

EFFECTIVENESS OF ORTHOPEDIC REHABILITATIVE NURSING CARE ON WELLBEING OF PATIENTS WITH LOWER LIMB FRACTURES IN SELECTED HOSPITALS AT PUDUCHERRY

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ABSTRACT

Lower limb fracture is one of the commonest fractures acquired by an individual in any road traffic accidents in India. It presents to be a huge burden for individual and family to come out of such situation and it also significantly affects one social, mental, spiritual and daily activity of living. Rehabilitation of the client with fracture is one of the main approaches in recovering the individual from lower limb fracture. A nurse initiated orthopedic rehabilitation programmed was implemented among 32 clients with lower limb fracture during post operative period and tested its efficacy on social, mental, spiritual and activities of daily living. Data were collected at baseline and four times after surgery and analyzed using SPSS software. The results showed a significant improvement in all the outcome score in every post test score. Orthopedic rehabilitation programmed seems to be a promising therapy for clients with lower limb fracture in their overall recovery.

Keywords: *Rehabilitation, Orthopaedic, Fracture, Femur*

INTRODUCTION

Health as defined by each person integrates all the human dimensions physical, intellectual, emotional, sociocultural, spiritual and environmental aspects of the whole person. The nurse giving holistic nursing care must be equally considered all these inter-related and interdependent dimensions of the whole person. Rehabilitation is the process of achieving maximum restoration of physical, psychological and social function and it must be carefully planned and executed. It should be goal directed and based on a thorough assessment of the patient's medical, functional and psychosocial status.

India has 6% of the total accident in the world. The annual incidence are highest among school and the graduate students, 62.2 % had lower limb fracture followed by accident, superficial injuries were most common in 47.4%, crush injuries 14.1% and concealed injuries 12.4%. Majority of the injured victims 92.4% had treatment within 6 hours while 70% availed treatment within one hour after injury. Treatment of clients with lower limb fracture mostly focus on acute managements like reducing the fracture or implanting any prosthetic devices. Often the client and their family face a great deal of problems during their treatment including loss of social contact, economical stability, spiritual assistance and dependency to do their daily activity of living. Mostly hospital treatment neglects the holistic management of patients in all the above specified areas. Studies done in past hardly focused on rehabilitation programme for these clients. Nurses being the frontline care provider are obliged to care clients in the rehabilitation process. In view of the above facts in mind, the investigator chosen this study to assess the efficacy of orthopedic rehabilitation programmed for clients with lower limb fracture on select outcomes such as social, mental, spiritual well being and activities of daily living.

MATERIALS AND METHODS

The present study was conducted in a tertiary care hospital of puducherry on the month of May 2014. The current study adopted a quantitative research approach with a one group pretest and post test design. For the study, clients with fracture femur who underwent open reduction and internal fixation were approached using convenient sampling technique. Clients with fracture femur who underwent open reduction with internal fixation alone were recruited and clients with multiple fractures, with pin traction

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and external fixation and who are not willing to participate in the study were excluded. All eligible subjects were approached and explained about the study with informed consent. A total of 32 subjects were finally included in the study. The study was conducted in the post operative orthopaedic ward of the select hospital.

Implementation of Intervention

The study protocol involved implementing an orthopaedic rehabilitation programme, in areas like social, spiritual, mental and activity of daily living of the clients with femur fracture. The implementation involved early ambulation with weight bearing exercises, and isometric exercises to improve the physical wellbeing, the family members and friends are involved with family counseling in order to improve the social well-being, Bensons relaxation therapy to improve mental well-being and meditation by telling mantras in order to improve spirituality. The main outcome measure was domains of social, spiritual, mental and activities of daily living. Pretest assessment of aforesaid domains were done at 48 hours after surgery and post test were done at 5th, 10th, 15th and 20th day following open reduction and internal fixation. Data collected were abstracted in spread sheet and analyzed using appropriate descriptive and inferential statistics using SPSS software. The alpha value of less than 0.05 was set as level of significance.

RESULTS AND DISCUSSION

Results

Of the total 32 subject's majority belonged to the age group between 40-49 (43.7%). Male and female subjects were equal in number i.e. 50% each. In relation to the educational status 34.4% of the people had completed primary and secondary education. Further details of demographic characteristics can be seen in Table 1.

