone
Bone provides shape and support for the body, as well as protection for some organs. Bone also serves as a storage site for minerals and provides the medium - marrow - for the development and storage of blood cells.

Types of fracture
- **Open fracture:** An open fracture is a fracture where the broken bone is exposed. That is dangerous because of increased chances of infection.
- **Closed fracture:** A closed fracture is a fracture where the bone is broken, but the skin is intact.
- **Simple fracture:** The fracture occurs along one line, splitting the bone into two pieces.
- **Multi-fragmentary fracture:** In this the bone splits into multiple pieces.
- **Compression fracture:** A compression fracture is a closed fracture that occurs when two or more bones are forced against each other. It commonly occurs to the bones of the spine and may be caused by falling into a standing or sitting position, or a result of advanced osteoporosis.
- **Avulsion fracture:** An avulsion fracture is a closed fracture where a piece of bone is broken off by a sudden, forceful contraction of a muscle. This type of fracture is common in athletes and can occur when muscles are not properly stretched before activity. This fracture can also because of an injury.
- **Impacted fracture:** An impacted fracture is similar to a compression fracture, yet it occurs within the same bone. It is a closed fracture which occurs when pressure is applied to both ends of the bone, causing it to split into two fragments that jam into each other. This type of fracture is common in car accidents and falls.

- **Stress fracture:** It is a common overuse injury. It is most often seen in athletes who run and jump on hard surfaces such as runners, ballet dancers and basketball players.
- **Compression fracture of the spine:** It is common in individuals with osteoporosis. Often no identifiable injury causes it. This results in significant pain and disability.
- **Rib fractures:** If you experience pain while breathing you probably have a rib fracture. In this condition you also have tenderness and shallow breathing.
- **Complete fracture:** in this the bone fragments separate completely.
- **Incomplete fracture:** in this the bone fragments are still partially joined.
- **Linear fracture:** in this the fracture is parallel to the bone's long axis.
- **Transverse fracture:** in this the fracture is at a right angle to the bone's long axis.
- **Oblique fracture:** in this the fracture is diagonal to a bone's long axis.
- **Spiral fracture:** in this at least one part of the bone has been twisted.
- **Comminuted fracture:** in this the fracture results in several fragments.
- **Compacted fracture:** in this the fracture is caused when bone fragments are driven into each other.

So knowledge on fracture is tested on staff nurses who cares for the patient in wards admitted in Pravara Rural Hospiatl, Loni.

Review of litrature and need of the study
Problem statement
"A study to assess the effectiveness of structured teaching programme on the knowledge regarding care and management of fractures among the staff nurses involved in the care of trauma patients in Pravara Rural Hospital at Loni"

Objective of study
1. To assess the knowledge of care and management of fracture among the staff nurses.
2. To determine the effectiveness of structured teaching programme on care and management of fracture.
3. To find out the association between pretest knowledge score with selected demographic variables.

Research methodology
Research Approach: Descriptive Evaluatory Approach

Research Design: Descriptive Research Design.

Population: Staff Nurses, Orthopedic Department

Sample: Staff Nurses

Sample Size: 30 Staff Nurses

Setting: The study was conducted on staff nurses of Pravara Rural Hospital, Loni.

Sampling Technique: Non-Probability Convenience Sampling

Tool: Structured knowledge questionnaire was prepared on fracture for staff nurses and health teaching on management of fracture was given to all staff nurses involved in study.

Sampling criteria
Inclusion criteria
1. Staff Nurses who are willing participation in the study.
2. Staff Nurses who are available at the time of data collection.

Exclusion criteria
1. Staff Nurse who are not willing to participate.
2. Staff Nurses who are sick.

Findings
Percentagewise distribution of staf nurses according to demographic variable

Table 1: Distribution of staff nurses according to their age

Sr. no	Age group	Frequency	Percentage
1	20-25 years	08	27%
2	26-30 years	09	30%
3	31- 35 years	03	10%
4	36 and above	10	33%
	Total	30	100%

It shows that majority of study subject i.e. 33% were in the age group of 36 and above and 10% between 31-35 years.

