



Assess the Effectiveness of Planned Teaching on Assisting Self-care Activities of Patients with Plaster of Paris Casts of Lower Extremities among Caregivers

Amruta Kothe^{1*}, Aarti Raut¹ and Sheetal Sakharkar¹

¹Department of Medical Surgical Nursing, Shrimati Radhikabai Meghe Memorial College of Nursing, Datta Meghe Institute of Medical Sciences, Sawangi (M), Wardha, India.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i47A33060

Editor(s):

(1) Dr. Ana Cláudia Coelho, University of Trás-os-Montes and Alto Douro, Portugal.

Reviewers:

(1) N. Veena, Bangalore University, India.

(2) Dushad Ram, Shaqra University, KSA.

Complete Peer review History: <https://www.sdiarticle4.com/review-history/74756>

Study Protocol

Received 20 July 2021
Accepted 30 September 2021
Published 29 October 2021

ABSTRACT

Aim of the Study: To assess the effectiveness of planned teaching on assisting self-care activities of patients with plaster of Paris casts of lower extremities among caregivers.

Study Design: The design that will be used in the study is One Group Pretest Posttest research design.

Methodology: A study used a pre-test post-test design with no control group and a pre-experimental design. The impact of planned teaching on assisting self-care activities of patients with plaster of Paris casts of the lower extremities among caregivers will be assessed using the purposive sampling technique. In this study Evaluatory research approach will be used. Selected 100 caregivers of patients with plaster of Paris cast of lower extremities will be assessed primarily for knowledge in assisting self-care activities by structured questionnaires and then planned teaching will be given to the selected sample developed by researcher as intervention.

Expected Results: To assess the effectiveness of planned teaching on assisting self-care activities of patients with plaster of Paris casts of lower extremities among caregivers. In this study the planned teaching will be useful in improving the caregivers knowledge in assisting selfcare activities.

Conclusion: The conclusion will be drawn from the results and will be published in per review journal.

Keywords: Effectiveness; planned teaching; knowledge; caregivers.

1. INTRODUCTION

1.1 Focus on the Ability and not on the Disability

The skeleton is made up of many types of bones that give stability and mobility. Fractures occur as a result of any factor that compromises the integrity of the bones. A fracture is a break in the continuity of bone that is characterised by the type and amount of the break [1]. A direct hit, crushing force, quick twisting motion, or even intense muscle contraction can all produce a fracture. When a bone is broken, it causes soft tissue edema, haemorrhage into the muscle and joints, joint dislocation, burst tendons, and blood vessel injury in the surrounding structures. Fracture fragments may cause harm to internal organs [2].

The plaster of Paris technique is a versatile and useful material. Plaster bandages and other necessities can be packed into a small space and only a pail of water is required. Immobilization, support, correction of deformity, and promotion of broken bone union are the basic functions of a plaster of Paris cast [3]. The plaster of cast is used to immobilise the patient. When a cast is applied, the nurse must provide patients and their carers instructions on how to care for the plaster of the cast and how to avoid complications including cyanosis, tingling, necrosis, and infection. When a long cast is used, the caretakers should be taught how to care for the cast's plaster [4].

1.2 Background of the Study

The musculoskeletal system is the body's largest organ system when taken as a whole. It provides defence, support, movement, mineral storage, and heat production, among other things. Although musculoskeletal system issues are not life threatening, they nevertheless have a major influence on one's usual activity and productivity. Bones give the body its shape and stability. While walking or engaging in other activities, the hip bones control and bear almost all of the body weight. Any break in the hip bones, particularly

femur deformity, will force people to rely on others for everyday activities, physical care, and so on. These will cause a person's self-esteem to suffer. A person with a femur fracture has considerable discomfort and is unable to move his body part on his own. Finally, it causes consequences such as deep vein thrombosis, muscle weakening, limb shortening, and compromised skin integrity in the patient [5].

