

Hospital Survey of Boda-Boda Related Accidents in Western Kenya

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Background

- Boda-Boda's are a form of taxi service which originated between the Kenya-Uganda Border during the 1960's and 1970's
- Initially, bicycles were used but motorbikes have become more common
- Very few drivers receive formal training to operate motorbikes
- Boda-Boda related accidents remain a large contributor to morbidity and mortality in Kenya

Objectives

- To determine the most common injury patterns associated with boda-boda accidents
- To examine potential risk factors for the high occurrence of boda-boda accidents. (i.e. alcohol use, illicit drug use,)
- To determine the rates of safety precautions such as helmet use among boda-boda accident victims

Methods

- Participants were selected upon presentation to Siaya District Hospital and Yala Sub-District hospital with injuries related to road traffic accidents
- Participants were administered a verbal questionnaire in English. Translators were available for any participant who did not speak sufficient English

Methods

- After conducting a thorough history, participants were visually inspected from head-to-toe for signs of injury
 - Injuries were classified as either soft-tissue injuries or skeletal bone fractures
 - Soft tissue injuries were categorized by location (i.e. head, abdomen, pelvis, upper extremities, etc.)
 - Skeletal fractures were categorized by involved bone (i.e. humerus, tibia, femur)
- Any injury suspicious for fracture or dislocation was recommended for x-ray imaging
- All injuries were appropriately managed and hospital admissions occurred whenever necessary.

Results

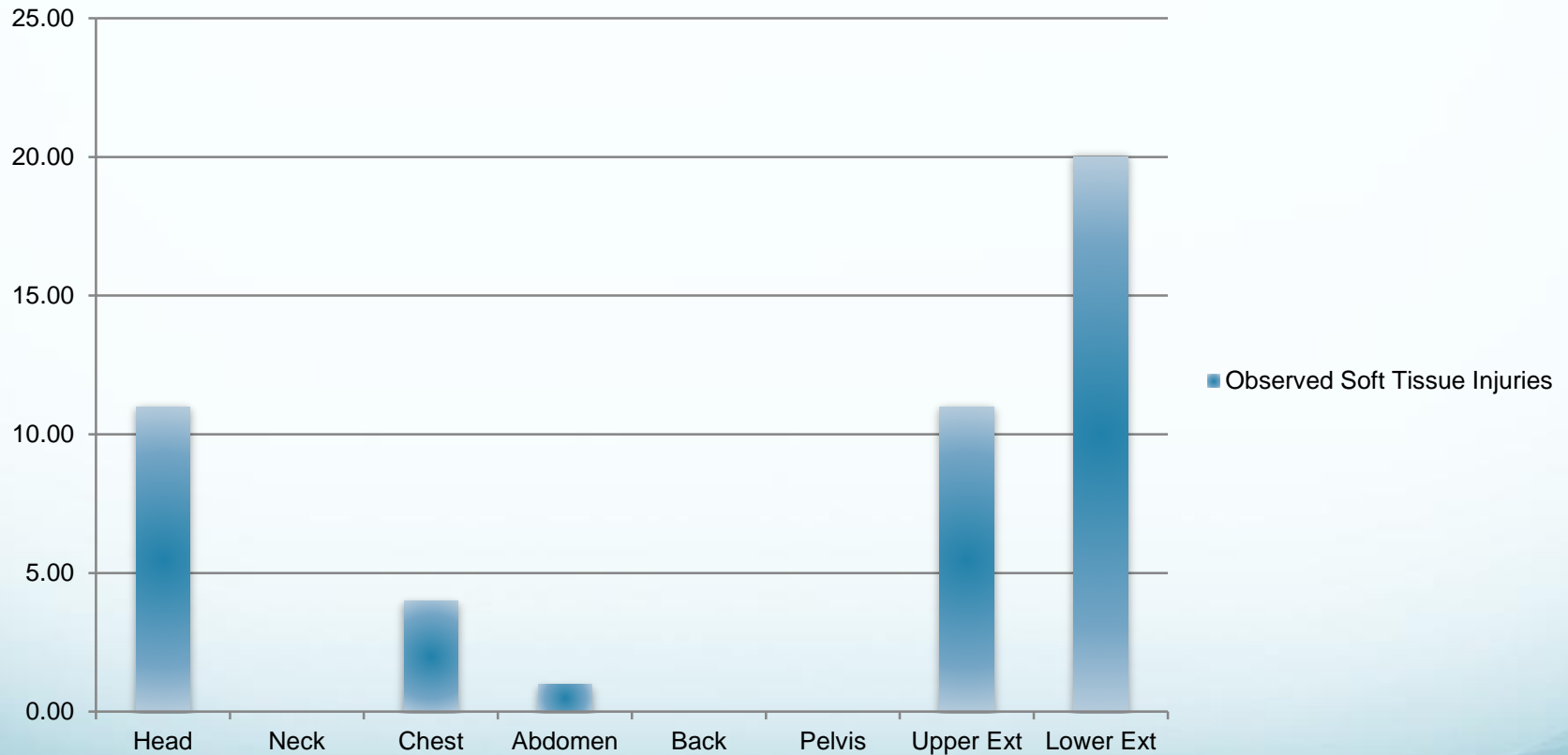
- Over a 4 week span, 24 patients ages 6 to 70 were identified as road traffic accident victims at both Siaya District Hospital and Yala Sub-District Hospital
- Participant Profile
 - 91.6 % male (n=22)
 - 8.4 % female (n=2)
 - Mean Age = 35.4 Mode= 32
 - 16.6% reported previous boda-boda related injury (n=4)