Graph

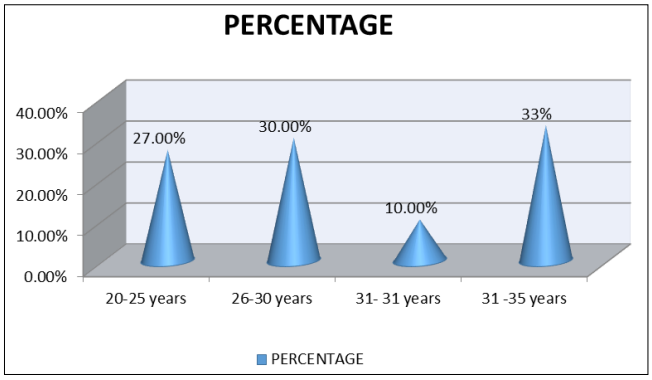

Fig 1: Distribution of staff nurses according to their age

Table 2: Distribution of staff nurses according to their gender

Sr. no	Age group	Frequency	Percentage
1	Male	03	10%
2	Female	27	90%
	Total	30	100%

Majority of the study subject are Female i.e. 90 % whereas 30 % of Male.

Graph

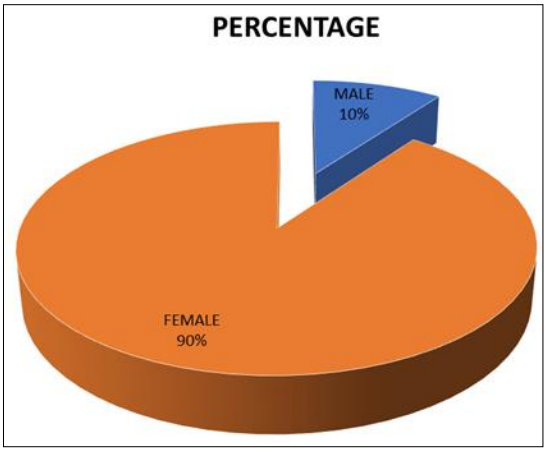

Fig 2: Distribution of staff nurses according to their gender

Table 3: Distribution of staff nurses according to their education

Educational qualification	Frequency	Percentage
RGNM	29	97%
BSC	00	00%
PB BSC	01	03%
TOTAL	30	100

97 % of study subject degree holder i.e. RGNM whereas only 03%degree holder are PB BSC.

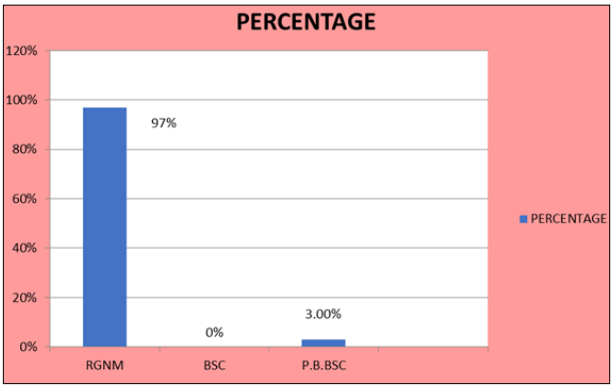

Fig 3: Distribution of staff nurses according to their education

Table 4: Distribution of staff nurses according to their experience

Experience	Frequency	Percentage
1-3 years	10	33.33%
4- 6 years	07	23.33%
7-9 years	03	10%
10 and above	10	33.33%
TOTAL	30	100%

Most of the Study subject having experience 1-3 and 10 and above years i.e. 33.33%.

