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Fractured Patient's Knowledge Regarding Care and Treatment

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Abstract: ***Fifty consecutive patients of fracture attending in and outpatient services at Dr. D.Y. Patil Hospital and Research, Nerul, Navi Mumbai were interviewed using questionnaire to determine how well informed they are about their disease. Methodology: A cross-sectional survey was conducted through questionnaire regarding definition, classification, causes, clinical manifestation, complication, care and emergency management of fracture. Findings- majority of patients had, awareness of home care, emergency care, dietary care in context to fracture. Conclusion- Sincere and sustained efforts are required to impart health education to the patients and help them to participate in the self-management plans for fracture.***

Keywords: knowledge, treatment, care, patient, fracture.

1. Introduction

Bone has developed its own mechanism towards the unnatural forces and keeps itself intact. But only when the force is too large and occurs suddenly (as in road traffic accidents, falls, etc.) or when a force is chronic and repetitive (e.g. prolonged standing as in a policeman, nurse etc.) or when the natural resistance of the bone is eroded by a disease process (e.g.; tumour, infection etc.) than a bone succumbs to the insult and breaks, When it breaks, it is bounded to injure the surrounding soft tissues like muscle, ligaments etc.

Hence, fracture is a break in the surface of the bone, either across to its cortex or through its articular surface[1]. Orthopaedic fractures are a common daily acute health issue. Improper initial management of fractures can lead to significant long-term morbidity and, potentially, mortality[2]. With the burden of musculoskeletal disease at the forefront of health care worldwide, the World Health Organization (WHO) declared 2000-2010 the Bone and Joint Decade. The focus on orthopaedic health has continued, with the WHO most recently declaring a "Decade of Action for Road Safety 2011-2020," recognizing that death and disability from traffic trauma is a major public health issue worldwide.

2. Need of Study

Fracture incidence is multifactorial and often complicated by such factors as the patient's age, sex, co-morbidities, lifestyle, physiological status, and occupation. In the United States, 5.6 million fractures occur each year, corresponding to a 2% incidence[3]. Almost 6000 fractures were treated in an orthopaedic trauma unit in Edinburgh, Scotland, in one year. The overall fracture incidence in the Scottish case series was 1.13% in men and 1.16% in women. Interestingly, there was a bimodal distribution of fractures in males, with a high incidence in young men and a second rise in men starting at the age of 60 years. In women, there was a unimodal distribution of fractures, with a rise around the time of menopause.

India hobbles to second place in hip fractures with 4.4 lakh people falling prey every year. Currently, India has approximately 26 million osteoporosis patients which is expected to reach 36 million by 2013. Indians have been found to have about 15 per cent lower bone density and it puts us at a greater risk of broken bones compared to Caucasians.

An **experimental study** was conducted on osteoporosis for women in India. The study included **188 women** aged 60 years and older. The data was collected by using **checklist and questionnaire**, one group pretest and post test design was used. The **results** of the study showed the intent to increase calcium in their diet. Study recommended that nurses need to plan educational programs in all settings to teach women about the risk factors, prevention, diagnosis, and treatment of osteoporosis[3]

3. Review of Literature

In this study the literature review is presented under the following headings

3.1 Knowledge regarding fracture

A descriptive study was conducted on women's knowledge on fracture at USA, 247 people aged between 22 to 70 years were selected, and data were collected by participants' responses to questions. They responded to questions about self-care practices related to risk factors and preventive behavior associated with fracture. The results of the study showed that the majority of participants had inadequate knowledge regarding risk factors and preventive measures of fracture[4]

A **descriptive study** was conducted on life-style factors for promoting bone health in osteoporosis in older women at UK**. 320 women** aged 50 years were selected. Data were collected by **postal questionnaire and telephone interviews**. The **results** of the study showed that, 92.5 per cent of women were non-smoker, had no alcohol problems and participants in regular weight bearing exercises, and

21.2 per cent women changed their diet following identification of risk of osteoporosis[5].

A **descriptive survey** was conducted to assess knowledge and practices in general population regarding the prevention and treatment of fracture at Canada, A convenience **sample of 185** were selected for the study. Measures of knowledge and practices were obtained by using a **hand-delivered questionnaire**, the **results** of the study showed that women received inadequate information about osteoporosis, possessed limited knowledge about the disease and were not taking adequate measures to prevent or treat fracture as they age.

