Nurses' Performance for Orthopedic Patients with Traction or Internal Fixation

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ABSTRACT

Background: Traction or internal fixation is very stressful situation for patient and it requires a competent nurse to meet the patient's needs and to prevent complications. So, orthopedic nurses play a complicated and vital role in the care of patients with traction or internal fixation, ***Aim of the study:*** to assess nurses' performance for orthopedic patients with traction or internal fixation. **Design:** A descriptive research design was utilized in this study. **Setting:** The study was carried out in orthopedic department at two hospitals in Mansoura City (Mansoura University Hospital and Mansoura Emergency Hospital). **Sample:** A convenient sample of all staff nurses (50 nurses) who were working at the previously mentioned settings. **Tools of data collection:** The data were collected using three tools(Nurses' Knowledge Questionnaire, Nurses' Attitude Questionnaire and Nurses' Observational Checklist). ***Results:*** The study's results indicated that More than half of studied nurses had unsatisfactory total level of knowledge. Nearly most of the studied nurses had unsatisfactory total practice level and most of them had positive attitude regarding nurses' performance of orthopedic patients with traction or internal fixation. ***Conclusion:*** There was a highly statistically significant correlation between nurses' total level of knowledge and total level of practice. But there was no statistically significant correlation between nurses' total knowledge and their total attitude scores. ***Recommendations:*** It was recommended that educational and training programs should be provided to orthopedic nurses to increase their knowledge and practice for caring of patients with traction or internal fixation.

Keywords: Nurses' Performance, Orthopedic patients, Traction, Internal Fixation

INTRODUCTION

Musculoskeletal trauma is an injury that affecting bones of the pelvis, upper and lower limbs. It also affects muscle and soft tissue that results from excessive external force. Various forces that cause musculoskeletal trauma are typical for a specific environment, activity or age group. For example, motorcycle accidents, sport injuries, and falls are the most common cause of injury. Regardless the cause, the injury may require rehabilitation and temporary or permanent changes in life style *(Pereira et al., 2015)*.

According to **Zhang (2016),** bone fractures is defined as " break in the continuity and integrity of the bone due to failure of bone to withstand external forces applied to it". Fractures usually begin with intensive pain and swelling at the site of injury. They are associated with increased morbidity and mortality and risk for subsequent fracrures.Despite of fractures occur in all age groups, they are more common in people who have sustained trauma and in older people.

Traction is considered a part of fracture management .It involves the application of a pulling force to fractured or dislocated bones.A pulling force in the opposite direction called "counter traction" .Traction is a non operative treatment modality used for the reduction or immobilization of fractures or dislocations. It is used to maintain alignment, decrease muscle spasms, relieve pain, correct, lessen or prevent deformities *(Chaboyer et al., 2015)***.**

Traction may be classified by the type of application devices in two basic types, skin and skeletal traction. Skeletal traction is applied directly to the bone in which wires and pins inserted by the surgeon through the bone distal to the fracture site under local or general anesthesia. The pin protrudes through the skin on both sides of the extremity and traction is applied with weights attached to a rope that is tied to a spreader bar.Normally,it is used for fractures that require long periods such as fractures of femur, tibia, humerus and cervical spine *(Cooper & Gosnell, 2015).*

According to *Jones & Neighbers (2014),* skin traction is used for short periods and uses lighter weights. The traction device is applied to the skin with the use of adhesive or elastic wrapping. Tape, boots or splints are applied directly to the skin in order to maintain alignment, assist in reduction and help diminish muscle spasm in the injured part. Buck's, Russell's and Bryant's traction are the types of skin traction.

Internal fixation includes devices such as pins, plates and screws are surgically inserted at the time of realignment under the most vigorous aseptic conditions. Patients may receive a course of perioperative prophylactic intravenous antibiotics to prevent infection *(Camera et al., 2015).*

A fully functioning musculoskeletal system is fundamental to optimal health in the normal active human being, injury or disease involving the system can have a profound effect on an individual's ability to perform the activities of daily livings and can result in temporary and permanent disability. So, nurses play major and vital roles to prevent further injury, reduce the risk of immobility complications resulting from orthopedic devices as traction, external and internal fixators, promote healing, maximize independence and promote optimal rehabilitation *(Alexander et al., 2011).*

AIM OF THE STUDY:

The present study aimed to assess nurses' performance for orthopedic patients with traction or internal fixation.

SUBJECTS AND METHODS:

A descriptive design was utilized for the conduction of this study.