Table 5: Distribution of according to people attented the in-service education

In-service Education	Frequency	Percentage
Yes	01	03%
No	29	97%
Total	30	100%

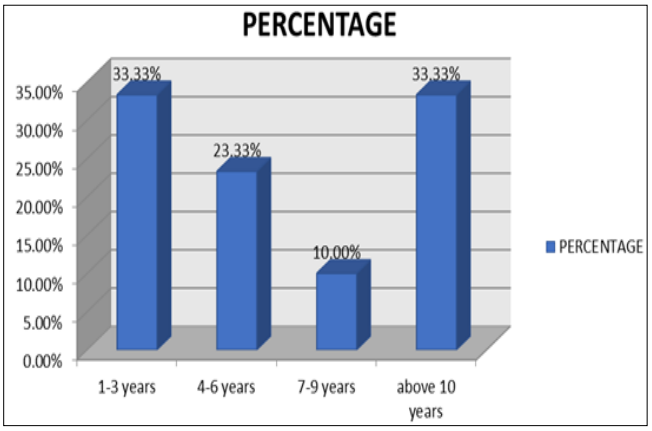

Fig 4: Distribution of staff nurses according to their experience

Among the 30 study subject, 97% Staff nurses not attending the previous in service education on fracture care

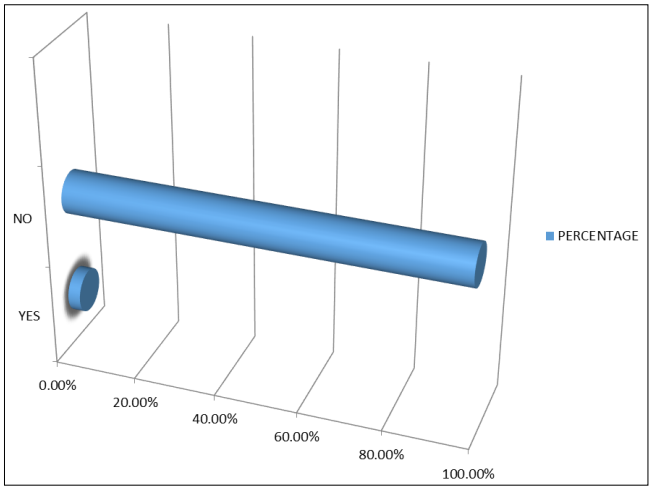

Fig 5: Distribution of according to people attented the in-service education

Section II

Assessment of knowledge of study subject on fracture care before the implementation of structured teaching programme

This section deals with the assessment of knowledge of staff nurses on care and management of client with fracture before the implementation of structure teaching. The statistical values of mean percentage and standard deviation are used to describe the scores. In addition the level of knowledge score is assessed categorically as average good, very good.

Table 6: Disribution of mean, mean percenatage and standard deviation

	Pretest				
Questionnaire	Max score	Max. score obtained	Mean	Mean %	Standard Deviation
	30	30	12	40	3.82

The total number of subject taken for data collection in pretest was 30 and mean value is obtained is 12 in which mean percentage as 40 and standard deviation is 3.82.

Assessment of level of knowledge scores of subjects regarding fracture care

	Score range	Percentage Range	Frequency	Percentage
Average	0-10	0-33%	12	40%
Good	11-20	34-66%	17	57%
Very good	21-30	6-100%	1	3%

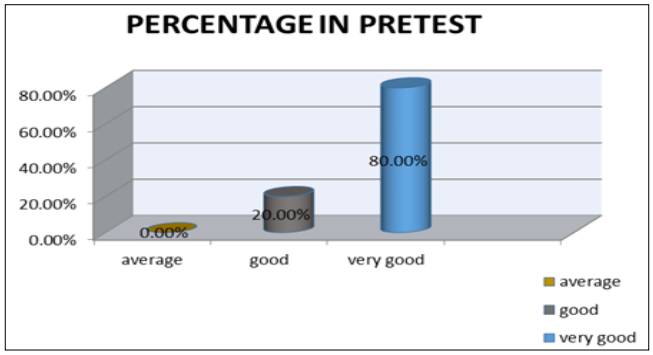

Fig 6: Shows level of knowledge scores of study subject regarding fracture care (pretest)

Section III

Assessment of knowledge study subjects care of fracture clients after implementation of structured teaching programme

This section deals with the assessment of knowledge scores of staff nurse on care and management of client with fracture after the implementation of structure teaching. The statistical values of mean, mean percentage, standard deviation are used to describe the scores.

In addition the level of knowledge score is assess categorically as average, good, very good.

