

“Evaluate The Effectiveness of Self-Instructional Module on Knowledge Regarding Cast and its Management Among Fracture Patient Admitted In Orthopedic Ward in Selected Hospitals Udaipur City, Rajasthan.”

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Abstract :A quasi experimental One group pre-test post-test study to assess the effectiveness of Self Instructional Module on knowledge regarding cast and its management among fracture patients in selected hospitals at Udaipur City, Rajasthan by using convenient sampling technique. The tool comprised of by using structured knowledge questionnaire. The pretest was conducted and the Self Instructional Module was administered. The post test was conducted after one week .The data obtained were analyzed by using differential and inferential statistics. The mean post-test knowledge score is 21.54 (71.73%) was greater than the mean pre-test knowledge score 11.05 (36.83 %).The enhancement in the knowledge of respondents was 10.49 (34.90 %) . The data further represents that the ‘z’ value of 32.90 was significantly higher than the table value 1.96 at 0.05 level. This indicates that there was a difference in the pre-test and post-test knowledge score of respondents and the self-instructional module was effective in improving the knowledge score of regarding cast and its management among fracture patients.

Key words – Self Instructional Module, Knowledge, Cast, fracture Patients.

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I. Introduction

Broken bones are one of the commonest orthopedic injuries. Fracture requires management that may as simple as rest or as invasive as surgery. Immobilization of broken bone with plaster cast is one of the most important management out of splints, braces and slings .Plaster cast is also known as orthopedic cast .Plaster cast is a shell made up of plaster or fiberglass that encasing a limb in order to stabilize and support the anatomical part specially broken bones in place during healing and to prevent or correct deformities. Plaster cast consists of a cotton bandage that has been combined with plaster of Paris (calcined gypsum) which become harder after it has been made wet. Now a days bandages of synthetic material is used as a plaster cast known as thermoplastic. Plaster cast have several complication such as deep vein thrombosis, compartment syndrome, soft tissue swelling, pressure sore and venous congestion. Therefore it is important to do the care of plaster cast by nurses as well as by patients himself. It is important to teach the patient about care of casted limbs (keep the caste dry), nutritional aspects (protein and calcium rich diet), exercise (flexion, extension and rotation).Patient on plaster cast need special concern to care himself to promote health mentally as well as physically being. From the researcher own experience many of the fracture patients who got admitted in orthopedic ward were improper casting which permits motion between the bone parts, prevent healing and repair of bone with possible deformity, and finally which has a risk in reoccurrence of injury

II. Research Elaborations

Statement of problem –

“Evaluate the effectiveness of self-instructional module on knowledge regarding cast and its management among fracture patient admitted in orthopedic ward in selected Hospitals Udaipur city, Rajasthan.”

III. Objectives

1. To assess the knowledge score regarding cast and its management among fracture patient.

2. To evaluate the effectiveness of self-instructional module on knowledge regarding cast and its management among fracture patient.
3. To find out the association between pre-test knowledge score with selected socio-demographic variables.

IV. Hypothesis

H₁ -There is a significant difference between pre-test and post-test knowledge score regarding cast and its management.

H₂ -There is a significant association between pre-test knowledge score with selected socio-demographic variables

V. Materials and Methods

Population – Fracture Patients

Sample-Fracture Patients in selected hospitals at Udaipur City.

Sample Size – 120 Fracture Patients.

Setting –Geetanjali and Pacific Medical College and Hospital, Udaipur Rajasthan, India

The conceptual framework for the present study was based on WHO System Model.

VI. Research Design

The research design selected for the present study was a Pre-experimental (one group pre-test post-test research design).

Group	Pre-test	Intervention	Post-test
	O ₁	X	O ₂

Table 1 :Quasi experimental one group pre test and post-test research design.

The interpretations of the symbol are as below:

O₁ = Assessment of knowledge by pre-test.

X= Self Instructional Module on cast and its management among fracture patient.

O₂ = Assessment of knowledge by post-test.

Ethical Consideration

After obtaining permission from research committee of Geetanjali College of Nursing, prior permission was obtained from nursing superintendent and medical superintendent of Geetanjali and Pacific Medical College and Hospital, Udaipur Rajasthan, India.Consent was taken from each participant who had participated in the study.

Description Of The Tool

The structured knowledge questionnaire consisted of two parts i.e .Part –I & II .

Part I: Consist of selected demographic variables are age, gender, habitat, educational qualification, Occupation, dietary pattern, duration of having cast, previous information, regarding cast and its management among fracture patients.

Part II: Consist of structured knowledge questionnaire on cast and its management among fracture patient. This section consists of 30 items on selected aspects. The selected aspects are:

- Introduction regarding fracture (06)
- Introduction regarding cast (06)
- Knowledge regarding nutrition (02)
- Knowledge regarding cast care(09)
- Complication regarding cast & its management (07)

Each items had only one correct response and each correct response was scored one. The total possible score of the structured knowledge questionnaire was 30. The same questionnaire was used for the assessment of knowledge level in pre and post-test.

Data Collection and Data Analysis

The data was presented under the following sections

Section I: Description of socio-demographic variables of Respondents.

Section II: Findings related to area wise knowledge scores of respondents regarding cast and its management among fracture patient

Section III: Findings related to association between pre-test knowledge score with selected socio-demographic variables.

