

Regarding Prevention of Selected Complication of Immobility Among Immobilized Orthopedic Patients

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Abstract

Background: Musculoskeletal disorders highly affecting mobility include strains, sprains, fractures, joint dislocations, amputations, and joint replacement so orthopedic patients are more prone for immobility and its complications. They need to understand what are the complications which can be, cause by immobility and how it can be prevented. Nurses have the responsibility to educate and aware the patient about their illness, complications of illness and how the complications can be prevented.²

Objectives: To assess the pre test knowledge regarding Prevention of Selected Complications of Immobility among immobilized orthopedic patients, To assess the post test knowledge regarding Prevention of Selected Complications of Immobility among immobilized orthopedic patients, To evaluate the effectiveness of planned teaching programme on knowledge regarding Prevention of Selected Complications of Immobility among immobilized orthopedic patients, To associate the knowledge score with selected demographic variables.

Methodology: A pre experimental one group pre test post test design was adopted for the study. It was conducted over 60 immobilized orthopedic patients and was selected by using Non probability purposive sampling technique. Pre test was done using self structured questionnaire for knowledge. After pre test the researcher administered planned teaching programme on knowledge regarding prevention of selected complications of immobility among immobilized orthopaedic patients. Post test was conducted after seven days.

Result: Post test was done after seven days. Post test mean knowledge score was higher 20.65 with SD of 1.82 when compared with the pre test mean knowledge score value which was 9.03 with SD of 1.79. The calculated 't' value 28.77 is greater than table value 2.00 at 0.05 level of significance. Thus the H₁ is accepted and H₀ is rejected.

Conclusion: Planned teaching programme on knowledge regarding preventions of selected complications of immobility among immobilized orthopedic patients was effective. Significant association was found between knowledge score and age, gender, education.

Keywords: Selected complications; Immobility; Orthopaedic patients; Planned teaching programme; Knowledge.

Introduction

Movement is a complex process that requires coordination between the musculoskeletal and nervous systems. Body mechanics is a term used to describe the coordinated efforts of the musculoskeletal and nervous system. Although nurses need to understand the physics. Mobility refers to person's ability to move about freely, and immobility refers to the inability to do so. Some clients can be mobile or immobile, whereas others experience varying degrees of partial immobility. Think of mobility as a continuum with mobility on one end, immobility on the other and varying degrees of partial immobility in between the end points. Some clients move back and forth between mobility and immobility, but for others immobility is absolute and continues indefinitely. NANDA International (NANDA-I) defines impaired physical mobility as a limitation in independent, purposeful physical movement of the body or one or more extremities (Ackley and Ladwing, 2006).

Background and need of the study

A.Malarvizhi, V. Hemavathy (Mar.-Apr. 2015), Conducted a study to assess the knowledge on complications of immobility among the immobilized patients in selected wards at selected hospital Assessment of level of knowledge on complications of immobility among the immobilized patients was done by providing questionnaire. Results showed that 50% of the participants were having inadequate knowledge whereas 40% of them were having moderately adequate knowledge followed by 10% of them were having adequate knowledge on complications of immobility. None of the demographic variables had significant association with knowledge on complications of immobility among orthopedic patients. Present study found that the knowledge on complications of immobility among orthopedic patients were poor in all the study setting. The patient can be educated and continuous feedback monitoring; supervision of practice should be needed on prevention of complications.⁵

S Poudyal, M Neupane, M Lopchan (2015), conducted a study on knowledge on prevention of complications related to immobility among caregivers of orthopaedic patients at selected hospitals of chitwan district; the study concluded that education plays a significant role in providing care to prevent complications related to immobility. So, awareness programmes regarding preventive measures should be planned and implemented for caregivers of immobilized patients.⁶

Statement of the problem

An experimental study to assess the Effectiveness of Planned Teaching Programme on knowledge regarding Prevention Of selected Complications of Immobility among immobilized orthopaedic patients admitted in selected hospitals of the city.

Objectives

1. To assess the pre test knowledge regarding Prevention of Selected Complications of Immobility among immobilized orthopedic patients
2. To assess the post test knowledge regarding Prevention of Selected Complications of Immobility among immobilized orthopedic patients
3. To evaluate the effectiveness of planned teaching programme on knowledge regarding Prevention of Selected Complications of Immobility among immobilized orthopedic patients
4. To associate the knowledge score with selected demographic variables.

