

An Audit of Non-Fatal Assault Injuries Treated In Federal Medical Center (FMC), Nguru, North East Nigeria

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Abstract

Background: Violent assault injuries are a frequent occurrence in the native communities of the North Eastern Nigeria. The injuries are mostly unreported, and therefore no policy towards prevention. We hope to highlight the common causes and pattern of such injuries, as well as suggest control measures in order to reduce the incidence.

Methods: A retrospective review of 208 assault injury cases seen at the Accident and Emergency department of the Federal Medical Center, Nguru, between January 2002 and December 2006.

Results: All but 12 were males, giving a male to female ratio of 16:1. Most of the patients are illiterate herdsmen and farmers. The age ranged from 12 to 70 years, with a mean of 30.9 ± 11.2 years. The peak age incidence was 30-40 years. Fighting was the most common cause, accounting for 124 (59.6%), followed by armed robbery assaults, which accounted for 75 (36.1%). Domestic abuse was the cause in 9 cases (4.3%). Arrow shot was the commonest form of assault injury in 55 (26.4%) cases, followed by machet in 49 (23.6%), gunshot in 37 (17.8%), club/stick in 32 (15.4%) and stab wounds in 26 (12.5%). Quarrel over farmlands used for grazing by herdsmen was the leading cause of fighting resulting in assault injuries (87), followed by quarrel over women (32).

Conclusion: Assault injuries are a common occurrence in the native communities of the North Eastern Nigeria. Addressing the root causes such as mapping out grazing lands in the region, community policing as well as mandatory reporting of all assault injuries to the police for appropriate legal action, will help reduce the incidence of assault injuries.

Key words: Assault injuries, native communities, North Eastern Nigeria.

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Introduction

Assault injuries include all injuries that are intentionally inflicted by another person. Fatal cases of assault are known as homicides (not included in this study). Assault injuries constitute a significant proportion of cases seen at the accident and emergency department of most hospitals¹. However, the motive for and pattern of assault injuries varies from one centre to another. Understanding the common causes of assault injuries in any given society or community is important in planning preventive measures². Common causes in the western world include street violence by youths, sports hooliganism, and battery of the elderly, armed robbery attacks, sexual assault as well as domestic abuse^{3,4}.

Common causes in Nigerian cities include upsurge of armed robbery, cult activities by students on campuses, chronic political bitterness associated with violence as well as religious and ethnic violence⁵⁻⁷. Assault injuries are a common occurrence in our rural settings. They are mostly unreported and un-researched upon, and so there exists no preventive strategy yet in the horizon. Assault injuries have therefore remained at an epidemic proportion in the rural communities in the North East of Nigeria. We set out here to assess the common causes and pattern of such injuries with a view to highlighting the extent of the problem and suggest preventive measures.

Patients and Methods

The Federal Medical Center, Nguru, is the only tertiary health institution located in Yobe State. It serves as a referral center to all other health institutions in the State and nearby communities of neighbouring States. The Accident and Emergency department (A&E) is the sole entry to the hospital for trauma cases.

The study is a retrospective review of all cases of assault injuries that presented at the accident and emergency department of the hospital between January

2002 and December 2006(5 year period). The names and case file numbers were obtained from the Accident and Emergency records. The case files were then retrieved from the records department of the hospital. The data collected include demographic information (age, sex, and tribe), motive or cause of assault, type of weapon used, type and site of injury sustained, duration of hospital stay, management and outcome of treatment. Those with inadequate data were excluded from the review. Microsoft excel was used to analyze the data and the results presented as tables and percentages.

Results

Demographics: There were 208 cases of assault recorded over the period. Of these, 196(94.2%) were males, while 12 (5.8%) were females, giving a male to female ratio of 16:1. The age ranged from 12 to 70 years with a mean age of 30.9 ±11.2 years. The peak age incidence was 31-40 years. The age distribution is shown in table I.

The ethnic groups involved in assault injuries seen include the Fulani 102 (49 %), the Kanuri 58 (27.9 %), Hausa 42 (20.2 %), others 6 (2.9 %).