Setting:

The study was conducted at orthopedic department in the following hospitals in Mansoura city: 1- Mansoura University Hospital. 2- Mansoura Emergency Hospital

Subjects:

A sample of all staff nurses (males and females) working at orthopedic department at the previously mentioned settings (50 nurses), were distributed as follows, 14 nurses working in orthopedic department at Mansoura University Hospital and 36 nurses working in orthopedic department in Mansoura Emergency Hospital.

Tools for data collection:

Data were collected using the following tools:

TOOL (1): Nurses' Knowledge Questionnaire:

This tool is adapted from **(Abd-Alla,1990)** in Arabic language and modified by the researcher after reviewing of recent related literature *(Lynn, 2011; Dewit & Kumagai,*

2013; Timby & Smith, 2014; Ignatavicius & Workman, 2015), to assess the nurses' knowledge regarding care of orthopedic patients with traction or internal fixation. It includes two parts as the following:

Part (I): Nurses' Demographic and Professional Characteristics:

It includes information related to nurses' demographic and professional characteristics such as nurses' name, age, gender, marital status, degree of qualifications, years of experience, workplace and attendance of any previous training courses about traction or internal fixation.

Part (II):Assessment of Nurses' knowledge regarding caring of orthopedic patients with traction or internal fixation.

It includes (12) MCQ questions,(13) True and False questions and (9)open-ended .

Scoring system:

Nurse's answer were evaluated as following:

Right answer (1), Wrong answer (zero)

Total nurse's score was calculated then converted to percentage and evaluated as follows:

- Equal to or above 60% was considered as satisfactory level of nurses' knowledge while those below 60% were considered as unsatisfactory level of nurses' knowledge.

TOOL (2): Nurses' Observational Checklist:

It includes observational checklist, which adapted from *(Abd-Alla, 1990)*, it was modified by the researcher under the guidance of supervisors and necessary modifications were done to simplify the steps of procedure. This checklist aimed to assess nurses' performance level during providing care for orthopedic patients with (skin traction, skeletal traction, internal fixation).

The checklist consists of the following parts:

Part I:General nursing practice steps:

Includes 17 general nursing practice steps, which are related to both skin ,skeletal traction and internal fixation such as: hand washing, keep privacy ,introduce yourself, provide hygienic care, check vital signs, assess skin conditions over back and bony prominence, auscultate patient chest sound, maintain body alignment, monitor bowel habits, remove and apply bottom bed linen, encourage diversional activities, reassure the patient through open discussion, use footboard, perform active exercises to

unaffected parts, perform passive exercises to affected parts and encourage deep breathing and coughing exercises.

Part II: Assessment of orthopedic patients with skin or skeletal traction and traction apparatus:

Includes (6) items**,** which are related to general assessment of orthopedic patients with skin or skeletal traction and traction apparatus as: assess neurovascular status, compare assessment findings in the affected limb with those in the unaffected limb, report all changes to the physician, record all components of assessment on the patient chart, assess the traction apparatus at least once each shift and check alignment of traction every 2 hours.

Part III: Nurse's role in care of orthopedic patients with skin traction:

Includes (8) items related to nurse's role in care of orthopedic patients with skin traction such as :observe carefully for slipping& wrinkling , bunching up of the traction bandage, report for slippage of bandage if present, remove and check bandages every 24 hours, observe for pressure areas at distal end of bandage, keep affected foot in a neutral position, examine skin integrity of the patient, observe signs or complaints of burning,pain,itching,scrating at edges or under traction and report changes and any signs of skin damage to physician.

Part IV: Nurse's role in care of orthopedic patients with skeletal traction:

Includes 4 steps, which related to nurse's role in care of orthopedic patients with skeletal traction such as: observing pin sites for signs of infection, reporting any signs of infection to physician, cleaning skin around a skeletal pin insertion using antimicrobial agents, observing for signs of pin migration and reporting to physician.

Part V: **Nurse's role in care of orthopedic patients with internal fixation:**

Includes 10 steps, which related to nurse's role in care of orthopedic patients with internal fixation such as: checking dressing every 2 hours, reporting excess bleeding to physician, changing dressing bandage, observing wound for healing process or signs of wound infection, observing a wound drainage system for patency ,type, amount, colour, consistency of drainage , observing for signs of pin slippage, malunion of fracture, turn

on affected side every 2 hrs and maintaining abduction position using pillow, increase activity as ordered.

Scoring System:

Nurse's answer was evaluated as follows:

- The respondent was given one point for each done statements and (zero) for not done.
- Total nurse score was calculated then converted to percentage and evaluated as follows:
- Total score of 60% and more was considered as satisfactory level of nurses' practice while below 60% was considered as unsatisfactory level of nurses' practice.