Operational definition

Assess

In this study assess means, the organized systematic continuous process of collecting data from immobilized orthopedic patients regarding prevention of selected complications of immobility.

Effectiveness

In this study effectiveness means, the desired changes brought about by the planned teaching programme on knowledge on prevention of selected complication of immobility.

Planned teaching programme

In this study planned teaching programme means , systematically providing information regarding selected complications of immobility among immobilize orthopaedic patients which include introduction, definition of immobility, selected complications (bed sore, deep vein thrombosis, constipation, urinary tract infection) and its prevention

Knowledge

In this study knowledge means, responses obtained from immobilized orthopedic patients regarding prevention of selected complications of immobility

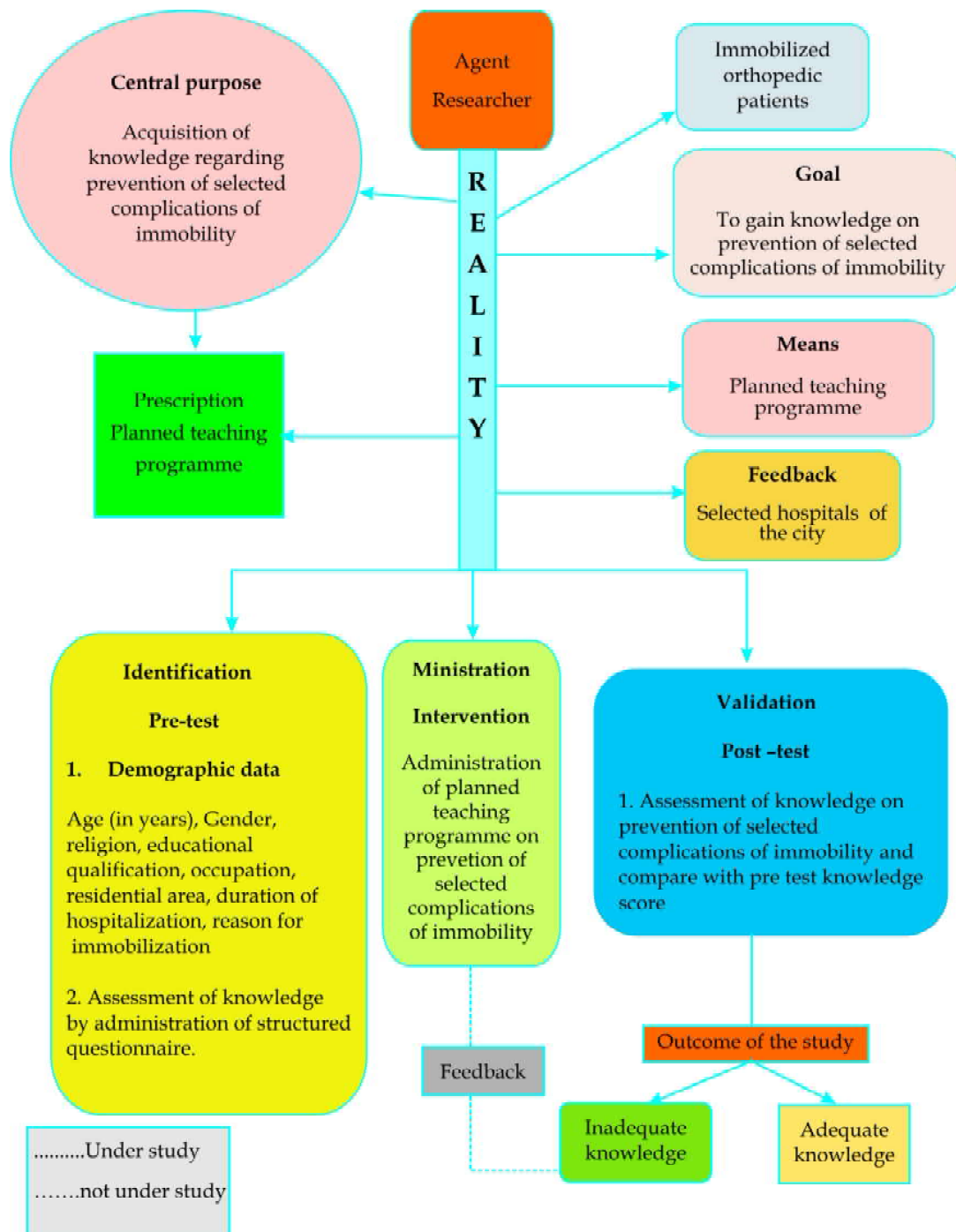


Fig. No.I-1: Conceptual framework based on -modified Widenbench perception theory

Complication

In this study selected complications includes, Bed sore, deep vein thrombosis (DVT), hypostatic pneumonia, constipation, urinary tract infection

Immobility

In this study immobility means condition in which a

patient is unable to move independently or is restricted for orthopaedic interventions.

