



Assault pattern: Characteristics of victims seen at a police clinic

Saldırı modeli: Polis kliniğinde görülen mağdurların özellikleri

Nwafor Chukwuemeka CHARLES¹, Akhiwu Wilson OBERAIFO²

¹ Department of Pathology, Uyo University, Uyo, Akwa Ibom State, Nigeria

² Clinic of Police, Medico-legal Unit, Benin City, Edo State, Nigeria

ABSTRACT

Introduction: Interpersonal assaults (IA) are commonly seen in our environment. The aim of this study was to document the injury patterns following IA.

Materials and Methods: This is a review of all the IA cases seen and examined at the police clinic, Benin City, Edo State, Nigeria.

Results: A total of 426 people were assaulted during the period, comprising 246 males and 180 females in a male to female ratio of 1.4:1. Age groups 30-39 years and 20-29 years accounted for 70.4% of cases. About 41.3% of victims had secondary level of education while 71.1% of the victims were self employed. Eighty two point four percent of the assaults occurred during the day time. In 33.5% and 10.3% of the assaults, the assailant was either one male or one female respectively. Bruises/haematomas/abrasions were the commonest injuries seen (59.4%), while incised/stab wounds and lacerations accounted for 17.6% and 15.7% respectively. The most severe injury seen was a case of quadriplegia (0.2%). The commonly used instruments of assault were; fist (22.9%), wood (22.6%), human bite (16%), cutlass/machete (12.6%) and broken bottle (11.2%). The head/face/neck region accounted for 57.1% of cases, while upper limb and lower limb each accounted for 27.6% and 17.7% of injury sites respectively.

Conclusion: Body parts were more commonly used in IA and the injuries were usually mild and not life threatening.

Keywords: Interpersonal assault, assault, injury, weapon, assailant

ÖZ

Giriş: Kişiler arası saldırılara toplumumuzda sıkça rastlanılmaktadır. Bu çalışmanın amacı, kişiler arası saldırı sonrası yaralanma modellerini belgelemektir.

Materyal ve Metod: Bu çalışma, Nijerya'nın Edo Eyaleti'nin başkenti olan Benin City'deki bir polis kliniğinde görülen ve muayene edilen kişiler arası saldırı olgularının bir derlemesidir.

Bulgular: Çalışma dönemi boyunca 246'sı erkek, 180'i kadın olmak üzere toplam 426 kişi saldırıya uğramış ve erkek/kadın oranı 1.4/1 olarak bulunmuştur. Olguların %70.4'ü 30-39 ve 20-29 yaş grupları içerisindeydi. Mağdurların %41.3'ü ortaöğretim mezunu iken, %71.1'i serbest meslek sahibiydi. Saldırıların %82.4'ü gündüz vaktlerinde gerçekleşmişti. Saldırıların %33.5'inde ve %10.3'ünde saldırgan sırasıyla ya tek erkek ya da tek kadındı. Çürükler, hematoma ve abrazyon en yaygın yaralanma çeşitleri iken (%59.4), insize/bıçak yaralanmaları ve laserasyonlar sırasıyla %17.6'ya ve %15.7'ye tekabül etmekteydi. En ciddi yaralanma kuadripleji olgusuydu (%0.2). Saldırı esnasında en yaygın şekilde kullanılan aletler yumruk (%22.9), odun (%22.6), insan ısırığı (%16), pala/maşat (%12.6) ve kırılmış şişeydi (%11.2). Olguların %57.1'i kafa/yüz/boyun bölgesinden yaralanırken üst ve alt ekstremiteler yaralanmaları sırasıyla %27.6'lık ve %17.7'lik bir orana tekabül etmekteydi.

Sonuç: Kişiler arası saldırılarda en yaygın şekilde vücut bölümleri kullanılmış olmakla birlikte yaralanmalar genellikle orta şiddette olup hayati tehlike arz etmemekteydi.