When a patient is immobilised during the treatment of a fracture, complications such as total deep vein thrombosis, embolism, and muscle and joint changes with resulting deformity or limitation of function, impaired skin integrity, movement in capabilities, self-care deficit, and urinary tract complications are possible complications. To avoid these issues, rehabilitation after hip fracture surgery should preferably begin on the first postoperative day, with ambulation progressing as tolerated [6].

The selected study is supported by the study "To determine the effectiveness of structured teaching programme on self-care among patients with casted limb in RMMCH, Chidambaram." The researchers utilized a pretest and posttest design with only one group. The pretest showed that prior to the framework instruction programme, the knowledge of POP cast self-care management was (100%) inadequate. Following a planned teaching programme, 30% of students are fairly adequate, and 70% are adequate. Between the pretest and posttest, there was a considerable increase in patient knowledge. The study's findings led to the following conclusions: the patient had insufficient understanding of self-care management of a POP casted leg in the pre-test period. The knowledge score improved after the administration of a structured education programme. As a result, the teaching programme enhanced knowledge of self-care management among immobilized patients. As a result, teaching correct and systematic knowledge on fracture care and follow-up to patients caregivers as they are responsible for taking care of and assisting the patient who is immobilised with gaining active participation in their treatment and controlling various problems in patients [7].

1.3 Need of the Study

Current trends in population expansion, industrialisation, and urbanisation in the developing world are putting significant strain on the transportation network, particularly the road system. Congestion, pollution, and injuries and deaths as a result of traffic accidents are some of the unwelcome consequences of this increase in traffic. According to the WHO, road traffic accidents take the lives of 6, 00,000 people each year and injure over fifteen million more. Patients with fractures require long-term hospitalisation and open or closed reduction treatment. Plaster of Paris casts and splints are used to produce closed reductions. Mobility is restricted by fractured limbs and parts [8].

Impaired blood flow, nerve damage, necrosis, infection cast syndrome, and other complications associated with prolonged immobility include foot drop, rigidity of joints, and pressure ulcer. Clients with a cast limb face challenges as a result of their lack of understanding, resulting in significant physical, social, psychological, and financial losses. Planned instruction becomes a critical component in equipping caregivers with the knowledge and skills they need to care for the client, avoid complications, and improve bone healing [9].

Caregivers of clients with plaster of Paris casts have inadequate knowledge of how to assist them in self-care chores [10]. Nurses play a critical role in preventing future complications by training caregivers on how to help with self-care. Caregivers are unaware of these complications and provide insufficient care, resulting in unwelcome complications such as poor joint fit, aseptic necrosis, and poor nutrition. Caregivers are responsible for taking care of and assisting the patient while he or she is immobilised. In the setting of the study the patient is unable to do their daily activities that leads to severe complication due to knowledge deficit of caregivers. So as it is very essential to plan a teaching program for caregivers on assisting self care activities to prevent from these complications [11].

1.4 Problem Statement

To assess the effectiveness of planned teaching on assisting self-care activities of patients with plaster of Paris casts of lower extremities among caregivers.

1.5 Objectives

1. To assess the existing knowledge of care givers in assisting self-care activities.
2. To evaluate the effectiveness of planned teaching on knowledge of caregivers in assisting self-care activities of patient with plaster of Paris lower extremities
3. To associate between the knowledge score with selected demographic variables.

2. METHODOLOGY

2.1 Research Approach

The research approach used in the study will be Evaluatory research approach.

2.2 Research Design

The research design adopted for study is a one group pretest posttest design.

2.3 Setting of the Study

Setting refers to the area where the study is conducted. The setting of the study is selected hospital.

2.4 Population

Population refers entire aggregation of cases that meet a designated of criteria. In this study the population comprised of Caregivers of patient with Plaster of Paris cast lower extremities.

2.5 Target Population

Caregivers of patient with Plaster of Paris cast lower extremities.

2.6 Accessible Population

Caregivers of patient with Plaster of Paris cast lower extremities in selected hospitals of Wardha.

2.7 Sample

The sample for the present study comprised of caregivers of patient with Plaster of Paris cast lower extremities in selected hospital.

2.8 Sample Size

The sample size selected for this study is 100.