Table 1: Demographic characteristics of the subjects (n=32)

| Demographic data | Frequency | Percentage |
|------------------------------|-----------|------------|
| 1.Age(in years): | | |
| 20-29 | 5 | 15.6 |
| 30-39 | 6 | 18.7 |
| 40-49 | 14 | 43.7 |
| 50 yrs and above | 7 | 21.8 |
| 2.Gender: | | |
| Male | 16 | 50 |
| Female | 16 | 50 |
| 3.Religion: | | |
| Hindu | 22 | 68.8 |
| Muslim | 5 | 15.6 |
| Christian | 5 | 15.6 |
| 4.Educational status: | | |
| Not educated | 8 | 25 |
| Primary | 11 | 34.4 |

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| | | |
|-----------------------------|----|------|
| Secondary | 2 | 6.2 |
| Graduate | 11 | 34.4 |
| 5.Occupation: | | |
| Coolie | 11 | 34.4 |
| Moderate | 15 | 46.9 |
| Secondary | 6 | 18.7 |
| 6.Income : | | |
| Below Rs.12000 | 15 | 46.9 |
| Rs.12000-1lakh | 7 | 21.9 |
| Above 1 lakhs | 10 | 31.2 |
| 7.Marital status : | | |
| Married | 26 | 81.6 |
| Unmarried | 5 | 15.6 |
| Widow | 1 | 3.2 |
| 8.Persional habits: | | |
| Smoking | 12 | 37.5 |
| Alcoholism | 2 | 6.25 |
| Drug user | 2 | 6.25 |
| Not applicable | 16 | 50 |
| 9.Residential areas: | | |
| Rural | 15 | 46.9 |
| Urban | 14 | 43.8 |
| Semi urban | 3 | 9.3 |

Table 2: Repeated measures ANOVA of the post test scores

| Domains | Pre test | Post test I | Post test II | Post test III | Post test IV | p Value |
|-----------------------------------|----------|-------------|--------------|---------------|--------------|---------|
| Social well being | 14.5±0.8 | 26.2±1.3 | 35.8±2.3 | 42.4±1.3 | 45.5±1.8 | 0.001 |
| Spiritual well being | 23.8±1.3 | 45.9±2.1 | 69.5±3.05 | 89.6±3.3 | 114±4.7 | 0.001 |
| Mental well being | 15.6±1.2 | 30.6±2.2 | 43.9±2.1 | 54.03±2.4 | 63.9±2.2 | 0.001 |
| Activities of daily living | 0.5±0.4 | 2.7±0.5 | 2.8±0.47 | 3.5±0.57 | 7.8±0.51 | 0.05 |

As seen in above table there was a stable increase in the social, spiritual, mental and activity of daily living domain score from pre test and in post test I, II, III, IV scores. While trying to associate the score from pres test to all post test score using repeated measures ANOVA every domains showed a significant improvement from the pre test scores. The current study also tried to find association between the major

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domains score with the demographic variables but no significant association was found between the any of the variables.

Discussion

The present study was a one group pre test post test design study done among 32 clients with fracture femur in a tertiary care hospital of puducherry. Of the total 32 subjects majority of them belonged to the age group of 40-49(43.7%). Male and female subjects occupied equal in numbers. The study mainly aimed to test an intervention for clients with lower limb fracture i.e. fracture femur. Orthopedic rehabilitation is a broad area since; clients with orthopedic fracture may face a lot of problem like social isolation, mental health issues, spiritual detachment and impaired activities of daily living. Hence the study adopted a holistic intervention to improve their social, spiritual, and mental and activities of daily living scores. This study is the first of its kind to be conducted in Indian setting as these areas are mostly neglected. This adds strength to the study. The social involvement of the clients with lower limb fracture significantly improved from the pre test score. This finding was comparable with the finding of Bravis *et al.*, (2012) in a danish series.

Social component is very essential for any person as it contributes to establishment of self confidence on the part of clients with femur fracture, thereby improvement in their overall health. Spiritual aspect of client with lower limb fracture is never done in any previous study, but the current study found an improvement in spiritual well being score for the baseline. Spiritual aspects of the clients are very essential for improvement in their health, as stressed by World Health Organization (WHO), this adds in further strength to our study. The possible limitation in the present study is one group pre test post test design, which we tried to overcome by having many post test evaluation.

Conclusion

The present study was conducted to assess the effectiveness of orthopaedic rehabilitative nursing care on wellbeing of patients with lower limb fractures. With the available empirical evidence it is concluded that the orthopaedic rehabilitative nursing care is may be an effective intervention for improvement in , physically and socially, mentally, spiritually domain of clients with lower limb fracture.

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