A study was conducted on Percutaneous Treatment of Non-Union Fractures with Autologous, Culture Expanded, Bone Marrow Derived, Mesenchymal Stem Cells and Platelet Lysate. They evaluated 6 consecutive patients with chronic fracture non-unions. Patients consisted of 4 women and 2 men with treatment intervention at an average of 8.75 months post-fracture (range 4- 18 months, one patient fracture not included in calculation was >100 mo.). All treated patients received autologous, culture expanded, mesenchymal stem cells injected percutaneously via fluoroscopic guidance into the site of the fracture non-union. Fracture union was evaluated with the use of follow up high-resolution x-ray and/or CT imaging. Phenotype of the culture-expanded MSCs was evaluated and quantified by flow cytometry of surface antigens**.** The purpose of this study is to investigate the feasibility of a less invasive, percutaneous approach for the reimplantation of autologous culture expanded, bone marrow derived MSC's in platelet lysate to enhance fracture repair in recalcitrant stable non-union cases. The results of this study support the hypothesis that autologous MSC's delivered via percutaneous re-implantation may be an alternative modality for the non-operative treatment of recalcitrant non-union fractures[6].

A study was conducted to assess vitamin D nutrition status in Asian-Indian patients with fragility hip fracture. The study subjects included patients with non-traumatic hip fracture with age more than 50 years. Final analysis included 43 patients, 9 men (20.9%) and 34 women (79.0%, all postmenopausal). Out of total 43 patients, 26 patients/families could be contacted, 11 (42.3%) died within one year of surgery, of which 8 patients died within first 6 months after surgery. Two patients died within 72 hours after discharge from hospital. Of 15 patients alive one year after surgery, two were able to walk without any support while 13 were able to walk with some support (stick or walker).The study shows very high prevalence (96.7%) of vitamin D deficiency in Asian-Indian patients with fragility hip fracture. The BMD of these patients is significantly low in comparison to age and sex matched healthy controls. More fractures occurred at home than outside, with a majority of fall being in the bathroom [7].

Studies show that families routinely request information on basic facts about mental illness and its treatment, behavior management skills, and the mental health system in order to better cope with their relatives' illness. It is well recognized that the maximum impact of a psychiatric disorder is borne by the family and often leads to a complete disruption in its functioning [8]. Patients had always stressed about the role reversal with spouse and had also always the stress about the role reversal with children. Sometimes stress of changes in family responsibility [9].

Knowledge of attitudes and their functioning is of interest both theoretically and practically. No theory of social behaviour can be complete without incorporation of attitude functioning, and it is doubtful that complex social behaviour can be predicted without knowledge of attitude. To study attitudes requires that they be measured [12]

Learning is the addition of new knowledge and experience Interpreted in the light of past knowledge and experience. Teaching and learning is an integral part of nursing. Nurses have the responsibility to educate patients related to various aspects and keep themselves updated. Various teaching strategies are used to increase knowledge, such as lecturing, demonstration, discussion and self-education. These methods of self-education has an advantage over the others as the learner can educate himself at his own pace and it also stresses on rereading [13]

4. Methodology of Research

Research methodology involves the systematic procedure by the researcher which starts from the initial identification of programme to its final conclusion [11].

a) **Research design:**
A descriptive study was adopted for the study. Survey was carried out for purpose of providing an accurate portrayal of a group of subjects with specific characteristics. This study is intended to ascertain the knowledge of patients regarding fracture.

b) **Dependent variable:**
In this study, the dependent variable is the knowledge regarding fracture.

c) **Extraneous variable:**
In this study, the extraneous variables are age, gender, educational status and duration of illness.

d) **Setting of the study:**
The setting of the study is at Dr. D.Y.Patil, Hospital and research centre, Nerul, Navi Mumbai.

e) **Population:**
Patients attending orthopaedic OPD and in-patients in orthopaedic ward in the age group of 12-50years and above.

f) **Sample:**
The sample for this study composed of 50 fractured patients in the age group 12 -50 years and above.

g) **Sampling technique:**
Purposive sampling technique was used to select the samples.

Inclusion criteria for sampling:

- Age considered is from 12 years to 50 years and above.
- Willingness of patient is considered.

Exclusion criteria for sampling:

- Patient who are not willing.
- Age group below 12 years.

Tool:

Section 1: **Baseline proforma**
It consisted of 8 items namely, age, sex, religion, marital status, personal habits, educational status, occupational and socioeconomic status.

Section 2: Structured knowledge questionnaire
Structured knowledge questionnaire consisted of 28 items covering 5 aspects on fracture. The areas included were definition, etiology, clinical manifestation, investigation, treatment, diet, exercise, medication, home and emergency management. The items were of multiple-choice type with one correct answer.

Plan for data analysis:
The data obtained in this study was entered into a master data sheet prepared by the investigator to analyse the data. The data would be analysed based on the objective and hypotheses using descriptive and inferential statistics.

