

**THE DEMOGRAPHIC STATUS OF PATIENTS WITH SUBTROCHANTERIC  
FRACTURE OF FEMUR**

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**ABSTRACT**

**Objective:** In this study our main goal is to evaluate the demographic status of patients with subtrochanteric fracture of femur. **Method:** This clinical trial study was conducted at National Institute of Traumatology and Orthopedic Rehabilitation (NITOR), Sher-e-Bangla Nagar, Dhaka January 2017 to June 2018. **Results** During the study, the mean age of the patients was  $38.7 \pm 11.8$  years and the youngest and oldest patients were 26 and 65 years old respectively. Of the 15 patients, 9(60%) presented with right sub-trochanteric fracture and 6(40%) with left sub-trochanteric fracture. Majority (86.6%) of injuries was caused by motor-vehicle accident. One (6.7%) injury was caused by auto-pedestrian accident and another 1(6.7%) by fall from the bed. **Conclusion:** From our study we can conclude that, In the light of the findings of the study, it could be concluded that subtrochanteric fracture usually occur in early middle age with a male preponderance with most of patients being involved in farming.

**KEYWORD:** subtrochanteric fracture, femur fixed, proximal femoral nail (PFN).

**INTRODUCTION**

Fractures of the proximal femur and hip are relatively common injuries in adults. Several epidemiological studies have suggested that incidence of fractures of the proximal femur is increasing which is not unexpected because the general life expectancy of the population has increased significantly during the past few decades. More than 2,80,000 hip fractures occur in the united states every year and this incidence is expected to double by the year 2050. Hip fracture is one of the major causes of the hospital admission. Among them trochanteric fracture constitutes the major bulk. Fracture of the trochanteric region of the femur occurs more than the fracture of the neck of the femur in a ratio of about 3:2. 2

Proximal femoral fractures or hip fractures can be primarily divided into 2 groups fractures proximal to the femoral attachment of joint capsule are termed intracapsular, whilst those between the hip joint capsule insertion to a line 5 cm distal to the distal part of lesser trochanter are termed extracapsular fracture.

Extracapsular fractures may again be subdivided into trochanteric and subtrochanteric fractures.

In this study our main goal is to evaluate the demographic status of patients with subtrochanteric fracture of femur.

**Objective****General objective**

- To assess the demographic status of patients with subtrochanteric fracture of femur.

**Specific objective**

- To detect affected limb of the patients.
- To identify mechanism of trauma

**METHODOLOGY****Type of Study**

This was a clinical trial study.

### Place and period of study

The study was conducted at the National Institute of Traumatology and Orthopedic Rehabilitation (NITOR), Sher-e-Bangla Nagar, Dhaka January 2017 to June 2018

### Study population

Patients of diagnosed subtrochanteric fracture of both sexes admitted in NITOR during the abovementioned period were the study population.

### Inclusion criteria

Patients with following characteristics were included in the study

- Age above 18 years irrespective of sex
- Closed subtrochanteric fracture

### Exclusion criteria

Patients with following characteristics were excluded in the study

- Pathological fracture
- Multiple injuries
- Inability to walk before the fracture

### Sample size and sampling procedure

A total of 15 patients who underwent fixation of subtrochanteric fracture by femoral nail were consecutively included in the study.

### Detailed procedure

In all cases, a detail history, clinical examination and relevant investigations were done. X-ray of the affected thigh including hip and knee (anterior-posterior and lateral view), complete blood count, random blood sugar and serum creatine were done routinely. Any associated illness such as hypertension, diabetes mellitus, pulmonary problem and concomitant injuries were treated adequately. As soon as the general condition of the patient got settled the patient underwent operation. In all cases, antibiotic (3<sup>rd</sup> generation cephalosporin 1 gm were given intravenously prior to operation. Surgery was performed on an average of 1-2 weeks after injury.

The patients were followed up as outdoor patients at the outpatient department. They were requested to attend outpatient department with check X-ray pelvis anterior-posterior view including both hip joints and X-ray of thigh including hip and knee joint (lateral views) of the affected side. All patients were followed up a minimum of 12 months with 6 weekly schedule. Patients were evaluated with history, clinical examination and radiograph of the affected hip. Postoperative complications, if any, were noted and adequately managed. Patients were

### Data analysis

Collected data were analysed using software SPSS (Statistical Package for Social Sciences) version 11.5 for windows. Descriptive statistics were used to analyse the data. Analysed data were presented in the form of tables and charts with due interpretation.

