

## **Neglected trauma in Zambia**

*Y F Mulla<sup>1</sup>, K S Baboo<sup>2</sup>*

*1 Section of Orthopaedic Surgery, Department of Surgery University of Zambia, School of Medicine 2. Department of Community Medicine University of Zambia, School of Medicine*

### **Abstract**

Many of the countries of sub-Saharan Africa have to deal with neglected trauma cases both accidental, intentional and the evidence is that they are on the increase. Those injured are from the most active part of the population imposing enormous socioeconomic consequences on the country. Neglected trauma in the context of this paper is defined as the inability to attend to injury or to provide aid either immediately or at the earliest possible time to enable quick healing often resulting in Salvage Surgery. This inability to provide early treatment may be due to a variety of reasons. The etiology is multifactorial and has now reached epidemic proportions. Poverty and lack of education has played a very significant role in the increase of neglected trauma in Zambia. Many patients are unable to travel to a referral hospital due to lack of money for transport or treatment. Most rural health centers and often district hospitals do not have personnel trained in the management of trauma. The biggest question is, what is its impact and what can be done about it?

### **Introduction**

The University Teaching Hospital in Lusaka serves as a tertiary referral center for the Country and cases are referred to the hospital from all over the country. At this center we rely on general surgeons to manage emergency trauma due to a critical shortage of orthopaedic surgeons. These results in competition for emergency theatre on admission days and often, general surgeons prefer to do surgical emergencies they are familiar with like laparotomies for the acute abdomen etc. ahead of the orthopedic emergencies like fractures. Management of trauma is therefore often relegated in preference to treatment of surgical conditions. Many of the severe fractures are often neglected and not treated at all, resulting in malunion, non union, chronic osteomyelitis and increase mortality overall. Even at District and central Government hospitals that have adequately trained staff, lack of facilities due to inadequate

funding by Government often hamper prompt and effective treatment. The problem of neglected trauma is increasing on a larger scale than is thought by the health authorities. Trauma cases that are minor are often less time consuming; heal on their own inspite of neglect with a speedy recovery. The difficult arises with more severe complicated cases that require specialist attention with hospitalization resulting in increased morbidity from sepsis, deformity, malunion and non-union resulting in considerable handicap.

Other factors that contribute are delay by the presenting to the clinic, health center; hospital may take days to weeks due to lack of transport or due to the enormous distance the patient has to travel. Delay in attending to patients at the health centers due to lack of trained personnel or lack of facilities, drugs equipment etc. Delay in referrals are often linked to financial constraints at the hospital.

Despite evidence provided by many studies in this region the prevention of road traffic accidents has not received the attention that it deserves, either from medical workers, community or the policy makers in government. The excuse that lack of data may be a factor that does not 'hold water' as there are now many studies published in the region. The proposal that baseline data be presented as evidence to the lawmakers has been suggested in many papers.

In Africa, the scarce available data shows that deaths from injuries are increasing with social and economic changes, such as urbanisation and industrialisation. Trauma now is the commonest reason for emergency visits to hospitals in Nigeria. Domestic injuries are the leading cause followed by road traffic accidents (26%)<sup>1</sup>. Munie<sup>2</sup> has reported a similar increase in Nairobi, from road traffic accidents putting a strain on resources. Thyoka, Lavy,<sup>3</sup> Chaheka<sup>4</sup> report on the decline in trauma services in Malawi and cite the increase in trauma, lack of motivation poor education and poor salaries contributing to the deterioration in services, but also from other fatal injuries of which burns tops the list.

Driver's health has often received less attention than their safety. There is still awareness of the enormous cost of emergency health services to the country and to

---

*Correspondence to: Prof Yakub F Mulla Section of Orthopaedic Surgery, Department of Surgery, School of Medicine, University of Zambia*

the general public. Regular health surveillance of road traffic accident victims is by no means universal. In rural and many urban centers it is non-existent.

A study at Urban African Hospital in Kampala, trauma registries revealed that 52% of the trauma patients admitted in Casualty were inadequately assessed. Amongst the deaths, 72% had been inadequately assessed with the introduction of the trauma registry the incidence of inadequate assessment decreased significantly<sup>5</sup>.

In a Zambian study out of 6022 cases of road traffic accidents presenting at the University Teaching Hospital in Lusaka over a one year period 60% were pedestrians most of which were either alcohol related or out of recklessness. There were 252 deaths amongst these cases. The major victims were economically active young adults between 15 and 35 years of age who are incidentally in the category that are affected by the AIDS epidemic<sup>6</sup>.

Most published papers on neglected trauma in sub-Saharan Africa refer to cases that are treated within three weeks after injury<sup>7</sup>. In Zambia we categorise neglected trauma into cases that present within 3 weeks and those that present after 3 weeks. Many of these patients often present 3 months or more after injury.