Results

- Participants
 - 16 were identified as drivers
 - 4 were motorbike passengers
 - 4 were pedestrians
 - 100% presented with soft-tissue injuries (n=24)
 - 45.8% presented with skeletal bone fractures (n=11)
- Vehicles involved in RTA's
 - 87.5% were motorbikes (n=21)
 - 8.3% were bicycles (n=2)
 - 4.1% were cars (n=1)

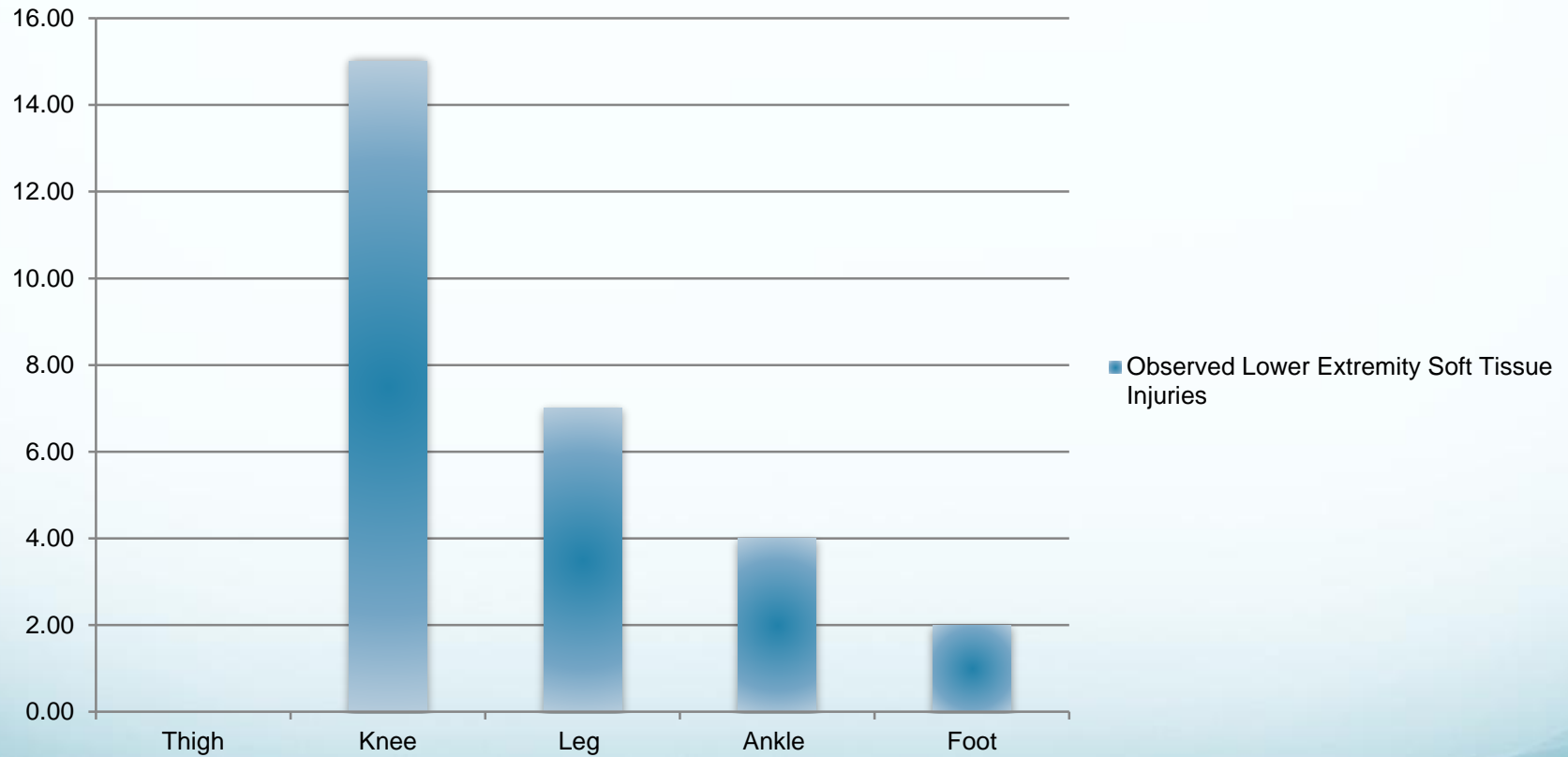
Soft Tissue Injuries

Observed Soft Tissue Injuries



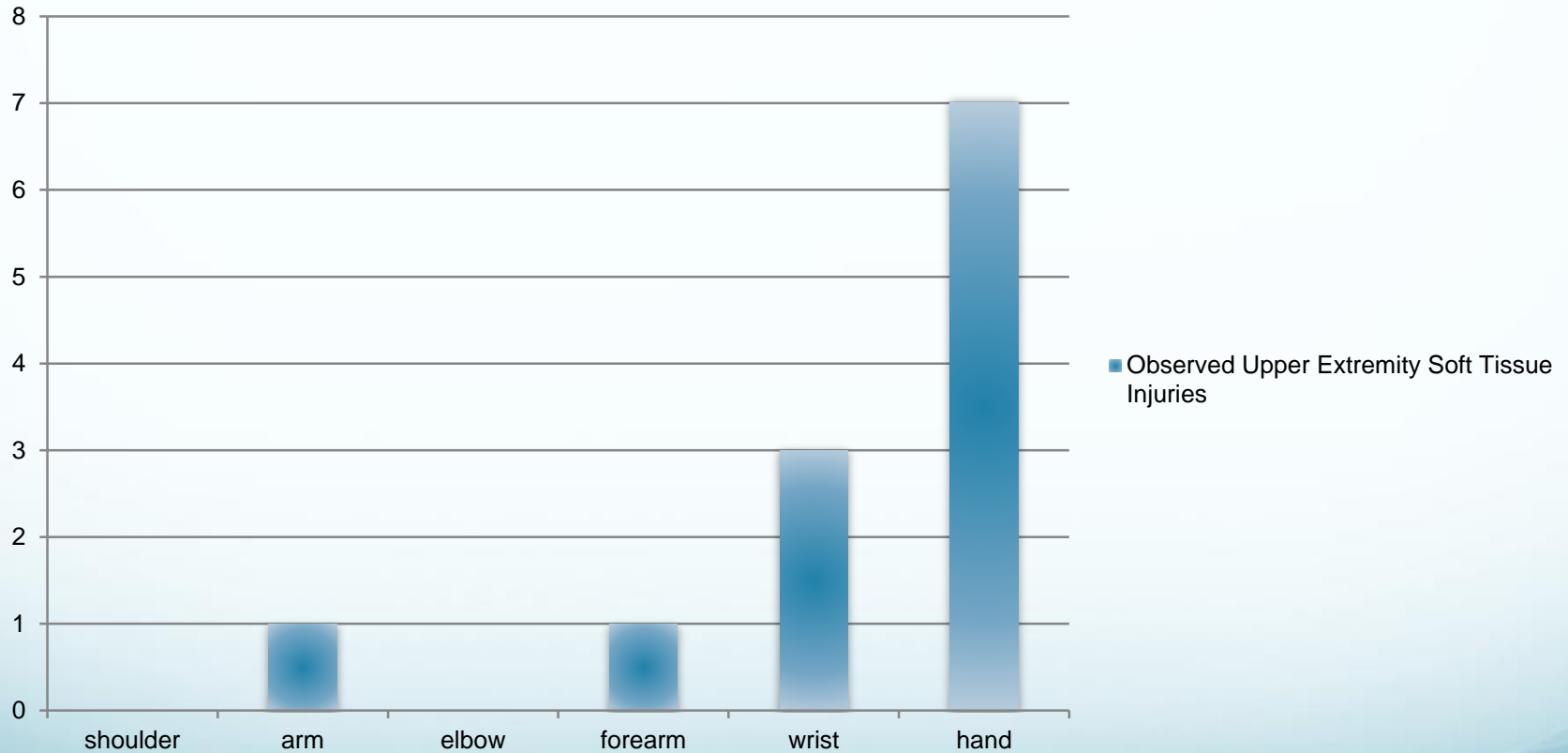
Lower Extremity