TOOL (3): Nurse's Attitude Questionnaire (Appendix I) (C):

- This tool was developed by the researcher based on reviewing of recent related literature *(Lynn, 2011; Dewit & kumagai, 2013; Timby & Smith, 2014; Ignatavicius & Workman, 2015; Cooper & Gonsnell, 2015).* The tool consists of 12 attitudinal statements to assess staff nurses attitude toward orthopedic patients with traction or internal fixation. The attitudinal items are both positively and negatively worded to force respondents to read each statement and respond appropriately. They are measured through five-point Likert scale ranged from 5 to 1 for responses: strongly agree, agree, neutral, disagree and strongly disagree respectively for the positive statements numbers (1,3,4, 6,8,10,11 and12) and this scoring is reversed from 1 to 5 for negative statements numbers (2,5,7, 9).The total score was calculated by summing up and converted into a percent score. The nurses' attitude was considered positive if 60% or higher and negative if less than 60%.

Operational design:

It was entailed under the following 4points:

1- Preparatory phase

2-Content validity

3-Piloting of the study tool

4 -Field work description

A) Preparatory phase

This phase was conducted through reviewing of the related literatures, different studies related to the present study, added to theoretical knowledge of various aspects using books, articles, internet, periodicals and magazines to develop the study tools for data collection.

B) Ethical consideration:

Aim of the study was explained to each patient to take their permission to this study and oral informed consent was obtained from them prior to data collection. They were assured that anonymity and confidentiality would be guaranteed and the right to withdraw from the study at any time without giving any reason. Ethics, values, culture and beliefs were respected .

C) Validity and reliability:.

1-**Content validity**. The tool was tested for its content validity, comprehensiveness and applicability by 9 expertise of professors and lecturers from the medical, surgical department in Faculty of Nursing, Port Said University and Faculty of medicine , Mansoura University who revised the tools and modifications were done according to their opinion.   .

2- Reliability: It was done using Cronbach alpha coefficient to assess the internal consistency of the tool and its value was (0.74) for knowledge tool,(0.81) for attitude and (.78) for practice.

C) Pilot study

A pilot study was conducted on 10% **(5 nurses)** of total number of nurses **(55 nurses)** who working in the orthopedic department in Mansoura University Hospital and Mansoura Emergency Hospital to test whether tools of data collection were clear, understandable, and feasible. The results of the data obtained from the pilot study helped the researcher to modify the tools: items were corrected or added as needed. Accordingly, modifications were done and the final form was developed. The nurses included in the pilot study were excluded in the main studied sample.

D) Field work:

- Sampling was started and completed within 6 months from the beginning of November (2015) to the end of April (2016).

- Purpose of the study was explained to nurses who agreed to participate in the study prior to data collection.

- The researcher was available 3 days/week (Sunday, Monday, and Tuesday) for 6hr/day.

- The data collection was performed through meeting nurses during morning, afternoon and nights shifts.

- The researcher gave each nurse questionnaire sheet to fill it by themselves in the presence of the researcher for any clarification.

- The researcher checked each questionnaire sheet after the nurses completed it to ensure the completion of the information.

- The observational checklist was utilized by the researcher to assess nurses' practice.

III . Administrative design:

An official permission for data collection was obtained from Mansoura University Hospital and Mansoura Emergency Hospital from the hospital administrative personnel by submission of a formal letter from the vice dean of the Faculty of Nursing at Port Said University .Meeting and discussion were held between the researcher and the nursing administrative personnel to make them aware about aims and objectives of the research, as well as, to get better cooperation during the implementation phase of the research.

IV. Statistical design:

The collected data was organized, revised, stored, tabulated and analyzed using number and percentage distribution. Statistical analysis was done by computer using Statistical Package of Social Science program (SPSS) package version 16. Proper statistical tests were used to determine whether there was a significant statistical difference between variables of the study. Data was presented in tables and figures. Percentage, Pearson correlation (r),Chi-square (X^2),Proportion probability of error (P- value) were used.Significance of the obtained results was judged at the 5% level.

RESULTS:

Table (1): shows demographic characteristics of studied nurses, more than half of studied nurses (54%) were in age group from 20 to less than 30 years. The majority

of the studied nurses (98%) were married. Regarding educational level, Most of the studied nurses (80%) had a diploma level of education..

Table (2): shows professional characteristics of the studied nurses, All the studied nurses (100%) didn't attend any previous training courses in the field of orthopedic. As regards working abroad, Most of studied nurses (88%) didn't work outside their country.