Orthopaedic patients

In this study orthopedic patients means (male and female) patients with fracture of lower limbs, who are immobilize after orthopaedic surgery or on traction or plaster cast and who are unable to move about freely.

Delimitation

This study is delimited to the immobilized orthopedic patients admitted in selected hospitals.

Hypothesis

Hypothesis will be tested at 0.05 level of significance

H_0 - There is no significant difference between pre and post test level of knowledge score regarding prevention of selected complications of immobility among immobilized orthopedic patients

H_1 - There is significant difference between pre and post test knowledge score regarding prevention of selected complications of immobility among immobilized orthopedic patients

Conceptual Framework

The conceptual framework selected for the study is based on ErsentineWiedenbanch's "Perspective Theory" (Helping art of clinical nursing).

Review of Literature

- I. Literature related to complications of immobility
- II. Literature related to prevention of complications of immobility
- III. Literature related to effectiveness of planned teaching programme

Methodology

Research approach: In this study quantitative approach is used.

Research design: In this study pre experimental one group pre test and post test design is used.

Setting of the study: orthopedic wards of selected hospitals

Independent variable: Planned teaching programme

Dependent variable: Knowledge regarding prevention of selected complications of immobility.

Demographic variable: The demographic variables in this study include Age, Gender, Religion, Educational qualification, Occupation, Residential area, Duration of hospitalization, Reason for immobilization
Population:

Target population

In this study the target population includes the all immobilized orthopedic patients who are admitted in hospitals.

Accessible population

In the present study the accessible population of all immobilized orthopedic patients who are admitted in selected hospitals and are available at the time of data collection.

Sampling

Sample: In this study, sample consist of 60 immobilized orthopedic patients admitted in selected hospitals of the city.

Sample size: 60

Sampling technique: In this study Non probability purposive sampling technique used.

Sampling criteria:**Inclusion criteria:**

In this study, inclusion criteria was, Immobilized patients who are;

1. More than 18 years of age
2. Suffering from orthopaedic condition with lower limb fracture, surgery, on traction or plaster cast
3. Able to read and write English, Hindi, Marathi
4. Willing to participate in study
5. Available at the time of data collection

Exclusion criteria

In this study, the exclusion criteria was, Immobilized patients who are;

1. critically ill with altered level of consciousness
2. Other than orthopaedic conditions
3. Not willing to participate in study

Description of tools

Section A - Demographic variables

Section B - Self structured knowledge questionnaire

Section C-Planned teaching programme on knowledge regarding Prevention of selected Complications of Immobility

Validity

Content and construct validity of tool was determined by 27 experts including medical surgical nursing subjects experts, orthopedic surgeon, English literature and statistician etc.

Reliability

Karl Pearson correlation coefficient formula was used. The correlation coefficient 'r' of the questionnaire was 0.87%, which is more than 0.8. Hence the questionnaire was found to be reliable.

Pilot study

Pilot study was conducted from 4th October 2019 to 10th October 2019 for a period of 7 days. The pilot study was feasible in terms of time, money, material and resources.

Data collection

The main study data was gathered from 4th November 2019 to 25 November 2019. The samples were approached in small groups on a daily basis. Before giving the questionnaire the purpose of the study mentioned. Consents of the samples were taken. The pre test questionnaire were distributed to the samples and collected back after 40 minutes. After the pre test the investigator administered the treatment (Planned Teaching Programme on knowledge regarding Prevention of Selected Complications of Immobility among immobilized orthopedic patients). After 7 days post test was taken.

Result

Section I: description of immobilized orthopedic patients admitted in selected hospitals with regards to demographic variables

Table No.1: Table showing frequency and percentage wise distribution of immobilized orthopedic patients according to their demographic variables.

