MAKERERE UNIVERSITY

PREVALENCE AND PATTERNS OF ANKLE JOINT INJURIES AMONGST PATIENTS WITH MUSCULOSKELETAL TRAUMA AT MULAGO NATIONAL REFERRAL HOSPITAL

BY

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DECLARATION

I MALAGALA JOSEPH MICHAEL declare that this study is my original work. Unless otherwise stated the views and opinions expressed herein are mine. This study in full or otherwise has not been submitted for publication anywhere neither has it been submitted for the award of any degree in this or any other university or institution of higher learning.

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DEDICATION

To my dear parents MR Naddumba Edward and Mrs Jane Frances Naddumba who made possible a way for me to reach my aspiration.

My beloved wife Erinah and daughters Noella and Daniella who walked with me every step of the way in pursuit of my degree.

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I am deeply grateful to my statistician, Paul Mubiri for his extraordinary expertise, professionalism and for always being just a phone call away.

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ACRONYMS

A.O ……Association of Osteosynthesis

ASIF ……Association of the Study of Internal Fixation

A&E ……Accident & Emergency

MSK…….Musculoskeletal

MUA ……Manipulation Under Anaesthesia

MVA……Motor Vehicle Accident

NRH……..National referral Hospital

ORIF ……Open Reduction and Internal Fixation

P.O.P ……Plaster Of Paris

2C P……..Ward 2C- Pediatrics

3A OT……Ward 3A-Orthopaedic Trauma

3BEM…… Ward 3B- Emergency Medical ward

3B ES…….Ward 3B- Emergency Surgical ward

OPERATIONAL DEFINITION

Ankle joint; in this study included the tibial plafond (pilon), the medial malleolus, the lateral malleolus and their associated soft tissue structures.

Patterns; refered to the clinical and radiological features of ankle joint injuries seen during the study period.

Musculoskeletal trauma; in this study refered to traumatic bone, ligament and musculo-tendinous injuries involving the extremities, the pelvis and the spine. It excluded fractures of the ribs, the skull and cutaneous soft tissue injuries.

Ankle injury characteristics; in this study referred to the demographic characteristics of the injured patients, ankle injury type, mechanism of injury, place of injury, activity engaged in at the time of injury and associated injuries.

ABSTRACT

Introduction: At Mulago National Referral Hospital, ankle joint injuries are common however, the magnitude of the problem they present and their specific clinical and radiological features which would aid in planning their management for better clinical and functional outcomes have not been documented. The aim of this study was to investigate the prevalence, the clinical and radiological features associated with ankle joint injuries seen at Mulago NRH.

Methods: This was a cross-sectional descriptive study. All eligible patients with ankle joint injuries who presented to the Mulago Accident &Emergency department between 12th August and 14th December 2013 were consecutively recruited. Data was collected using a questionnaire and plain radiographs of the injured ankles were taken and interpreted by a radiologist. The data was entered into EpiData version 3.1 and exported to STATA version 11.0 for analysis. Descriptive (mean, standard deviation, frequency, percentage and 95% confidence interval) and inferential (logistic regression) statistics were used to analyse data. Alpha level was set at $P< 0.05$. Data were summarised in tables, pie charts and graphs.

Results: Of 1626 musculoskeletal trauma patients, 162 had ankle joint injuries giving a prevalence of 9.96%. The highest prevalence was registered in the age group of 31-40 (3.01 CI: 2.18 – 3.84) years and in males 5.90 (CI: 4.76 – 7.05). Urban dwellers and small business owners were the most affected. Most injuries occurred as a result of Motor Vehicle Accidents and pedestrians were the most affected road users 53/109 (48.6%). Malleolar fractures were the commonest type of ankle injury in 118/162 (72.8%), most of which involved more than one malleolus 77/118 (65.3%). Open injuries constituted 23.5% (38/162) of the injuries.

Conclusion and recommendations: Ankle joint injuries are common at Mulago NRH and are often associated with considerable soft tissue damage and severe fracture patterns. There's a

need to formulate public policies to protect the vulnerable road users against trauma as well as allocate more resources for efficient diagnosis and treatment of ankle joint injuries.

Studies to evaluate the outcomes of treatment of ankle joint injuries as well as studies to describe the patterns of Paediatric ankle injuries at Mulago NRH need to be carried out.