Table (3): shows Comparison of total score of nurses' knowledge for orthopedic patients with traction or internal fixation in relation to their demographic characteristics. There were statistically significant relations between nurses' total knowledge and their age and educational level (**P**= 0.042, 0.014) respectively.

Table (4): shows Comparison of total score of nurses' knowledge for orthopedic patients with traction or internal fixation in relation to their professional characteristics. There were statistically significant relations between nurses' total knowledge and their training courses and years of experience (**P** = 0.019, 0.031).

Table (5): shows Comparison of total score of nurses' practice for orthopedic patients with traction or internal fixation in relation to their demographic characteristics. There were a statistically significant relations between nurses' total practice and their age and their gender (P= 0.049, 0.001).

Table (6): shows Comparison of total score of nurses' practice for orthopedic patients with traction or internal fixation in relation to their professional characteristics. There was a statistically significant relation between nurses' total practice and their training courses (**P**= 0,003).

Table (7): shows comparison of total score of nurses' attitude for orthopedic patients with traction or internal fixation in relation to their demographic characteristic. There was a statistically significant relation between nurses' attitude for orthopedic patients with traction or internal fixation and their age. (**P**=0,021).

Table (8): shows Comparison of total score of nurses' attitude for orthopedic patients with traction or internal fixation in relation to their professional characteristics. There

was a statistically significant relation between nurses' total attitude and their years of experience (**P**= 0.037).

Table (9):shows the correlation between total scores of knowledge and nursing practice among studied nurses. This table proves that there is a highly statistically significant positive correlation between nurses' total knowledge scores and their total practice scores(**P**= 0.000).

Figure (1): Shows total nurses' knowledge of orthopedic patients with traction or internal fixation and demonstrated that, more than half of the studied nurses (62%) had unsatisfactory total knowledge.

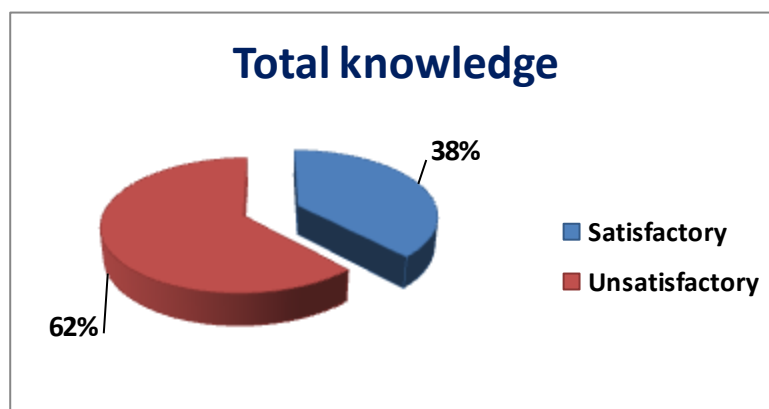Figure (2):Shows that most of the studied nurses (78%) had an unsatisfactory total practice.

Figure (3): Represents that more than two thirds of the studied nurses (68%) have positive responses regarding their total scores of attitude while nearly one third of the studied nurses(32%) have negative responses regarding their total scores of attitude.

Table (1): Demographic characteristics of the studied nurses(n=50).

Personal characteristics	Frequency No	Percentage %
Age:		
20 to less than 30 years	27	54.0
30 to less than 40 years	17	34.0
40 to less than 50 years	4	8.0
50 to 60 years	2	4.0
Gender:		
male	3	6.0
female	47	94.0
Marital status:		
Married	49	98.0
Divorced	1	2.0
Education:		
Diploma	40	80.0
Technical institute of nursing	8	16.0
Technical institute of health	2	4.0

Table (2): Professional Characteristics of the Studied Nurses (n=50).

Professional Characteristics	Frequency No	Percentage %
Work place: Mansoura University Hospital Mansoura Emergency Hospital	14 36	28.0 72.0
Years of Experiences: one year to less than 5 years 5 to 10 years 11 years or more	4 13 33	8.0 26.0 66.0
Training courses in field of orthopedic : Yes No	0 50	0.0 100.0
Working abroad: No Yes	44 6	88.0 12.0
Duration of working abroad: None Two years	44 6	88.0 12.0
Department of working abroad: None Emergency	44 6	88.0 12.0