Demographic Variables	Frequency (F)	Percentage (%)	
Age (in year)	18-30 yrs	12	20.0
	31-40 yrs	16	26.7
	41-50 yrs	19	31.7
	51-60 yrs	12	20.0
	=61 yrs	1	1.7
Gender	Male	40	66.7
	Female	20	33.3
Religion	Hindu	31	51.7
	Muslim	4	6.7
	Buddhist	18	30.0
	Christian	4	6.7
	Others	3	5.0
Education	Primary	29	48.3
	Secondary	21	35.0
	Higher Secondary	7	11.7
	Graduate	3	5.0
	PG	0	0
	Others	0	0
Occupation	Labour	8	13.3
	Homemaker	10	16.7
	Farmer	15	25.0
	Service	6	10.0
	Business	9	15.0

Residential Area	Unemployed	5	8.3
	Others	7	11.7
Duration of hospitalization	Urban	27	45.0
	Rural	28	46.7
	Semi Urban	5	8.3
Reason for immobilization	Less than 1 week	4	6.7
	1-2 weeks	15	25.0
	>2 weeks	41	68.3
of lower limb	Fracture	22	36.7
	Surgery of lower limb	14	23.3
	Plaster/traction of lower limb	21	35.0
	Any other	3	5.0

Section II: Description on pretest knowledge regarding prevention of selected complications of immobility among immobilized orthopedic patients admitted in selected hospitals.

Table No. 2: Table showing frequency and percentage wise distribution of pre test knowledge scores regarding Prevention of Selected Complications of Immobility among immobilized orthopedic patients n=60

Level of knowledge score in pre test	Score Range	Frequency (f)	Percentage (%)
Excellent	81-100%(25-30)	0	0
Very Good	61-80%(19-24)	0	0
Good	41-60%(13-18)	3	5.00
Average	21-40%(7-12)	55	91.67
Poor	0-20%(0-6)	2	3.33
Minimum score			6
Maximum score			14
Mean knowledge score			9.03±1.79
Mean % Knowledge Score			30.11±5.98

Section III: Description on post test knowledge regarding prevention of selected complications of immobility among immobilized orthopedic patients admitted in selected hospitals

Table No. 3: Table showing frequency and percentage wise distribution of post test knowledge score regarding preventions of selected complications of immobility among immobilized orthopedic patients n=60

Level of knowledge score in post test	Score Range	Frequency (f)	Percentage (%)
Excellent	81-100%(25-30)	1	1.67
Very Good	61-80%(19-24)	54	90
Good	41-60%(13-18)	5	8.33
Average	21-40%(7-12)	0	0
Poor	0-20%(0-6)	0	0
Minimum score			16
Maximum score			25
Mean knowledge score			20.65 ± 1.82
Mean % Knowledge Score			68.83 ± 6.07

Table no. 4: Table showing comparison of pretest and posttest grading score

n=60

Level of knowledge score	Score Range		Pre test		Posttest	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Excellent	81-100% (25-30)	0	0	0	1	1.67
Very Good	61-80% (19-24)	0	0	0	54	90
Good	41-60% (13-18)	3	5.00	5	8.33	
Average	21-40% (7-12)	55	91.67	0	0	
Poor	0-20% (0-6)	2	3.33	0	0	
Minimum score		6			16	
Maximum score		14			25	
Mean knowledge score		9.03±1.79			20.65±1.82	
Mean % Knowledge Score		30.11±5.98			68.83±6.07	

Table No.5: Table showing effectiveness of planned teaching programme on knowledge score of pre test and post test regarding preventions of selected complications of immobility among immobilized orthopedic patients admitted in selected hospitals n=60

Test	Mean	SD	Mean Difference	Calculated t-value	df	Table value	p-value	Significance	
Pre Test	9.03	1.79		11.61	28.77	59	2.00	0.0001	S
Post Test	20.65	1.82		4				S, p<0.05	

Level of significance p<0.05



Table no.3 shows the overall mean knowledge score of pretest and posttest. The post test mean knowledge score was 20.65 with SD of 1.82 which was higher when compared with the pre test mean knowledge score value which was 9.03 with SD of 1.79, mean difference was 11.61 with SD 2.54. The DF was 59 (60- 1) the calculated 't' value 28.77 is greater than table value 2.00 at 0.05 level of significance. Hence it is statistically interpreted that the research hypothesis is (H₁) is accepted and null hypothesis (H₀) is rejected. Thus the planned teaching programme on

knowledge regarding preventions of selected complications of immobility among immobilized orthopedic patients is effective and the level of knowledge is significantly increased as compare to the pre test.

Section-V: description on association on knowledge score with selected demographic variables marital status, area of working and none of the other demographic variables were associated with knowledge score.