Observed Lower Extremity Soft Tissue Injuries



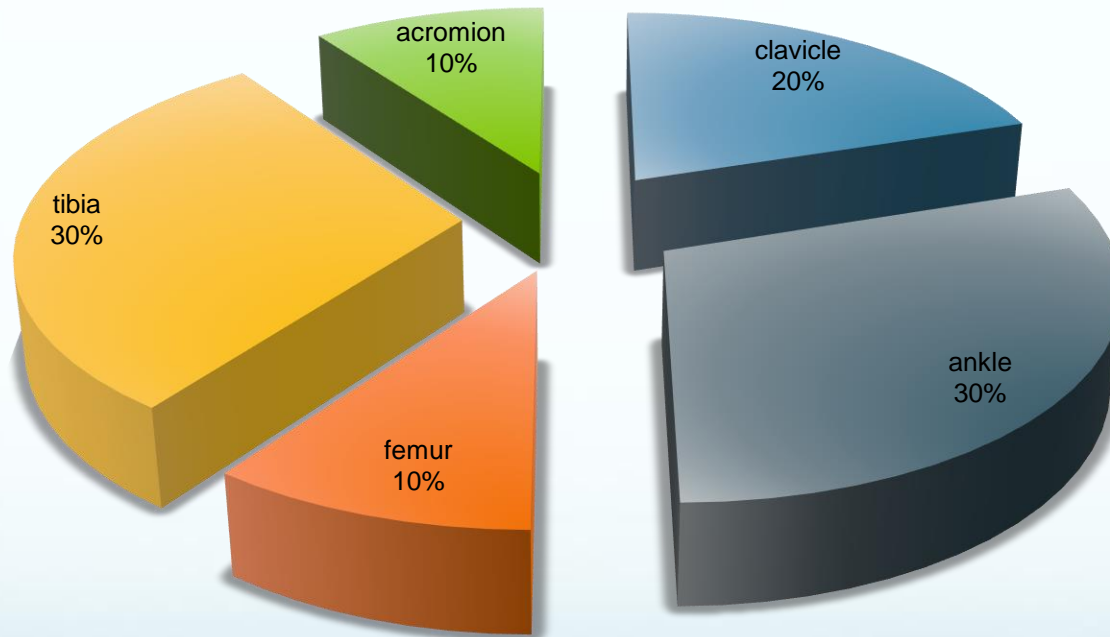
Upper Extremity

Observed Upper Extremity Soft Tissue Injuries



Skeletal Bone Fractures

Distribution of Skeletal Bone Fractures (n=11)