Figure (1): Total nurses' knowledge for orthopedic patients with traction or internal fixation(n=50**).**
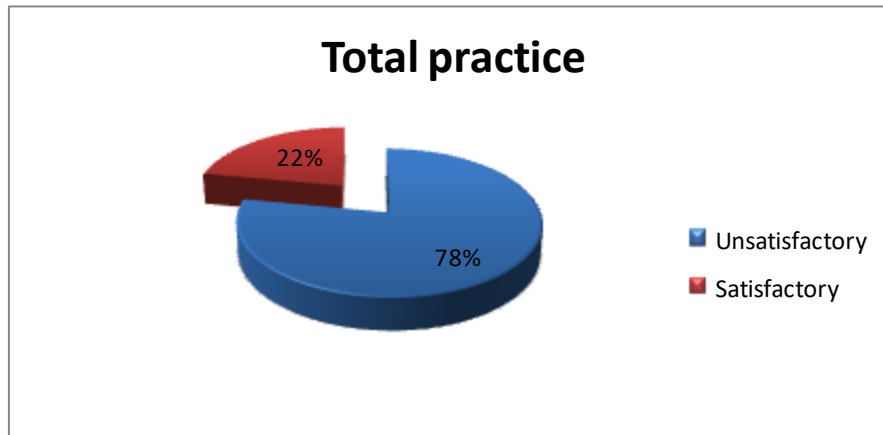
Figure (2): Total nurses' practice for orthopedic patients with traction or internal fixation (n=50)
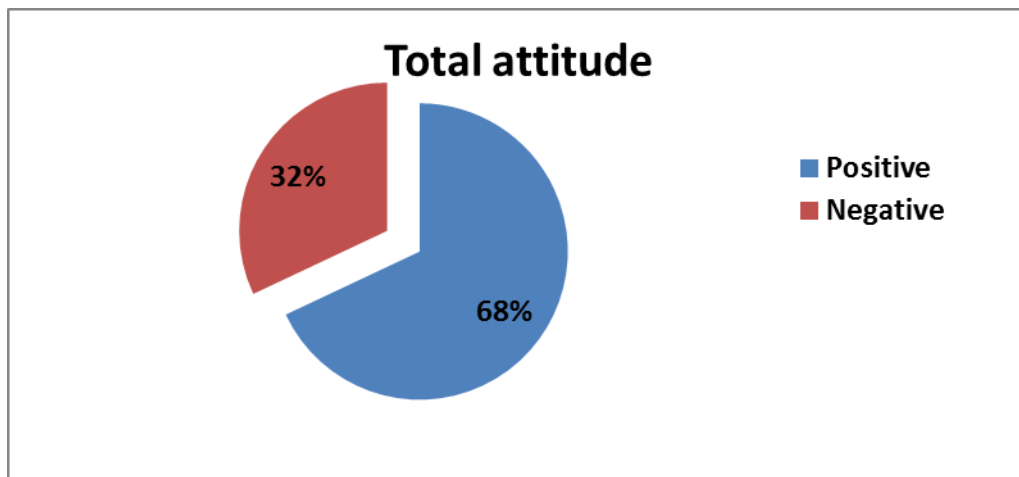
Figure (3): Total nurses' attitude for orthopedic patients with traction or internal fixation (n=50).

Table (3): Comparison of total score of nurses' knowledge of orthopedic patients with traction or internal fixation in relation to their demographic characteristics (n=50).

Demographic characteristics	Total score of Nurses' Knowledge for orthopedic patients with traction or internal fixation				X^2	p-value
	Unsatisfactory		Satisfactory			
	No	%	No	%		
Age:						
20- less 30yrs	18	58.1	9	47.4		
30-less than 40yrs	11	35.5	6	31.6	3.74	.042*
40-less than 50yrs	1	3.2	3	15.8		
50 or more	1	3.2	1	5.3		
Education:						
Diploma nurse	25	80.6	15	78.9		
Technical diploma nursing	6	19.4	2	10.5	3.841	.014*
Technical institute health	0	0.0	2	10.5		
Gender:						
Male	1	3.2	2	10.5	1.113	.291
Female	30	96.8	17	89.5		
Marital status:						
Married	30	96.8	19	100.0	.625	.429
Divorced	1	3.2	0	0.0		

significant at P ≤ 0.05

Table (4): Comparison of total score of nurses' knowledge for orthopedic patients with traction or internal fixation in relation to their professional characteristics (n=50).

Professional characteristics	Total score of Nurses' Knowledge for orthopedic patients with traction or internal fixation				X^2	p-value
	Unsatisfactory		Satisfactory			
	No	%	No	%		
Training courses:						
No	29	93.5	13	68.4	5.534	.019*
Yes	2	6.5	6	31.6		
Years of Experience:						
From one year to less than 5 years	3	9.7	1	5.3	2.294	.031*
From 5 to less than 10 years	10	32.3	3	15.8		
From 10 years to more	18	58.1	15	78.9		
Work place:						
Mansoura university hospital	7	22.6	7	36.8	1.188	.276
Mansoura emergency hospital	24	77.4	12	63.2		

significant at P ≤ 0.05

Table (5): Comparison of total score of nurses' practice for orthopedic patients with traction or internal fixation in relation to their demographic characteristics (n=50).

