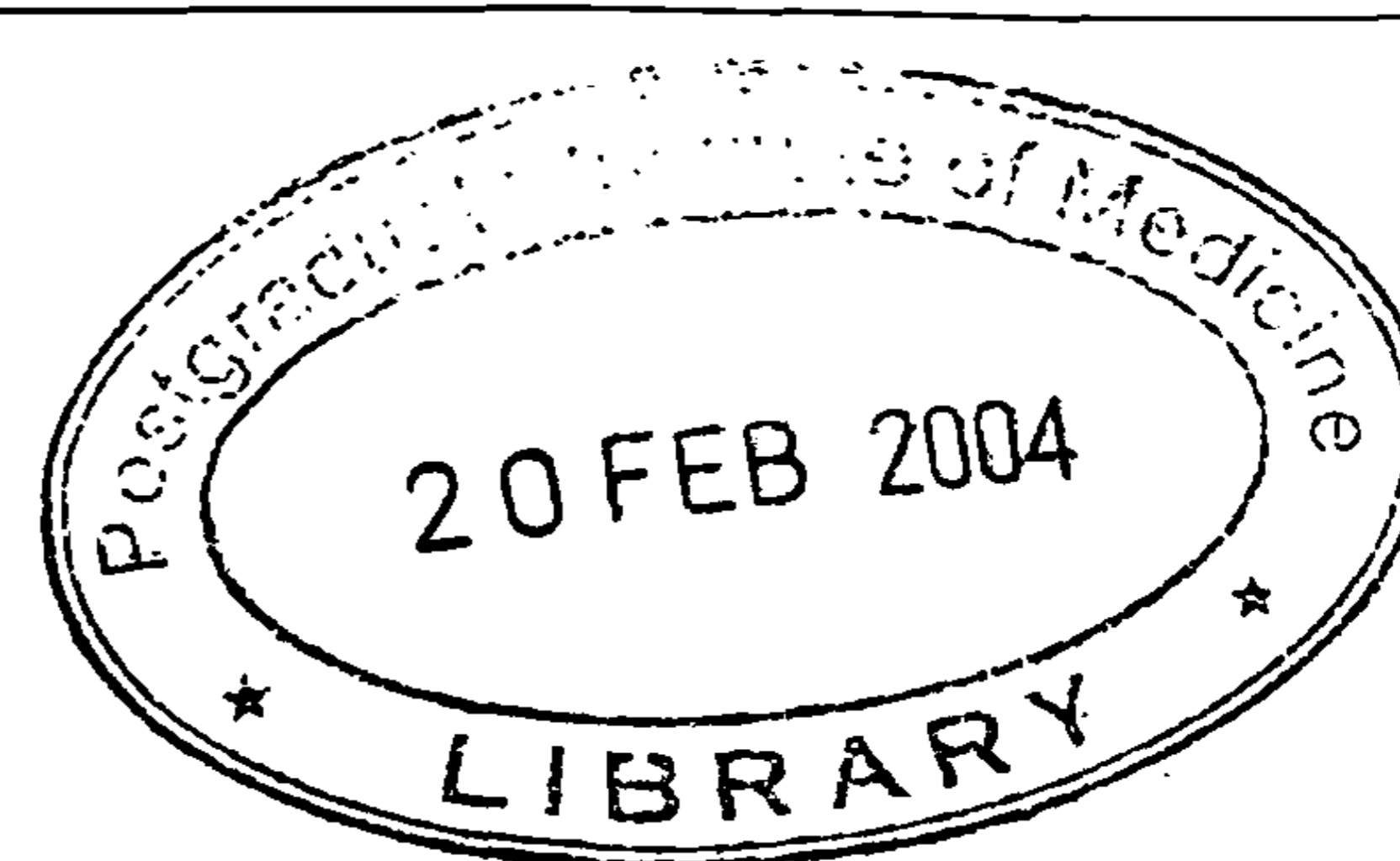


D 109

ABSTRACT



Hip fracture, the most dramatic clinical sequel of a fall, is one of the most common and potentially devastating injuries for old people and has long been considered a major threat to survival in aged populations. The impact extends far beyond orthopaedics into the domains of medicine, rehabilitation, physical therapy, psychiatry, social work, and economics. The number of hip fractures is increasing dramatically due to the increased proportion of old and very old people, where women predominate. Although recent advances in operative technique and orthopaedic implant technology have improved the outcome, it is still common that the patient, in spite of an uneventful fracture healing, fails to regain her pre-injury level of function and independence.