## RESULTS

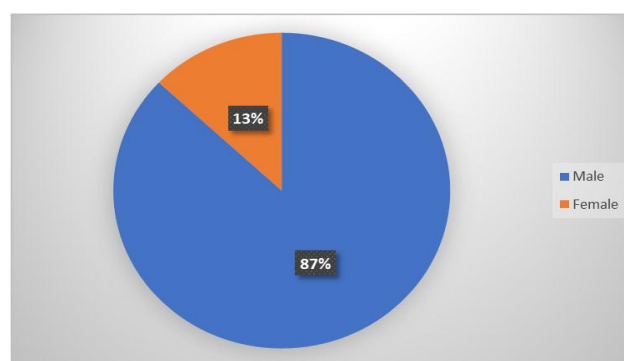
In table-1 shows age distribution of the patients. The mean age of the patients was  $38.7 \pm 11.8$  years and the youngest and oldest patients were 26 and 65 years old respectively. The following table is given below in detail:

**Table I. Age distribution of the participants (n = 15).**

Age (yrs)	Frequency	Percentage
<30	06	40.0
31-40	04	26.6
41-50	03	20.0
51-60	01	6.7
>60	01	6.7

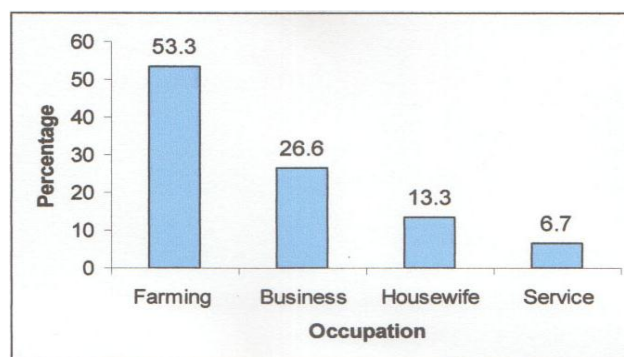
Mean age =  $(38.7 \pm 11.8)$  years; range - (26 - 65) years.

In figure-1 shows gender distribution of the patients where most of the patients were male. The following figure is given below in detail:



**Figure-1: Gender distribution of the patients.**

In figure-2 shows distribution of the patients according to occupation where farming was the prime occupation (53.4) followed by business (26.6%) housewife (13.3%) and service (6.74%). The following figure is given below in detail:



**Figure-2: Distribution of patients by occupation (n=15).**

In table-2 shows distribution of the patients according to affected limb. Of the 15 patients, 9(60%) presented with right sub-trochanteric fracture and 6(40%) with left sub-trochanteric fracture. The following table is given below in detail:

**Table-2: Distribution of patients by affected limb (n = 15)**

Affected limb	Frequency	Percentage
Right	06	60.0
Left	09	40.0

In table-3 shows mechanism of injury. Majority (86.6%) of injuries was caused by motor-vehicle accident. One (6.7%) injury was caused by auto-pedestrian accident and another 1(6.7%) by fall from the bed. The following table is given below in detail:

**Table-3: Distribution of patients by mechanism of trauma (n = 15)**

Mechanism of injury	Frequency	Percentage
Motor vehicle accident	13	86.6
Auto-pedestrian accident	01	6.7
Fall on the slippery ground	01	6.7

## DISCUSSION

The results of the current study demonstrate that mean age of the patients included in the study was  $38.7 \pm 11.8$  years and the youngest and oldest patients were 26 and 65 years old respectively. Majority (87%) of the patients was male and farming was the prime occupation (53.4%) of the study subjects. One study reported that the average age at which subtrochanteric fracture of femur occurs was 63.7 years and the lowest and highest ages of the patients were 46 and 97 years respectively.<sup>[5]</sup> From these studies it is evident that subtrochanteric fracture in our country seems to occur in the early middle-aged population or only the relatively younger people with subtrochanteric fracture attend at hospital. But another study demonstrated that the relatively older people are the victims of subtrochanteric fracture.<sup>[6]</sup> The reason of these wide difference between these two studies with respect to age incidence of subtrochanteric fractures might be that our sample was too small to describe the age distribution of patients with subtrochanteric fractures. However, another study demonstrated bimodal age distribution for subtrochanteric femoral fracture.<sup>[7]</sup> The younger group is usually characterized as trauma patients who sustain the fracture from a high-energy mechanism of injury (eg, motor vehicle collision, fall from a height). These patients typically have concomitant injuries and require trauma team activation. The older patient often has osteoporotic bone, and the strength of the calcar has deteriorated significantly.

## CONCLUSION

From our study we can conclude that, In the light of the findings of the study, it could be concluded that subtrochanteric fracture usually occur in early middle age with a male preponderance with most of patients being involved in farming.

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