Demographic characteristics	Nurses' practice for orthopedic patients with traction or internal fixation				X^2	p-value
	Unsatisfactory		Satisfactory			
	No	%	No	%		
Age:						
20- less 30yrs	25	64.1	2	18.2		
30-less than 40yrs	11	28.2	6	54.5	7.843	.049*
40-less than 50yrs	2	5.1	2	18.2		
50 or more	1	2.6	1	9.1		
Gender:						
Male	0	0.0	3	27.3	11.315	.001*
Female	39	100.0	8	72.7		
Marital status:						
Married	39	100.0	10	90.9	3.618	.057
Divorced	0	0.0	1	9.1		
Education:						
Diploma nurse	30	76.9	10	90.9		
Technical diploma nursing	8	20.5	0	0.0	3.380	.185
Technical institute health	1	2.6	1	9.1		

significant at P ≤ 0.05

Table (6): Comparison of total score of nurses' practice for orthopedic patients with traction or internal fixation in relation to their professional characteristics (N=50)

Professional characteristics	Nurses' practice for orthopedic patients with traction or internal fixation				X^2	p-value
	Unsatisfactory		Satisfactory			
	No	%	No	%		
Training courses:						
No	36	92.3	6	54.5	9.103	.003[*]
Yes	3	7.7	5	45.5		
Years of Experience:						
From one year to less than 5 years	4	10.3	0	0.0	4.005	.135
From 5 to 10 years	12	30.8	1	9.1		
From 10 years to more	23	59.0	10	90.9		
Work place:						
Mansoura university hospital	12	30.8	2	18.2	.674	.412
Mansoura emergency hospital	27	69.2	9	81.8		

significant at P ≤ 0.05

Table (7): Comparison of total score of nurses' attitude for orthopedic patients with traction or internal fixation in relation to their demographic characteristics (n=50)

demographic characteristics	Nurses attitude				X^2	p-value
	Negative		Positive			
	No	%	No	%		
Age:						
20- less 30yrs	8	50.0	19	55.9		
30-less than 40yrs	5	31.2	12	35.3	4.462	.021[*]
40-less than 50yrs	1	6.2	3	8.8		
50 or more	2	12.5	0	0.0		
Gender:						
Male	2	12.5	1	2.9	1.763	.184
Female	14	87.5	33	97.1		
Marital status:						
Married	16	100	33	97.1	.480	.488
Divorced	0	0.0	1	2.9		
Education:						
Diploma nurse	12	75.0	28	82.4		
Technical diploma nursing	4	25.0	4	11.8	2.206	.052
Technical institute health	0	0.0	2	5.9		

Table (8): Comparison of total score of nurses' attitude for orthopedic patients with traction or internal fixation in relation to their professional characteristics (n=50).

Professional characteristics	Nurses attitude				X²	p-value
	Negative		Positive			
	No	%	No	%		
Experience:						
from one year to less than 5 years	3	18.8	1	2.9	5.075	.037*
from 5 to 10 years	2	12.5	11	32.4		
from 10 years to more	11	68.8	22	64.7		
Training courses:						
No	12	75.0	30	88.2	1.418	.234
Yes	4	25.0	4	11.8		
Work place:						
Mansoura university hospital	7	43.8	7	20.6	2.895	.059
Mansoura emergency hospital	9	56.2	27	79.4		

Table (9): Correlation between total scores of Knowledge and Nursing practice among studied nurses (n=50).

Total scores of practice	Total knowledge level scores	
	R	P
Total practice related to skin traction	.556**	.000
Total practice related to skeletal traction	.501**	.000
Total practice related to internal fixation traction	.468**	.001
Total practice	**.550****	**.000**

DISCUSSION:

Orthopedic fractures are a common daily acute health issue. Musculoskeletal injuries such as fracture, dislocation and injuries of soft tissue are commonly seen in health care sitting and a major part of nursing profession. Improper initial management of fractures can lead to significant long term morbidity and mortality *(Kambli, 2014).* Therefore the

aim of the study is to assess nurses' performance for orthopedic patients with traction or internal fixation. In relation to nurses' demographic characteristics, the findings of the present study revealed that more than half of studied nurses were in age group from 20 to less than 30 years. While the majority of studied nurses were female and married**.** Most of the studied nurses had a diploma level of education.