Motive or cause of assault: Analysis of motive or cause of assault showed that fighting accounted for 124 cases (59.6 %), armed robbery cases were 75 (36.1 %), while domestic abuse were 9 (4.3%).

Types of injuries: Analysis of types of injuries showed that the commonest was arrow shots accounting for 55 cases (26.4 %), followed by matched wounds 49 (23.6 %), gunshot wound 37 (17.8 %), blunt trauma with sticks/club 32 (15.4%), stab wound 26 (12.5 %), blunt trauma from fist fight 9 (4.3 %).

Analysis of motive versus type of injuries show that of the 124 cases of injuries due to fighting, 53(42.7%) had arrow shot injuries, 30(24.2%) had matchet wounds, 22(17.7%) and 19(15.3%) had stab wounds and stick/club injuries respectively. Of the 75 cases of assault injuries due to armed robbery, 37(49.3%) had gunshot wounds, 19(25.3%) had matchet wounds, while 13(10.5), 4(5.3%) and 2(2.7%) had club/stick, stab wounds and arrow shot injuries respectively. The nine cases of domestic assaults were all blunt trauma, with no weapons used.

Body region involved in assault injuries treated are as shown in table III.

Major complications of assault injuries treated are shown in table IV.

The average duration of hospital stay was 11.5 ±7.2 days, with a range of 1-44 days.

Table I: Age distribution of patients treated for assault injuries.

Age of patients	Number (n= 208)	Percent
Under 10years	Nil	0.0
11-20 years	38	18.3
21-30 years	61	29.3
31-40 years	70	33.7
41-50 years	19	9.1
51-60 years	12	5.9
61-70 years	8	3.8

Table II: Type of assault injuries treated at FMC, Nguru, North Eastern Nigeria

Type of assault injuries treated.	Number of cases (n=208)	Percent
Arrow shot	55	26.4
Matchet wounds	49	23.6
Gun shot	37	17.8
Stick/club wounds	32	15.4
Stab wounds	26	12.5
Others x	9	4.3

* No weapon used. Injury includes sprains, strains and bruises.

Table III: Body region involved in assault injuries treated

Body region involved	Number of cases (n=208)	Percent
Head and neck	65	31.3
Upper extremities	61	29.3
Back	28	13.5
Abdomen	21	10.1
Chest	20	9.6
Lower extremities	13	6.3

Table IV: Major complications of assault injuries treated

Complications	Number	Percent
Wound infection	20	9.6
Loss of limb	3	1.4
Loss of fingers	3	1.4
Malunion	3	1.4
Paraplegia	2	1.0
Eye loss	2	1.0
Parotid duct fistula	1	0.5
Loss of vision	1	0.5
Ear loss	1	0.5
Epilepsy	1	0.5
Hemiparesis	1	0.5
Wrist drop	1	0.5
Loss of nasal bridge	1	0.5
Total	40	19.2

Figure 1: Metal arrow heads with barbed end, extracted from some patients.



Discussion

All but 12 of the 208 assault cases were males, giving a male to female ratio of 16: 1. Male predominance in violence associated injuries is supported by other studies⁵⁻⁹. This is not surprising especially in our setting where the males are the sole bread winners, and in the struggle are commonly exposed to the situation of violence. The peak age incidence of 31-40 reflects the most active period in the young men's life, in trying to provide for and protect their family. The main ethnic groups of Fulani, Kanuri, and Hausa involved in that order, reflects the main residents in the rural communities of the region served by the hospital.

The most common cause of assault was fighting, accounting for 124(59.6 %). The most common cause of fighting was quarrelling over grazing land by Fulani cattle rearers, and Kanuri farm owners (n=85). Weapons commonly used in such fights include arrows, matchet, clubs/sticks as well as sharp objects like knives. The next most common cause of fight quarrel over women (n=32)! Arrow shot and stab wounds are the common types of injury in those assaults. In communal clashes (n=7), arrow, matchet, clubs and sticks were the weapons recorded. These assault injuries are not reported to the police; only revenge is planned and executed, leading to a vicious circle of assault injuries. Aggravated assault is a pertinent language of indictment if serious bodily injury is caused purposely with indifference to the value of human life¹⁰.