### **Cases**

These were all cases seen in a single week at the University Teaching Hospital in Lusaka.

#### **Case of Neglected Spinal Injury**

G.N a 41 years female, was walking after a kitchen party in the Central District of Lusaka when a car knocked her down.

She sustained a fracture right radius and ulnar with multiple cuts and bruises. She was taken to theatre for debridement and application of a plaster cast to the right arm. She was allowed to mobilise in spite of complaining about a stiff neck.

A week later found to have a C<sub>2-3</sub> bifacet-fracture dislocation with no neurological deficit. This was then treated with a cervical collar and physiotherapy. Seen by the orthopaedic surgeon at 6 weeks. A detailed history revealed amnesia after the accident suggestive of a head injury. By this stage the fracture was maluniting and therefore difficult to reduce by traction. At seven weeks

post admission plating of the forearm bones was planned together with fusion of C<sub>2-3</sub> – in situ.

#### **Case of Neglected Spinal injury**

F M is a 6-year-old boy who presented on 1<sup>st</sup> June 2002 after a road traffic accident. Sustained an L2-L3 fracture dislocation but had no neurological deficit. Referral delayed by two weeks due to transport problems. Examined by general surgeons and referred to Orthopaedics at week 3. Theatre cancelled on two occasions due to problems with theatre and spinal set and implants. At surgery failed complete reduction due to delay and proceeded to local fusion at L2 –L3.

#### **Case of Neglected Fracture femur**

L M is an 8-year-old boy referred to the teaching hospital about 5 weeks after injury. He sustained a Salter Harris type III fracture dislocation of the left distal femoral urgent cases. A corrective osteotomy was performed well after the fracture was healed after eight weeks.

These cases are too numerous to mention. Lists for operations for neglected trauma keep piling up because of the backlog of cases, inadequate staff, theatre lists and lack of materials

#### **Case of Neglected Fractured Right Tibia**

G S is an 18 year Old Male presented to the Orthopaedic clinic three months after sustaining a fracture of the midshaft of his right tibia from a direct hit from a sliding tackle in a game of football. The incident took place in Nakonde, which is in the remote part of Northern part of Zambia. He was treated at a rural health centre and subsequently transferred to Isoka Hospital and then on to Kasama Hospital. He was finally seen at Kabwe General Hospital at two months who sent him to the University Teaching Hospital in Lusaka. Radiographs show a solidly malunited transverse midshaft fracture of the right tibia with 3 centimetres of shortening and a 30 degree angulation.

These cases were classified as neglected for a variety of reasons.

- (1) Neglected due to late presentation or referral for a variety of reasons.
- (2) Neglected even after diagnosis confirmed resulting in delayed treatment.
- (3) As a result often secondary salvage procedure performed.

## **Factors Contributing to Neglected Trauma**

### **Health and Urban Poverty**

Africa like most of the other third world countries is experiencing a very rapid and unplanned urbanisation. It is estimated that the urban population in sub-Saharan Africa will rise from its current level of 34% to the total population to 46% of its projected total of 929million by the year 2020 <sup>2,6</sup>. The current national thinking, development planning and social disposition in sub-Saharan Africa are disproportionately biased towards urbanisation. The urge and the pull for people to migrate to urban centers are infinite, unlimited and irresistible at the same time the swelling population put immense pressure on the demand for services and health care. The disproportionate size of the population against the available resources is one of the most powerful parameters that defined urban poverty and the plight of the vulnerable people.

### **Legislation and the Role of the Regulator**

Legislation should provide an affective framework of standards and direction. And the regulatory authority charged with administering that legislation needs to do so in a professional, constructive and consistent manner. Prescriptive regulations are being reduced. Enforcement is not an end of itself: it must be matched by a continuing decline in preventable accidents of road users.

### **The all-important Human Factors**

Police road blocks as a mean of enforcing the law and improving road safety has been successful to a limited degree. But this approach is providing diminishing returns in many countries. There is a need to provide the public with a better understanding of the different categories human behaviour and performances, shaping factors that lie beneath them. Without such an understanding, people will still be blamed for things they could not have done otherwise, and preventive measures will continue to be misdirected. The development of a society culture is part of the behavioural approach to improving safety on the roads. This could be further strengthened if drivers maintained their vehicles properly and followed safety regulations as a routine.

### **Risk Management and Risk Assessment**

Since human behaviour holds the key to further improvement and the implementation of standards. Greater effort will need to be directed towards promoting an understanding of risk assessment, risk management

and safety audits that are specifically based on the behavioural contribution to accidents. The purpose of introducing risk management is to improve health and safety. The challenge is how to introduce it in a well thought out, structured way that is understood and practiced by all, and is seen to be beneficial.