Regarding professional characteristics of the studied nurses, the present study showed that two thirds of the studied nurses had experience more than 10 years while more than one quarter of studied nurses had experience from 5 to less than 10 years .All the studied nurses didn't attend any previous training courses. As regards working abroad, Most of studied nurses didn't work outside their country.

Regarding assessment of nurses' knowledge, the present study revealed that less than two thirds of studied nurses had unsatisfactory total knowledge scores related to caring for orthopedic patients with traction or internal fixation .From the researcher point of view, this result may be due to that most of the studied nurses had nursing diploma qualifications and they didn't receive any training courses regarding care of orthopedic patients. Also, lack of availability of protocols, guidelines and unavailability of manual procedures' book regarding care of patients with traction or internal fixation. This is supported by *Afifi (2000),* who mentioned that lack of preparation regarding practical competence, manual procedures' book, or a basic standardized practice and lack of theoretical basic knowledge related to the field could be attributed to insufficient total knowledge. This study is in accordance with *Al-Barwari et al. (2006),* who reported that less than half of studied nurses had insufficient knowledge level related to nursing care of patient with skin traction. On the other hand, *El- Dakhakhny (2010),* reported in her study that the majority of the studied nurses had inadequate knowledge scores related to nursing care of patient with Thomas traction. Moreover, the result findings disagree with *Elhakeem et al. (2014),* who reported that more than two thirds of nurses had a sufficient knowledge regarding care of patients with external fixation.

Regarding total practice scores of studied nurses, the present study showed that nearly most of studied nurses had unsatisfactor total y practice. In the researcher' opinion,

low practice level of studied nurses resulting from lack of supervision, education and lack of continuous evaluation of nurses' practice. Additionally, ***Garcia & Fugulin (2012),*** discovered that care provided by orthopedic nurses is the result of a care relationship that emerges from their sensitivity toward patients and their own knowledge, skills and attitudes.

This result is in harmony with ***Hajbaghery&Moradi (2013),*** who reported in their study about "Quality of care for patients with traction" that inadequate quality of care for had delivered for patients with traction. ***Al-Barwari et al. (2006),*** further reported in their study almost nurses sample had poor performance scores regarding nursing care of patient with skin traction and the nurses practices is not enough to give a care to patients who have skin traction in orthopedic unit.

Concerning total attitude scores of studied nurses, this study revealed that more than two thirds of studied nurses had positive attitude regarding their total scores of attitude. This study is consistent with ***Hagerling (2015),*** who stated in his study "Nurse Attitudes toward caring for older patients with delirium" that nurses had positive attitude toward older patients with delirium.

According to the results of the current study, there were many important factors that affect nurses' performance. These factors include age, education, gender, training courses and years of experience. It has been expected that the higher level of education is the better of practice acquired as the majority of the study sample had a diploma nurse and no attendance of any training courses.

Considering the relation between total scores of nurses' knowledge and their demographic characteristics, the present study results showed that there was a statistically significant relation between total scores of nurses' knowledge and their age. This finding is in agreement with ***Mohsin & Atiyah (2016),*** who reported in their study that a statistically significant relation was found between nurses' knowledge and their age.

Regarding the relationship between nurses' knowledge and their level of education, the present study showed a significant relation between nurses' knowledge and their

level of education. This result is congruent with ***Qaddumi & Khawaldeh (2014)*** who reported a significant relationship between nurses' knowledge and their educational level.

In the present study, there was a statistically significant relationship between nurses' level of knowledge and their attendance of training courses, this result was in accordance with ***Mohsin & Atiyah(2016),*** who mentioned that there was a significant differences association between nurses' knowledge and training courses in the field of orthopedic care. Furthermore, regarding nurses' knowledge and their years of experience, this study revealed that there was a statistically significant relation between nurses' knowledge and their years of experience, similar findings are supported by ***Abdulla & Abdulla (2014); Belal (2011)*** , who reported that there was a significant differences association between nurses' knowledge and their years of experience.

The present study revealed that the relation between total score of nurses' practice and their demographic characteristics, there was statistically significant relationship between nurses' practice and their age, this result was goes on the same line with ***Bader & Kadhim (2012); Taha (2014)*** who reported that there was a statistically significant relations between nurses' practice and their age.

Regarding nurses' practice and their attendance of training course, there was a statistically significant relationship between nurses' practice and their attendance of training courses. This finding is congruent with ***Bader & Kadhim (2012)*** who pointed out that there was a significant relationship between nurses' practice and training session.