Potential Risk factors

- ETOH
 - 25% of RTA patients reported using alcohol prior to accident (n=6)
 - Of those identified as drivers, 19.0% reported using alcohol prior to accident (n=4)
- Illicit Drug use
 - 0% of patients acknowledged any recent drug use
- License Status
 - Of those identified as drivers, 71.4% admitted to being unlicensed drivers (n=10)

Safety

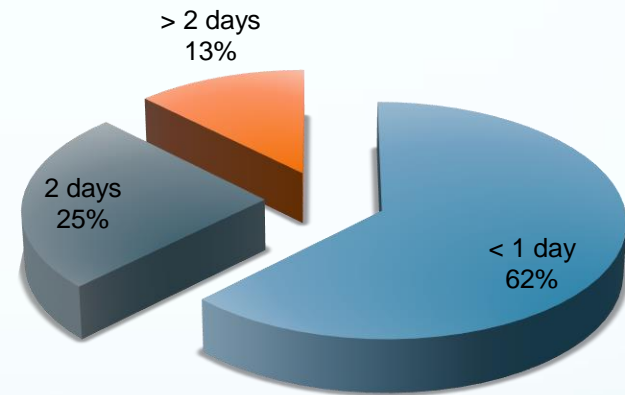
- Helmet Use
 - 37.5% of drivers reported wearing a helmet at time of accident (n=6)
 - Of the 6 who wore helmets, 5 did not present with any head injuries
 - 0% of passengers reported wearing a helmet at time of accident
- Passenger Load
 - 1 passenger (75%, n=18)
 - 2 passengers (12.5%, n=3)
 - 3 Passengers (12.5%,n=3))



Outcomes

- 100% of RTA patients presented on same day of accident
- 33% of RTA patients required admission (n=8)
- No fatalities were observed

Hospital Stay (n=24)



Analysis/Discussion

- Males outnumber females for boda-boda related accidents 11:1
- Motorbikes appear to be the predominant source of road traffic accidents (87.5%)
- Soft tissue injuries are twice as common as skeletal bone fractures
- The most common patterns of injury affect lower extremities > upper extremities = head

Analysis/Discussion

- Soft tissue injuries to lower extremities occur more frequently on knees >leg> ankle
- Soft tissue injuries to upper extremity occur more frequently on hands > wrist> arm = forearm
- Skeletal Bone fractures occur more frequently with tibia and ankle bones followed by clavicle
- Alcohol may be a contributing factor considering 1 in 5 patients reported using it prior to the accident
- Assuming participants were completely forthcoming, illicit drug use does not appear to be a major contributor to the accidents observed in this study

Analysis/Discussion

- License status may play a big role as a stunning 71.4% of drivers reported not having one
- Safety practices are minimal as only 37.5% of non-pedestrians wore them at time of accident
- Only 1 out of 6 drivers who reported using a helmet presented with a head injury which clearly indicates the potential for reduced injuries
- The effects of passenger load on the rates of boda-boda accidents is not clearly established due to the lack of more extreme passenger numbers

Conclusion

- The burden for boda-boda related injuries disproportionately favors men
- Soft tissue injuries are the most common occurs and can be found most frequently on knees of patient
- Skeletal bone fractures are more frequent on lower extremities as evidenced by greater involvement of tibia and ankle bones
- Alcohol may play a role in boda-boda accidents
- The high rate of unlicensed drivers may play a huge role in the number of boda-boda accidents
- Helmet use should be encouraged because those who wear them present with less head injuries.

Questions?