VII. Result

Table 2: Area wise pre-test knowledge score of respondents cast and its management among fracture patient. N=120

Area	Maximum Score	Mean	Mean Percentage (%)	Standard Deviation
Introduction regarding fracture	6	2.33	7.75	0.87
Introduction regarding cast	6	2.14	7.13	0.89
Knowledge regarding nutrition	2	0.75	2.50	0.61
Knowledge regarding cast care	9	3.14	10.47	1.33
Complications of plaster cast and its management	7	2.96	8.97	1.39
Total	30	11.05	36.83%	3.05

Table 2 projected that in pre-test the maximum mean percentage obtained by the respondents was 10.47% with SD of 1.33 in the aspect of knowledge regarding cast care, 8.97% with SD of 1.39 in the aspect of law of complications of plaster cast and its management, 7.75% with SD of 0.87 in the aspect of introduction regarding fracture, 7.13% with SD 0.89 in the aspect of introduction regarding cast, 2.50% with 0.61 in the aspect of knowledge regarding nutrition.

Table 3: Area wise post-test knowledge score of respondents cast and its management among fracture patient. N=120

Area	Maximum Score	Mean	Mean Percentage (%)	Standard Deviation
Introduction regarding fracture	6	4.40	14.69	0.93
Introduction regarding cast	6	4.40	14.69	0.62
Knowledge regarding nutrition	2	1.49	0.49	0.60
Knowledge regarding cast care	9	6.32	21.08%	1.38
Complications of plaster cast and its management	7	4.91	16.38	1.14
Total	30	21.52	71.73	1.82

Table 3 projected that in post-test the maximum mean percentage obtained by the respondents was 21.08% with SD of 1.38 in the aspect of knowledge regarding cast care, 16.38% with SD of 1.14 in the aspect of complications of plaster cast and its management, 14.66% with SD of 0.93 in the aspect of introduction regarding fracture, 14.69% with SD 0.62 in the aspect of introduction regarding cast, 1.49% with 0.49 in the aspect of knowledge regarding nutrition.

Table 4: Distribution of respondents by the Level of Knowledge cast and its management among fracture patient.

Level of knowledge	Score	Frequency		Percentage (%)	
		Pre-test	Post-test	Pre-test	Post-test
Inadequate knowledge (0-50%)	0-15	101	00	84.16	00
Moderately knowledge (51-75%)	16-23	19	6	15.84	05
Adequate knowledge (76-100%)	24-30	00	114	00	95
Total	30	120	120	100	100

Table 4 depicted the pre-test and post-test knowledge level of cast & its management among fracture patients.. The result showed that in pre-test none of the respondents had adequate knowledge, 15.84% had moderately knowledge, and 84.16% had inadequate knowledge and in post-test 95% had adequate knowledge, 5% had moderately knowledge and none of the respondents had inadequate knowledge regarding use of self-instructional module on cast & its management among fracture patients.

Table 5: Effectiveness of self-instructional module regarding cast and its management among fracture patient. N=120

Knowledge score	Mean	Mean Percentage (%)	SD	Enhancement	Enhancement Percentage (%)	df	Z Value	Inference
Pre-test	11.05	36.83%	3.05	10.49	34.90%	119	32.44	S
Post-test	21.54	71.73%	1.82					

Table 5 revealed that the mean post-test knowledge score is 21.54 (71.73%) is greater than the mean pre-test knowledge score 11.05 (36.83%). The above table also depicted that the enhancement in the knowledge of respondents is 10.49 (34.90%) supporting the post-test knowledge score are higher than the pre-test knowledge score. The data further represent that the ‘z’ value of 32.44 was significantly higher than the table value 1.96 at 0.05 level. This indicates that there was difference in pre-test and post-test knowledge score of respondents and self-instructional module was effective in improving the knowledge score of cast & its management among fracture patients.

H₁: There was a significant difference between the pre and post-test knowledge score of cast & its management among fracture patients. A hypothesis was tested at 0.05 levels. The calculated ‘z’ value 32.44 was significantly higher than the table value 1.96 at 0.05 level. This indicates that there was significant difference between pre-test and post-test knowledge score. Hence, the research hypothesis **H₁** was accepted.

H₂: There is a significant association between pre-test knowledge score with selected socio- demographic variables.

The chi-square test was carried out to determine the association between the pre-test knowledge score with selected socio-demographic variables such as age, gender, habitat, educational qualification, Occupation, dietary pattern, duration of having cast, previous information regarding care of cast & its management among fracture patients.

There was a significant association between pre-test knowledge score with selected socio-demographic variables such as age (25.88*), gender (8.71*), education (10.91*), dietary pattern (7.18*) and source of previous information (11.83*) were found to be significant associated with pre-test knowledge score at 0.05 level and occupation, habitat, duration of having cast were not found to be significant associated with pre-test knowledge score at 0.05 level. Hence, research hypothesis **H₂** was accepted.

VIII. Conclusion

The overall comparison of pre and post-test knowledge scores on cast and its management among fracture patient shows that the mean post-test knowledge score is 21.54 (71.73 %) was greater than the mean pre-test knowledge scores 11.05 (36.83 %). The enhancement in the knowledge level of respondents was 10.49 indicates gain in knowledge by respondents. The data further represent that the Z value of 32.44 was significantly higher than the table value at 0.05 level. This indicates that there was significant difference in pre-test and post-test knowledge score of respondents and that the self- instructional module was effective in improving the knowledge level of cast and its management among fracture patient

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