Regarding this study, there was a statistically significant relationship between nurses' practice and gender. This study is incongruent with ***Atiyah et al. (2012),*** who mentioned that there was a strong negative relationship between gender and nurses' practice.

Regarding relationship between nurses' attitude and their demographic characteristic, the present study showed that there were a significant relations between nurses'

attitude and their age and experience).This study result disagreed with *Kassa et al.(2014)*, who reported that there were no significant relations between nurses' attitude and their age and experience.

Regarding to the correlation between total knowledge and practice, these results presented that, there was a statistically positive significant correlation between the nurses' total knowledge and their practice. These results supported with *Mohammed & Weheida (2015)* who reported that, there was a statistically significant correlation between nurses' knowledge and their practice and also in the same line with *Shahin et al.(2012)*, who reported that, there was highly statistically significant difference between nurses' practices and their knowledge.

CONCLUSION:

Based on the findings of the current study, More than half of the studied nurses had unsatisfactory total knowledge and most of the studied nurses had unsatisfactory total practice with most of them had positive attitude regarding care of orthopedic patients with traction or internal fixation. In addition, there was a highly statistically significant positive correlation between nurses' total knowledge scores and total practice scores.

RECOMMENDATIONS :

The following recommendations were inferred from the study: 1):Special training programs should be designated and presented to all orthopedic nurses in order to increase their skills of clinical practice.2):Designating and distributing a booklet to all nurses who work in orthopedic wards related to standardized nurses' performance for orthopedic patients with traction or internal fixation.3):A policy should be initiated for increasing the number of nursing staff in orthopedic units.4):Nurses should be encouraged to attend national and international conferences, workshops and training courses related to nursing care of orthopedic patients with traction or internal fixation

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أداء الـممرضين تجاه مـرضـى الـعظام الـمعالـجـين بـالشد أو بـالـتثبيت الـداخـلـي

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أسـتـاذ جـراحـة الـعظـام كـلية الـطـب – جـامـعـة الـمنصـورة، أسـتـاذ مسـاعـد الـتمريـض الـباطـنـي و الـجـراحـي كـلية الـتمريـض. جـامـعـة بـورسـعيد، أسـتـاذ مساعـد الـتمريـض الـباطـنـي و الـجراحـي كـلية الـتمريـض- جـامـعـة بـورسـعـيد

الـخـلاصـة

يعتبر كلا من الشد أو التثبيت الداخلي من أكثر الأوضاع إجهادا بالنسبة للمريض.ولذلك فإنه يتطلب ممرضه ذو كفاءة لتلبيه احتياجات هذا المريض ومنع حدوث مضاعفات الناتجة من استخدامهم. ونظرا لهذا الدور الحيوي والمعقد لممرضين العظام فقد أجريت هذه الدراسة الوصفية بهدف تقييم أداء الممرضين تجاه مرضى العظام المعالجين بالشد أو بالتثبيت الداخلي.وقد أجريت هذه الدراسة بأقسام العظام الموجودة بالمنصورة وتشمل مستشفيتين وهم (مستشفى المنصورة الجامعي ومستشفى الطوارئ بالمنصورة) وقد شارك في هذه الدراسة عدد ٥٠ ممرض من الذكور والإناث والمتاحين خلال ستة أشهر من الأماكن السابق ذكرها. وقد تم استخدام ثلاث أدوات لجمع البيانات. **الأولى:** استمارة استبيان لتجميع معلومات الممرضين. **والثانية:** استمارة استبيان لتجميع ممارسات الممرضين. **والثالثة:** استمارة استبيان لقياس اتجاهات الممرضين تجاه مرضى العظام المعالجين بالشد أو بالتثبيت الداخلى. ولقد كشفت النتائج أن اكثر من نصف الممرضين كان لديهم مستوى غير مرضى من المعلومات ومعظمهم تقريبا كان لديهم أيضا مستوى غير مرضى بالنسبة للممارسات تجاه مرضى العظام المعالجين بالشد أو بالتثبيت الداخلي. بالإضافة الى وجود فروق ذات دلالة إحصائية بين إجمالي المعلومات ومستوى الممارسة لدى لممرضين كما أن أكثر من ثلثي الممرضين كان لديهم اتجاهي إيجابي تجاه مرضاهم. وأوصت هذه الدراسة بضرورة توفير برامج تعليمية ودورات تدريبيه لزيادة معرفة وممارسات ممرضين العظام تجاه الرعاية التمريضية للمرضى المعالجين بالشد أو بالتثبيت الداخلي.

الكلمات المرشدة: داء الممرضين، مرضى العظام، الشدة، التثبيت الداخلي .