2.9 Sampling Technique

Non probability purposive sampling technique is used in the study.

2.10 Criteria for Sample Collection

2.10.1 Inclusion criteria

1. The study includes both male and female caregivers of patients with POP cast of lower limb and those who are cooperative.
2. Caregivers of patient with Plaster of Paris cast willing to participate and available at the time of data collection.

2.10.2 Exclusion Criteria

1. This study excludes the caregivers of patient of Plaster of Paris cast other than lower limb.

2.10.3 Variables

1. **Independent variable:** Planned teaching on assisting self care activities to the caregivers of patient with Plaster of Paris cast
2. **Dependent variable:** knowledge of caregivers on assisting selfcare activities

2.11 Tool for Data Collection

- a. Structured response sheet for Demographic data, which gives baseline information such as age, gender, educational status, occupation, marital status, income and dietary pattern.
- b. Structured Questionnaires related to Physical Mobility Assistance by using Crutches and walkers, Care Of Pressure Points, Elimination Needs, Assistance in

Feeding and Maintenance of Plaster Of Paris Cast.

2.12 Validity

In order to obtain content; the tool will be given to experts. After receiving opinions of the experts, certain modification will be done as per their suggestion, same were incorporated into the tool and thus the validity of the tool will be confirmed.

2.13 Method of Data Collection

The research will be carried out among caregivers of patient with Plaster of Paris cast lower extremities; after obtaining their consent, the tool will be translated in Marathi and Hindi and then data collection will be gathered in which the existing knowledge data will be collected prior of giving intervention by using Structured Questionnaire along with demographic data sheet and then planned teaching will be conducted by using various audio visual aids and on the same day Posttest by using same tool data will be collected to assess the effectiveness of planned teaching on knowledge regarding self care activities among caregivers of patient with Plaster of Paris cast lower extremities.

2.14 Randomization

All the caregivers of patients with plaster of Paris cast will be assigned randomly by sequential numbered system.