Table 7: Distribution of mean, mean percentage, standard deviation

Post Test					
Questionnaire	Max. score	Max. score obtained	Mean	Mean percentage	Standard deviation
	30	30	23	76.6	3.67

Total number of subject taken for data collection is same as pretest i.e. 30. Mean value is obtained as 23 along with mean percentage 76.6 and standard deviation is 3.67.

Table 8: Assessment of level of knowledge score of subjects regerding fracture care posttest)

	Score range	Percentage range	Frequency	Percentage
Average	**0-10**	**0**-33%	0	**0%**
Good	11-20	34-66%	6	20%
Very good	21-30	67-100%	24	80%

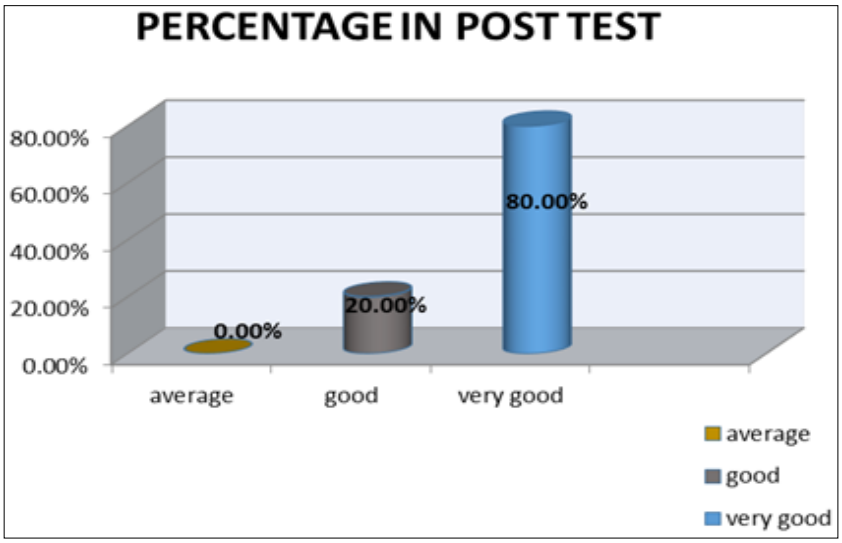

Fig 7: Shows level of knowledge scores of study subjects regarding fracture care (post test)

Section IV

Association of post test knowledge score with selected demographic variables of study subject

This section deals with the association of post knowledge scores of nurses with their selected demographic variables having more than two categories one way ANNOVA is used and four variables having two categories and paired 't' is used.

Table 9: Association of post test knowledge score with demographic variables of study subjects one way annova

Demographic variables	Category	Sample	X2 Value
Age in years	20-25	8	5.75
	26-30	9	
	31-35	3	
	36 and above	10	
Sex	Male	3	16.79
	Female	27	
Education	RGNM	29	19.08
	BSC	0	

	PB BSC	1	
Experience in years	1-3	10	5.75
	4-6	7	
	7-9	3	
	10 and above	10	
In-service education	Yes	1	19.08
	No	29	

Discussion

Ryan G. Miyamoto, MD, Kevin M. Kaplan, MD, Brett R. Levine, MD, MS, Kenneth A. Egol, MD and Joseph D. Zuckerman, MD conducted the study in that they state ON Surgical Management of Hip Fractures: An Evidence-based Review of the Literature. I: Femoral Neck Fractures During the past 10 years, there has been a worldwide effort in all medical fields to base clinical health care decisions on available evidence as described by thorough reviews of the literature. Hip fractures pose a significant health care problem worldwide, with an annual incidence of approximately 1.7 million. Globally, the mean age of the population is increasing, and the number of hip fractures is expected to triple in the next 50 years. One-year mortality rates currently range from 14% to 36%, and care for these patients represents a major global economic burden. Surgical options for the management of femoral neck fractures are closely linked to individual patient factors and to the location and degree of fracture displacement. Nonsurgical management of intracapsular hip fractures is limited. Based on a critical, evidence-based review of the current literature, we have found minimal differences between implants used for internal fixation of displaced fractures. Cemented, unipolar hemiarthroplasty remains a good option with reasonable results. In the appropriate patient population, outcomes following total hip arthroplasty are favorable and appear to be superior to those of internal fixation [2].

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