Table no 5: Table showing association of knowledge score with selected demographic variables. n=60

Demographic Variables	T-value	Calculated Value	F-value	P-value	df	Table Value	Level of significance <0.05	Significance
Gender	2.34	-	0.023	58	2.00	<0.05	S	
Religion	-	1.58	0.19	4,55	2.52	>0.05	NS	
Education	-	5.82	0.002	3,56	2.76	<0.05	S	
Occupation	-	1.17	0.33	6,53	2.25	>0.05	NS	
Area of residence	-	0.59	0.55	2,57	3.15	>0.05	NS	
Duration of hospitalization	-	0.02	0.97	2,57	3.15	>0.05	NS	
Reason for immobilization	-	1.15	0.33	3,55	2.76	>0.05	NS	

Key: S - Significant NS: Not significant

Above study show the Structured Teaching Programme regarding prevention of Selected Complications among immobilized orthopaedic patients was effective. Also there was significant association between knowledge score age, gender, education status, monthly income, religion and type of diet.

In the present study, the knowledge regarding preventions of selected complications of immobility was assessed by taking pre test among immobilized orthopedic patients, followed by planned teaching programme on knowledge regarding prevention of selected complications of immobility among immobilized orthopedic patients and further more assessed the knowledge regarding preventions of selected complications of immobility in same patients. Analysis reveals that mean pre test knowledge score was 9.03 and the mean post test knowledge score was 20.65. The calculated t value 28.77 which is greater than tabulated value 2.00 at 0.05 level of significance. Analysis also reveals that there is association of knowledge score with age (in years), gender and education while none of the other demographic variable was associated with knowledge score.

Hence it is statistically interpreted that planned teaching programme on knowledge regarding preventions of selected complications of immobility among immobilized orthopedic patients was effective

as a teaching strategy.

In present study also association was found between knowledge score and selected demographic variable that is age gender and education

Implication of The Study

The findings of this study have implications for nursing practice, nursing education, nursing administration, and nursing research

Nursing practice

- Health care services are essential component of community health nursing the role of nurse is to conduct education programme to educate patient and family about prevention of complications of immobility for health promotion and prevention of complication
- It will help nurses to keep update knowledge regarding various aspects of immobility that is common problem by orthopedic patients and taking measures to prevent such complications
- Nurse can educate and motivate patient and care giver regarding various complications of immobilization and its prevention

Nursing education

- Nurse who are up to date with the knowledge regarding various complications of immobilization and its prevention are the better person to impart their knowledge to the nursing student which will ultimately update the knowledge regarding various complications of immobilization and its prevention
- Now a day, much emphasis is given on comprehensive care in the nursing curriculum. So this study can be used by nursing teachers as an informative illustration for nursing students.
- Planned teaching programme could help educators to use it as a tool for teaching.
- Students must be given clinical field assignment, in which they must be given opportunity to interact with people and create awareness regarding various complications of immobilization and its prevention
- Teacher training programs must also include the topic of complications of immobilization and its prevention

Nursing administration

- Findings of the study can be used by the Nursing Administrator in creating policies and

plans for providing education to the staff nurses and health professionals.

- It would help the nursing administrators to be plan and organize in giving continuing education to the nurses and to others for applying and updating the knowledge regarding various complications of immobilization and its prevention
- In-service education must be conducted for the nurses to create awareness regarding various complications of immobilization and its prevention
- The result of the study contributes to the body of knowledge of nursing.

Nursing research

- The findings of the study have added to the existing body of the knowledge on complications of immobilization and its prevention which will enhance the knowledge and would help to keep it updated.
- Other researchers may utilize the suggestions and recommendations for conducting further study.
- The tool and technique used has added to the body of knowledge and can be used for further references.

Limitation

- The sample size was small to generalize the findings of the study.
- The study was limited to measure the knowledge of immobilized orthopedic patients admitted in selected hospitals of the city.
- The tool for data collection was prepared by investigator herself. Standardized tool was not used

Recommendations

- A similar study can be replicated on a larger population for a generalization of findings.
- A Study may be conducted to evaluate the effectiveness of self-instructional module on knowledge regarding prevention of selected complications of immobility.
- A study can be carried out to evaluate the efficiency of various teaching strategies like pamphlets, leaflets and computer – assisted instruction on prevention of complications.
- An experimental study can be undertaken with a control group for effective comparison of the result.

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