### **Education and Training**

There is no point in advocating the importance of safety behaviour if it is not feasible to behave safely. Education and training are the foundations for enabling improvement in effective health and safety hazard prevention programmes. Specific seminars and refresher training must supplement these. There is also need to have improvement programmes for trainers, supervisors and works.

In discharging their responsibilities, governments should establish a regime for effective prevention of accidents and disease. A pragmatic approach that yields quick financial gains through better practice is the key; not the heavy hand of regulation and penalties.

### **Infrastructure**

The infrastructure in form of transport, road, and communications are, as in most developing countries, insufficient. Focus has therefore been to improve access to health for hard to reach areas and under served areas as well as for vulnerable groups. The distance to health facilities has to be in walking distance. These health facilities must be manned and resources must be allocated to make them effective and functional.

### **Human Resources**

The distribution of key members of staff (doctors, clinical officers and nurses) is uneven. The highest number of medical staff is found in the urban areas along the line of rail in the hospitals on the Copperbelt and in Lusaka. Most of the doctors have not been equipped with basic resuscitation skills in Trauma care. Due to cost factors they have not been able to attend Advanced Trauma Life Support (ATLS) courses outside the country. Over the last three years the Surgical Society of Zambia has embarked on ATLS type course called the "Zambia Trauma Management Course" to update our doctors and nurses on the basic skills that are important in managing trauma.

### **Conclusions**

Injury prevention requires a multidisciplinary approach involving not only health professionals but also all segments of the community including teachers,

and political leaders, law enforcers and policy makers. In spite of having identified the problems, lack of human, material, financial resources including a lack of resolve by government, have contributed to an increase in morbidity and mortality.

Almost all studies have shown that injuries affect reproductive individuals in the prime of their life. Most victims are below 45 years of age, just when society is beginning to reap the benefits of its earlier investment in educating the individual. The resulting socioeconomic consequences will affect the individual, family, community and the country at large. The following course of actions needs to be pursued.

#### **Data collection**

The first priority is to establish the incidence and pattern of neglected trauma in both urban and rural communities. The data should identify and target groups for appropriate preventive measures. The state of medical facilities in rural health centers, district hospitals and at tertiary centers must be revisited and upgraded to meet the changing trends of lifestyle and trauma care.

#### **Primary and Secondary Prevention**

Whilst the care of the injured patient is the main aim of the surgeon, it is crucial that surgeons interest themselves in primary and secondary prevention.

#### **Public Education**

Primary prevention must educate the public and target those at risk. The utilization of teachers, councilors, community leaders, church and political leaders is crucial because preventive measures without the participation of the population are bound to fail.

#### **Improvement of the socioeconomic Status**

Improving social economic conditions, with equal distribution of economic activity between rural and urban centers, would curb the flow of unemployed youths to towns. Usually these groups tend to engage in petty business and criminal activities to make ends meet.

#### **Workers Education**

Education about safety measures at work places such as protective clothing and reliable transport would go a long way in preventing accidents. Education of health care workers in trauma care and on the need to urgently seek expert opinion would go a long way in reducing morbidity from neglected trauma care.

#### **Safety Legislation**

Policy makers and law enforcement agencies should be persuaded to promote safety legislation to ensure safety on our roads, at our work places and homes. They must ensure that the laws are respected and that fines are used as a deterrent against future offences.

Neglected trauma occurs as a result of lack of education amongst the public, lack of training of health professionals in trauma care compounded by poor health care facilities.

#### **Education and Training**

The examination of the ability of staff to behave safely must be an integral part of risk assessment and other safety management tools such as audits. There is no point in advocating the importance of safety if it is not feasible to behave safely.

#### **References**

1. Elechi E.N, Etanu S.U. Pilot study of injured patients seen in the University of Port Harcourt Teaching Hospital, Nigeria. *Injury* 1990; 21:234-238.
2. Muniu E, Katsivo M.N, Mwaura L.W, Amunyunzu M. Fetal non Transport Injuries in Nairobi, Kenya. *East African Medical Journal* 1994: 71346-357.
3. Thyoka M., Lavy C., Mannion S.J. Orthopaedic Problems of Road Traffic accidents in Malawi. *East and central African Journal of surgery, Vol.5, No. 2, Sep 2000 80*
4. Chaheka c., decline in Trauma management. *East and Central African Journal of Surgery, vol. 5, No. 2, Sept 2000 80*
5. Owor G, Kabusingye O.C. Trauma Registries as a Tool for improved Clinical Assessments of Trauma patients in Urban African Hospital. *East and Central African Journal of Surgery Sept. 2001, Vol 6 No. 1.*
6. Mumba Dariot – A Research Project in the Department of Community Medicine – University Teaching Hospital, Lusaka, September 1999
7. Vanderstuaeren, F., Wegelin, E. and Wekwete K. Urban Management Programme; Policy programme options for Urban reduction.