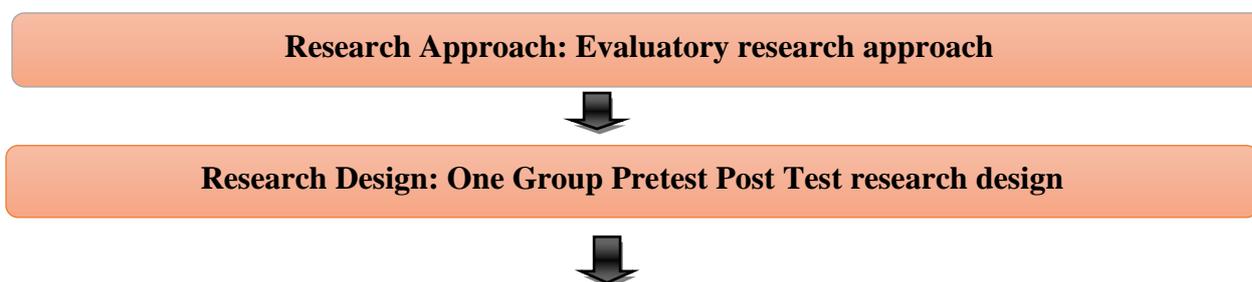
2.15 Intervention

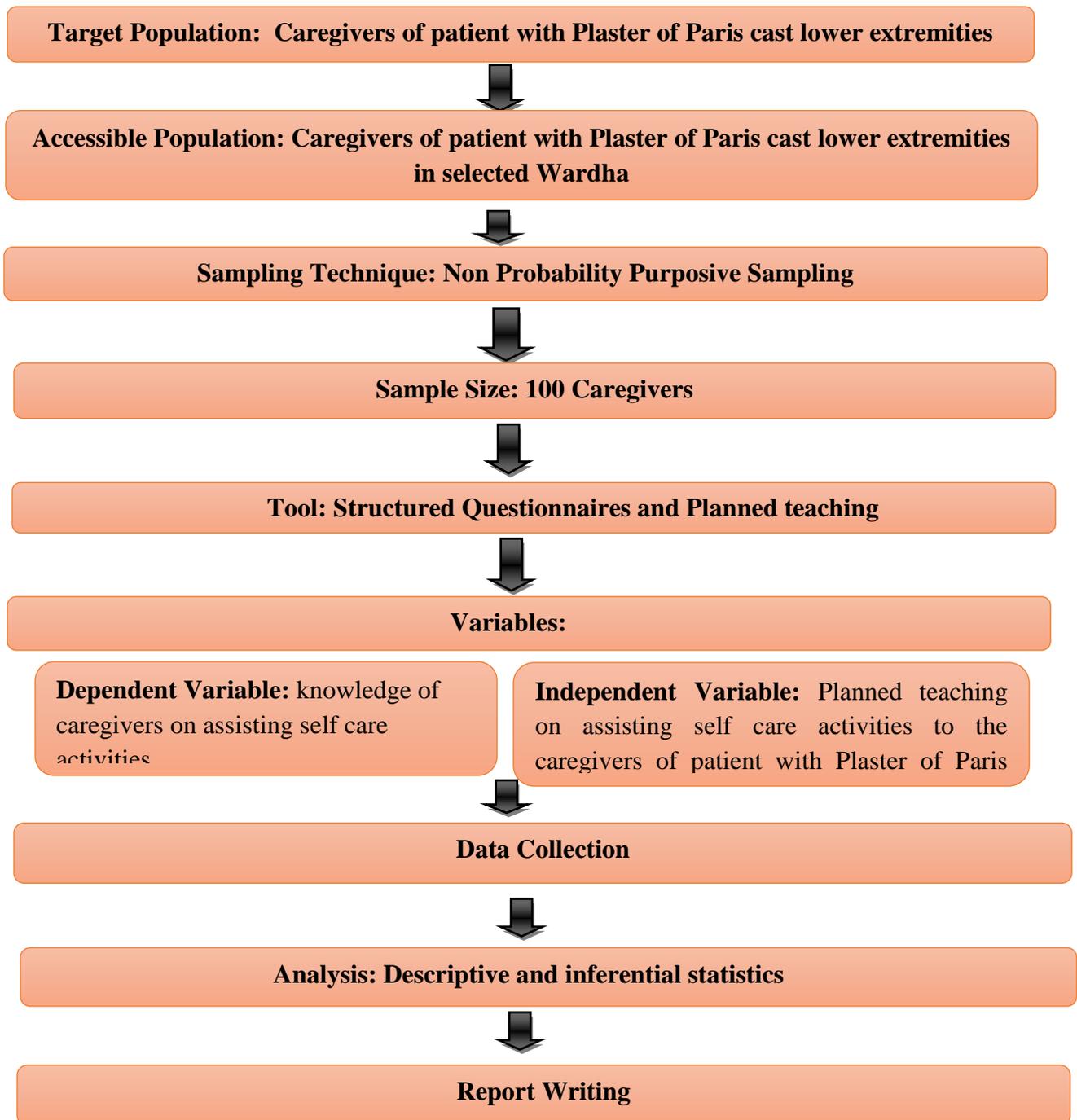
Assess the knowledge under the guidance of the Assistant Professor of Medical Surgical Nursing.

2.16 Statistical Analysis

Statistical analysis done by descriptive and inferential statics with the help of excel 2019 and SPSS 25 software.

Fig. 1. Flowchart of Sample analysis





3. EXPECTED OUTCOME / RESULTS

The purpose of this study is to assess the effectiveness of planned teaching is at supporting caregivers with self-care activities for patients with plaster of paris casts on their lower extremities. Planned teaching will be useful in improving the respondents' knowledge.