Fall related incidents are the leading cause of injury and disabilities in late life. Since approximately 95% of hip fractures result from falls, minimizing fall risk is a practical approach to reduce these injuries. Effective fall prevention strategies require identification of contributory factors related to both the patient and the environment.

With the recent trends towards deinstitutionalization, the family constitutes a major support system in the continuing care of patients with hip fracture after hospital management. Therefore, identification of distress and burden experienced by the caregivers is crucial in order to plan comprehensive treatment programmes.

The objectives of the present study were to identify risk factors for hip fractures, factors predisposing to falls among those with fractures at the time of fall, functional status of the patient and the subjective burden on the caregiver following hip fracture.

Radiologically diagnosed 225 patients with hip fracture were recruited from selected three Government hospitals in Colombo district, where surgical facilities for hip fracture are available. The study consisted of four components.

The first component was a case control study. Age and sex matched control for each case was selected from the same hospital.

In the second component, patient related and environment related factors predisposing to fall among the cases with hip fracture were identified by descriptive cross-sectional study. These cases were followed up to assess the functional status in the third component, measured by the ability to carry out IADL and PADL independently. The cases were interviewed on two occasions after they were discharged from the hospital; at 6 weeks and 12 weeks.

In component IV, primary caregiver of the patient was interviewed on the same two occasions as in component III, to assess the level of burden. The correlates of burden and change of burden with time were assessed on two occasions.

Interviewer administered questionnaires were used in different components by preintern medical officers through out the study. Association of hip fracture and selected risk factors were determined using McNemar chi square, matched odds ratios and conditional logistic regression analysis. The matched odds ratios identified by bivariate analysis were, physical inactivity (OR, 1.94), current smoking (OR, 2.50), ex-smoking (OR, 3.75), smoking 10 cigarettes or less per day (OR, 5), ex-drinking (OR, 2.83), maternal history of hip fracture (OR, 3.20), past history of fracture (OR, 2.63) and previous history of falls (OR, 2.43).

Logistic regression analysis revealed past history of falls (OR, 2.6; 95% CI, 1.2 - 4.2), past history of fracture (OR, 2.8; 95% CI, 1.2 - 6.8), maternal history of fracture (OR, 2.7; 95% CI, 1.05-6.9) previous consumption of alcohol (OR, 5.2; 95% CI, 1.6-17.03), current consumption of alcohol (OR, 3.8; 95% CI, 1.0-12.0) to be associated with hip fracture among elderly.

Patient related factors identified as predisposing to falls at the event of fall were, poor vision (61%), history of previous falls within last 1 year (36%), dizzy spells (16%) and use of walking aid (14.2%). Common environmental contributory factors that were present at the time of the fall were, slippery surfaces (19%), objects blocking the path (24%) and poor light (15%).

Most of the falls had occurred indoors (73%) and during day time (74%). The common places of the fall were patient's room (48%) and the toilet (26%).

Nearly 64% (144 cases) of the initial 225 patients could be contacted in the community after the discharge, to assess their ability to carry out certain Activities in Daily Living. The rest could not be traced on both occasions due to their migration to various places for different treatment or care and institutionalization.

Results revealed that a significant number of patients could not regain the functional ability that they had before the fracture. This deterioration was more marked for patients who were females more than 70 years of age and had lower income.

The caregivers of the cases reported significantly lower caregiver burden 12 weeks after patients' discharge, compared to the burden reported six weeks after discharge. After controlling the confounding factors by multiple regression analysis at 6 weeks, the factors associated with burden were, female gender ($\beta= 3.8$, $p=0.001$), lower income ($\beta= 1.66$, $p=0.011$) and younger age ($\beta= 1.56$, $p=0.05$) of the caregiver.

The factors associated with burden at 12 weeks, in the multiple regression analysis were, females ($\beta= 3.14$, $p=0.032$), younger age ($\beta=2.46$, $p=0.014$) and lower income, ($\beta= 1.83$, $p=0.021$).