Armed robbery was the second most common cause of assault injuries, accounting for 75 (36.1 %) cases. All gunshot wounds were inflicted during armed robbery attacks. All gunshot wounds recorded were of multiple pellet low velocity type. Low velocity gunshot wounds are often quite severe when inflicted at a point blank range, as

was often the case in our experience. Matchet, club/sticks as well as arrows were also often used during armed robbery.

All victims of domestic abuse were women in 9 (4.3 %) cases. No weapons were used. Injuries were mostly blunt trauma inflicted with the fist, resulting in bruises, sprain and strains.

Over all, arrow shot was the commonest mode of assault injury. The arrow shots ranged from one to five per victim, with devastating effect. The arrows were made of barbed metal head and stick tail. There was no evidence of arrow poisoning of any kind. This may be due to the lack of sophistication, rather than the lack of will to use them.

Matchet was the next most common weapon used in armed robbery and fighting, with most of the victims sustaining multiple matchet cuts. Blunt traumas with stick/club as well as stab wounds with sharp pointed knives were all fairly common. Incidentally, these instruments also double as hunting implement (bow and arrow), as farm tools (matchet), in cattle rearing (club/stick) and household activities (sharp pointed knives). Their use can therefore not be prohibited, but can be regulated by law. It is interesting to note that, no alcohol or drug induced violence was recorded. However, offender-specific information was notably scanty in the records/documentations.

The head and neck was the body region most commonly injured during assault. This shows the vicious intent and indifference to human life of the assailants. These resulted in the loss of eye in two cases, loss of ear in one case and loss of nose bridge in another. Severe head injury often leads to loss of consciousness, from which some incur permanent disabilities. These include hemiparesis in one patient and epilepsy in another. The upper extremities are the next mostly involved body region in assault injuries, because of their use as a defense shield. Some also incurred permanent disabilities which include a limb loss, loss of three fingers of a hand in a case, loss of two fingers in another case and a wrist drop in another. Chest injuries required chest tube insertion in cases of pneumothorax and or haemothorax. A case of stab injury to the upper back resulted in transection of the cord and paraplegia. Penetrating abdominal injuries with damage to the viscera required exploratory laparotomy in twelve cases. Musculoskeletal injuries of the lower extremities resulted in the loss of two limbs. Wound sepsis due to delay in coming to the hospital often compounds the morbidity.

This is in spite of medical expenses, loss of earnings as well as pain and suffering which are enormous.

The WHO World Report on Violence and Health, 2002, made case that violence and therefore most assault injuries are preventable. The report encourages governments to develop and implement a national plan of action for violence prevention, to enhance data collection and research capability. WHO is supporting country level efforts to develop prevention approaches that focus on addressing root causes. WHO encourages the use of reliable data to help determine priorities and evaluate the effectiveness of strategies employed. This fact file describes some of the devastating effects of injuries and violence around the world and prevention methods that can lesson suffering and save life^{1,2}.

Recommendations:

- The hospital should develop a protocol of documentation of services to victims of assault. This should include when and how the police should be contacted. Of course the input of the law enforcement agencies should be sought while developing the protocol.
- The casualty physician should develop interviewing and other technique to gather offender-specific information. Improved documentation of offenderspecific information will be useful in formulating health education programmes (using the contributing factors so highlighted in the documentation) to develop targeted messages e.g. in anger management. The messages could be timed to precede farming period when clashes between cattle rearers and farmers are common.
- The government should explore new concepts in law enforcement, such as community policing.
- Possession of low velocity firearms should be restricted, just as is the case with high velocity firearms. There is also the need to regulate the use of bow and arrows.
- There is the need to map out grazing fields away from farmlands in those communities in order to stem the incidence of violent clashes between herdsmen and farmers resulting in devastating assault injuries..
- Health education programmes addressing the root causes highlighted above should be incorporated into the local government area primary health care schemes.
- Public enlightenment on the provisions of the existing laws, including the benefits of seeking redress in the law courts for bodily injuries sustained during an assault, rather than seek revenge which leads to vicious cycle assaults, , will help to minimize the incidence of assault injuries with its attendant morbidity and mortality.

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