4. DISCUSSION

A study is supported through the studies conducted worldwide. According to Mrs. K. Saroja, Mrs. S. Poonguzhali, et.al (in 2011). A study was carried out to see how efficient a structured teaching programme regarding preventing specific complications in immobilised

orthopaedic patients. One group pre-test and post-test without a control group is used. In this study pre-experimental research design and a non-probability sampling technique with purposive sampling used. Researcher has taken 50 immobilized orthopaedic patients and gathered information by using structured interviewed schedule and implemented structured teaching program regarding prevention of complication. Outcome, the respondents were not having knowledge about prevention of complication, using structured teaching program has improved their knowledge about prevention of complication and recommendation is improving knowledge of caregivers as immobilized patient needs assistant to prevent complication [12]. Hence, the current study aims to assess the effectiveness of planned teaching on assisting self-care activities of patients with plaster of Paris casts of lower extremities among caregivers. Similar related studies on prevention of complication were reported. Study on Activities of daily living and determinants factors among older Adult subjects with lower body fracture after discharge from hospital reported by Nurul Izzah Ibrahim, Mohd Sharkawi Ahmad et.al. (2018). Similarly studies reported by Barberi S, Mielli L., Swati Kambli [13].

5. CONCLUSION

Final conclusion will be drawn from final result of the statistical review.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

Study was approved by the Institutional Ethics Committee (letter no –DMIMS (DU)/IEC/2021/305) and the study will be conducted in accordance with the ethical guidelines prescribed by institutional Ethics Committee on Human Research.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Bone fracture. In: Wikipedia [Internet]. 2021 [cited 2021 Jun 16]. Available: https://en.wikipedia.org/w/index.php?title=Bone_fracture&oldid=1027799747
2. Musculoskeletal conditions [Internet]. [cited 2021 Jun 16]. Available: <https://www.who.int/news-room/fact-sheets/detail/musculoskeletal-conditions>
3. Mersal F. Caregivers' Knowledge and Practice Regarding Prevention of Immobilization Complications in El-demerdash Hospital Cairo Egypt. *Am J Res Commun.* 2014;2.
4. Barberi S, Mielli L. Rehabilitation and Discharge. In: Hertz K, Santy-Tomlinson J, editors. *Fragility Fracture Nursing: Holistic Care and Management of the Orthogeriatric Patient* [Internet]. Cham (CH): Springer; 2018 [cited 2021 Jun 16]. Available: <http://www.ncbi.nlm.nih.gov/books/NBK543828/>
5. Health (US) NI of, Study BSC. Information about the Musculoskeletal and Skin Systems [Internet]. NIH Curriculum Supplement Series [Internet]. National Institutes of Health (US); 2007. Available: <https://www.ncbi.nlm.nih.gov/books/NBK20361/>
6. Information NC for B, Pike USNL of M 8600 R, MD B, Usa 20894. Deep vein thrombosis (DVT): Overview [Internet]. InformedHealth.org [Internet]. Institute for Quality and Efficiency in Health Care (IQWiG); 2017 [cited 2021 Jun 16]. Available: <https://www.ncbi.nlm.nih.gov/books/NBK425364/>
7. Mears SC, Kates SL. A Guide to Improving the Care of Patients with Fragility Fractures, Edition 2. *Geriatr Orthop Surg Rehabil.* 2015;6(2):58–120.
8. Guerado E, Bertrand ML, Cano JR, Cerván AM, Galán A. Damage control orthopaedics: State of the art. *World J Orthop.* 2019;10(1):1–13.
9. 300127511saroja.pdf [Internet]. [cited 2021 Jun 16]. Available: <http://repository-tnmgrmu.ac.in/2786/1/300127511saroja.pdf>
10. Johansson K, Salanterä S, Katajisto J, Leino-Kilpi H. Patient education in orthopaedic nursing. *J Orthop Nurs.* 2002;6:220–6.

11. Oyemade GA. The correction of primary knee deformities in children. *Int Orthop.* 1981;5(4):241–5. Available: <https://ajner.com/AbstractView.aspx?PID=2014-4-2-5>
12. Asian Journal of Nursing Education and Research [Internet]. [cited 2021 Jun 16].
13. Evaluation of Nutritional Status in Fracture Healing of Elderly Patients Aaqib Qureshi 1, Gajanan Pisulkar.

© 2021 Kothe et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<https://www.sdiarticle4.com/review-history/74756>