Anahtar Kelimeler: Kişiler arası saldırı, saldırı, yaralanma, silah, saldırgan

Yazışma Adresi/Correspondence: Nwafor Chukwuemeka CHARLES

Department of Pathology, Uyo University, Uyo, Akwa Ibom State, Nigeria

Telefon/Tel: +234 810 2462487 • E-posta/E-mail: firstcocsin@yahoo.com

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INTRODUCTION

Interpersonal assault (IA) is common worldwide and every country reports cases of assault in different proportion, hence the availability of assault injury pattern studies from various parts of the world (1). Assault among individuals could be said to be as old as human existence and was very early reported shortly after human creation in the bible when Cain assaulted Abel. Injuries of a widely differing nature may be inflicted with widely different instruments in infinity of ways (2). The character of an injury caused by some mechanical force are dependent on the nature and shape of the weapon, the amount of energy in the weapon or instrument when it strikes the body, whether it is inflicted upon a moving or a fixed body and the nature of the tissue involved (2). The major risk factors for interpersonal assaults are unemployment, poverty, illiteracy, male sex and alcohol (1-11). Commonly used instruments include but not limited to fist, kicks, other body parts, knives, glasses, blunt objects and guns (1-11). While injuries ranging from bruises/abrasions, lacerations, stab wounds, fractures and loss of consciousness can occur. Most of the injuries following IA are minor not warranting hospital admission while the head, face and neck regions and the upper limbs are usually the most involved body regions (1-7,9,10,12,13). Majority of IA occur during late night hours, mostly on weekends with the street and drinking bars been the commonest venue (1,4,5,11,13). Multiple injuries and greater than 1 assailant is also common (1,4,5,13).

In Nigeria, though IA is commonly seen in our environment and the victims usually taken to hospitals, there is no documented or detailed published work on overall injury pattern following IA to our knowledge, hence the aim of this study, to assess the socio-demographic factors associated with IA, document the type of injuries suffered during an IA and provide a background data using cases seen in police clinic Benin City, Nigeria.

MATERIALS and METHODS

This is a review of all the IA cases seen and examined by the police pathologist (a senior police officer) and medical officers at the police clinic, Benin City, Edo State, Nigeria, from January 1st 2013 to December 31st 2013. Whenever there is a complaint of IA in any police station or post in Benin City Nigeria, the attending/investigating police officer will refer the victim to the police clinic which is centrally located in the town and very close to the State Police head quarters. On presentation to the clinic, which generally handles assault cases, they IA victims and accompanying people or relatives usually give a detailed history of event, while a medical doctor performs the examination, treatment and serves as expert

witness for the very few cases that may go to court. The major sources of information were the IA registers and reports of the police clinic. IA victims demographic features (age, sex), time of assault, educational status, occupation, injuries sustained, part of the body injured, weapon of assault and the number of assailants were analyzed statistically using SPSS version 17 (Chicago, Illinois, USA) and p-value of < 0.05 was accepted as significant. Ethical clearance was given by the ethics and research committee of Police Clinic.

RESULTS

A total of 426 people were assaulted during the period, comprising 246 males and 180 females in a male to female ratio of 1.4:1. The youngest victim was 5 years old, while the oldest was 74 years with a mean age of 33.70 Std D of 11.24. Age groups 30-39 years and 20-29 years accounted for 70.4% of cases. Age groups 1-9 years and 70-79 years accounted for the least (0.5% and 1.2% respectively) as shown in Table 1.

Majority of victims had secondary level of education (41.3%), distantly followed by tertiary education seen in 26.3% of victims. About 71.1% of the victims were self employed, 5.6% were unemployed and 9% were in different categories of schooling as seen in Table 2. Eighty two point four percent of the assaults occurred during the day time while 14.6% of cases occurred at night.

Table 3, shows the number of assailants involved and the grade of injuries caused. In 33.5% and 10.3% of the assaults, the assailant was either one male or one female respectively. Husband and wife together were the assailants in 6.9% of cases, while more than 2 males but less than 10 males were seen in 24.4% of assaults. Bruises/haematomas/abrasions were the commonest injuries seen (59.4%), distantly followed by incised/stab wounds and lacerations which accounted for 17.6% and 15.7% respectively. Fracture and loss of consciousness each accounted for 0.7% and 0.5% respectively. The most severe injury seen was a case of quadriplegia

Table 1. Age and sex distribution of cases

Age range	Male	Female	Total (%)
1-9	1	1	2 (0.5)
10-19	8	14	22 (5.2)
20-29	84	65	149 (35)
30-39	83	68	151 (35.4)
40-49	43	18	61 (14.3)
50-59	17	10	27 (6.3)
60-69	6	3	9 (2.1)
70-79	4	1	5 (1.2)
Total	246	180	426 (100)

p = 0.165.

Table 2. Victim characteristics

	Frequency (%)
Level of education	
Primary	61 (14.3)
Secondary	176 (41.3)
Tertiary	112 (26.3)
Incomplete primary	6 (1.4)
Incomplete secondary	57 (13.4)
None	14 (3.3)
Occupation	
Pupil	2 (0.5)
Student	14 (3.3)
Undergraduate	22 (5.2)
Unemployed	24 (5.6)
Self employed	303(71.1)
Civil servant	60 (14.1)
Pensioner	1 (2)
Time of assault	
Morning	167 (39.2)
Noon	27 (6.3)
Evening	157 (36.9)
Night	62 (14.6)
Not available	13 (3.1)

(0.2%), and the assailant was just 1 male. There was no significant correlation between number of assailants and the injuries caused.