5. Major findings of the study

5.1 Section 1: Sample Characteristics

The maximum group belongs to the age group of 31-50 years ie; 60% and the minimum number belongs to the age group of 12-20 years ie; 46%. The maximum number of sample is female; 54% as compared to male i.e; 46%

The maximum number in religion is 38 which belong to Hindu and the minimum number is 2 which belong to the others. The maximum number in marital status is 37 which belong to married and the minimum number is 1 which belongs to divorce. The maximum number of personal habits is 30 in tobacco and pan chewing and the minimum is 2 in none of the personal habits.

The maximum number in educational status, 28 belong to secondary and the minimum number is 4 in illiterate. The maximum number in occupational status is 27 which belong to industrial and minimum number is 3 which belong to unemployed group. The maximum number in socio-economic status is 7 which belongs to Rs,5000 to Rs,10000/- ; and the minimum number is 5 which belongs to Rs,10000/-

5.2 Section 2: Knowledge Level regarding fracture

Out of 50 fractured patients, maximum patients that is 96% had responded correctly to- definition of fracture, preferred treatment, and necessity of hospitalisation. Also maximum number of patients i.e.; 96% are not aware about different type of fractures. Whereas the minimum numbers of patients i.e.; 12% have responded incorrectly to- the time required for bone healing. . Findings were contradicts with previous studies [10].

Out of 50 fracture patients, maximum number of patient ie.68% have knowledge about taking immediate step during fracture and the minimum number of patient i.e. 48% have knowledge of actions to be avoided immediately after fracture. Out of 50 fractured patients, i.e.; 100% are aware of importance of exercise, whereas minimum number of patients i.e.; 76% know the importance of engaging in weight bearing and strengthening exercise. Out of 50 fractured patients the maximum numbers of patients i.e.; 96% have knowledge about management of prior care at home after hospitalization and the minimum number of patients i.e.; 72% had poor knowledge about diet to be followed at home. Out of 50 fractured patients, maximum number of patients i.e.;52% have knowledge about signs and symptoms of infection and the minimum number of patients i.e.; 12% had the knowledge about complications of skin traction**.** The overall knowledge of the fractured patient comes under range of good (19-24) i.e. 57%.

6. Conclusion

As the research project came to an end, awareness among samples in relation to fracture and its management is good. Awareness among the patients about fracture is the master key to reduce the global burden and improve the quality of life of the people with fracture.

7. Scope of Study

Fracture has been occurring worldwide as we enter the new millennium. More studies are needed to bring out an effective preventive intervention. The findings of the present study may be helpful for such future studies. In this context the findings of the study has valuable implications towards nursing education, administration, and research.

Nursing Education
The health care delivery system at present is giving more emphasis on the preventive rather than the curative aspect. The nursing curriculum should incorporate activities like preparation of booklets, handouts, pamphlets, and self teaching materials for the patients to carry home for further reference. In-service education should be conducted to improve the knowledge and skill of healthcare professionals. Nursing students should be prepared to and motivated to conduct health teaching programmes.

The study also implies that health personnel have to be properly trained on how to prepare information booklets to teach the public regarding fracture. The information booklet developed can be used for educating nursing students and health workers to equip them with necessary knowledge and to educate community regarding Fracture.

The nursing students should be made aware of their responsibility in the prevention of fracture. Nurses can conduct health camps, Research and teaching on prevention of Fracture. The traditional system of nursing education

considers nursing as giving care and not to make the patients of family members participate. Therefore a need is felt for changing the knowledge and attitude of nurses towards helping patients and becoming their partners in health care.

Nursing Practice

Learning is an active goal directed process transforming knowledge skills and values into new behavior. Nurses should carefully assess the learners, set the teaching environment, develop good rapport and communication and maintain appropriate documentation. Nurses can work as a school health nurse to increase the communication. Nurses have a major role in the preventive aspect than the curative aspect.

Nursing Administration

The findings of the study could be made use of by health personnel holding administrative position to formulate policies and make necessary changes in health care delivery systems. Nursing administrators should make arrangements for providing educational programmes to the patients, relative and caregivers. They should provide sufficient money, manpower, materials and time to conduct the programme.

More awareness programmes could be organized and information can be disseminated through media, newspapers, magazines, television, and the internet. Adequate administrative support may be provided to conduct such activities. Periodic surveys should be conducted to find out the prevalence or severity of fracture and causative factors.

Nursing Research

The ultimate goal of any profession is to provide its clients with maximum, effective and efficient services. A profession seeking to improve the practice of its members and to enhance its professional stature, strives for the continual development of a relevant body of knowledge. Nurses need to engage in multidisciplinary research so that it will help to improve the knowledge and by applying it, health problems can be solved. The need of the patients with Fracture have to be explored to prepare effective teaching methods thereby contributing to effective and quality nursing care.

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