

Epidemiology of musculoskeletal disorders and injuries among patients in a tertiary care public hospital.

Synopsis

Background:

Musculoskeletal disorders are a major cause of morbidity, influence health and quality of life and impose an enormous burden on our healthcare system. The burden of musculoskeletal disorders is global, and looking at the gravity of the situation WHO had declared 2000-2010 as the Bone and Joint decade. India is no exception to this situation. [1]

Injury is now a leading cause of mortality and morbidity worldwide. Injuries on roads, at home and in work place have progressively increased reflecting a lack of safety-related policies and programs or difficulties in implementation of the same. We are passing through significant urbanization, industrialization and a change in the socio-economic values. Due to these changes, the number of automobiles on our roads is rapidly increasing. Besides causing pollution, this has led to road traffic accidents (RTAs) becoming the first public hazard in the world, and is one of the largest threat for human lives and health. [2] Each year 300 000 people die of RTA and more than 8 million people suffer injuries.

Trauma is an increasingly significant problem in India, and socio-economic and cultural changes are resulting in alterations in the epidemiology of trauma here also. India is the leading country in the number of deaths due to RTA. [3,4] In 2007, 114 590 people died of RTA in India alone. [3] The epidemiology of injuries sustained due to trauma is poorly understood, though there have been some studies from developing countries in this area. [5-8,11]

Besides other reasons, delayed presentation and neglect is a very important factor, and this is responsible for poor outcome of musculoskeletal trauma, and neoplasia in particular, which as such carry a poor prognosis in many cases. [9,10]

This study aims to assess the epidemiology of musculoskeletal problems and injuries among patients in a tertiary care public hospital in India.

Objectives

a. This project aims to study the magnitude of different musculoskeletal problems (limbs and spine), in a tertiary level public hospital with a major focus on trauma, bone and joint infections including tuberculosis, orthopaedic neoplasms, bone-mineral disorders-including rickets/osteomalacia and osteoporosis, various arthritides including osteoarthritis & rheumatoid arthritis along with their sequale-deformities/pathological fractures etc.

We will study their relative frequencies, age, gender discrimination, anatomical sites and patterns of occurrence and etiopathogenesis/mode of injury etc.

We will also try to identify various socioeconomic and other relevant factors responsible for these problems and reasons for unawareness, delayed presentation/neglect among our patients.

b. Our study also aims to increase the awareness about musculoskeletal disorders and injuries in particular as a major and evolving public health problem.

Methods:

This cross sectional observational study will be conducted by the author, with due permission at Safdarjung Hospital and Vardhman Mahavir Medical College, in the Departments of Orthopaedics and Accident and Emergency, over a period of 3 months (February 2017 to April 2017). Other tertiary care centers may also be involved. As many cases as possible will be enrolled in the study considering the limited time and resources.

A detailed history and examination of all patients will be done with regard to age, sex, disease site, signs and symptoms, including injury type and mode in trauma cases, diagnostic workup and treatment received. Patients and relatives will be interviewed to find out various socioeconomic, educational and other relevant factors responsible for these problems, prior treatment by traditional bonesetters or registered medical practitioner, and reasons for unawareness, delayed presentation etc. wherever relevant. Assessment of Health Status, Functional Status, and Disability will be carried out by the use of prevalidated study instruments including HAQ- Health Assessment Questionnaire (all cases), WOMAC-Western Ontario Macmaster Osteoarthritis Index (for hip and knee arthritis), ODI- OSWESTRY Disability Index (for spinal disorders). The methodology has been described in detail in an ICMR survey, and studies conducted at other centers, and may be suitably adapted for this situation [1,3,5,6,9,10,11]

Injury patterns will be noted and the types of injury will be divided into subgroups: head injuries, chest injury, pelvic fracture, hip fracture, and lower/upper limb fracture, abdominal injuries and so on.

Appropriate classification will be done for fractures and joint injuries. For spinal injury cases, we will also use American Spinal Injury Association (ASIA) Impairment Scale (modified from the Frankel classification).

Findings of the study will be depicted in the form of appropriate tables and graphs. Descriptive statistics will be used, including frequency (percentage) for categorical variables, mean (standard deviation) for continuous variables with normal distribution and median (interquartile range) for non-normal distribution.

Studies done in the field of musculoskeletal and trauma epidemiology in India as well as internationally will be discussed in brief, and where appropriate, the findings will be compared with those of this study. We will also be able to make some recommendations for injury prevention as well as socioeconomic, cultural, medical or other steps necessary for reducing delayed presentation and neglect of such cases in our population and ways to improve musculoskeletal-related morbidity and mortality in general.

Level of evidence – IV

References:

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