The 5 most commonly used instruments of assault were; fist (22.9%), wood (22.6%), human bite (16%), cutlass/machete (12.6%) and broken bottle (11.2%) as shown in Table 4. The percentage is greater than 100%, because in many cases, more than one instrument was used.

Table 5, shows the sites of injury, with the head/face/neck region accounting for 57.1% of cases. Upper limb and lower limb each accounted for 27.6% and 17.7% of injury sites respectively. The percentage of site occurrence is greater than 100%, because in some of the assaults, multiple body sites were involved.

DISCUSSION

Discrepancies between reported and actual cases of IA have been noticed between IA incidents in police registers and hospital registers, with that from police registers usually been higher and accurate (5). This may be because not all cases reported to the police finally presents to a hospital for treatment, may be due to their level of severity or extent of injury. These points to the fact that police clinic IA registers (an extension of police IA registers) used in this study will give detailed information. Studying the characteristics and pattern of injuries following IA helps to alert the healthcare providers with what to expect and to tighten up the health force during those periods when the incidence of assault peaks. It also helps to provide a lot of valuable data which may help the legal procedure to progress smoothly and deliver justice (1,2,6).

Male victims of IA were more than female victims, though both sexes showed an increase in number of cases peaking at the 3rd and 4th decades, with a sharp decline after that. This is similar to findings in South Africa, India, Scotland, England and United States of America (1,2,4,5,11). That male gender is more prone to IA have been previously documented. This has been linked to their more aggressive nature, a predilection to get involved into interpersonal violence and more exposure to environment and assault (1,5,6,11).

Unemployment is a well documented risk factor of IA (4,11). Majority of the victims in the index study were

Table 3. Distribution of assailants and grade of injuries caused

Assailant	Bruises/Haematoma/Abrasion	Incised/Stab						Total (%)
		wound	Laceration	Tooth loss	Fire arm	Burns	Others	
1 male	93	20	19	4	2	-	5	143 (33.5)
1 female	31	3	8	-	-	2	-	44 (10.3)
2 males	13	11	7	-	-	-	2	33 (7.7)
2 females	13	-	1	1	-	1	-	16 (3.8)
Husb/wife	18	2	5	-	-	2	2	29 (6.9)
> 2 ≤ 10 males	53	27	15	2	4	1	2	104 (24.4)
> 2 ≤ 10 females	5	-	3	-	-	-	-	8 (1.9)
> 2 ≤ 10 mixed sex	21	3	1	-	-	-	-	25 (5.9)
> 10 males	6	9	8	-	-	-	1	24 (5.6)
Total (%)	253 (59.4)	75 (17.6)	67 (15.7)	7 (1.6)	6 (1.4)	6 (1.4)	12 (2.8)	426 (100)

Others include; fracture 3 (0.7%), shaky tooth 3 (0.7%), loss of consciousness 2 (0.5%), joint dislocation 2 (0.5%), quadriplegia 1 (0.2%) and induced abortion 1 (0.2%).
p= 0.128.

Table 4. Instruments of assault

Instruments	Frequency (%)
Fist	98 (22.9)
Wood	97 (22.6)
Human bite	69 (16)
Cutlass/machete	54 (12.6)
Bottle	47 (11.2)
Metallic pole/pipe	26 (6.0)
Foot kick	19 (4.5)
Stone	19 (4.5)
Head butt	13 (3.1)
Knife	10 (2.4)

Belt, 9(2.1); axe, 8 (1.9); gunfire, 6(1.4); shovel, 5 (1.1); key, 4 (0.9); hammer, 4(0.9); hot water, 3(0.7); gun butt, 3 (0.7); razor blade, 3 (0.7); burning firewood 2 (0.5); screwdriver, 2 (0.5); pushing, 2 (0.5); and a single case of use of hoe, metal bucket, shoe, plastic chair, boiling food, peppered water, briefcase and spanner each accounting for 0.2%.

Table 5. Sites of injury

Sites	Frequency (%)
Head, Face & Neck	246 (57.1)
Face	156 (36.3)
Scalp	69 (15.9)
Neck	11 (2.6)
Loss of a tooth	7 (1.6)
Shaky tooth	3 (0.7)
Upper limb	118 (27.6)
Lower limb	61 (17.7)
Anterior trunk	43 (10.1)
Chest	10 (2.2)
Abdomen	33 (7.9)
Posterior trunk	27 (6.4)
Buttocks	6 (1.4)
Penis	1 (0.2)

self employed (71.1%) (mainly local artisans, daily paid unskilled job men and women, hawkers and petty traders). This rate is higher than the employment rate of 35% and 56% reported in Scotland and United States of America (4,11). In our environment, nobody wants to be identified as not working, because it is associated with laziness. Many of such business are been done to keep one's self busy. This may have increased the number of people that claimed that they are working/self employed. These jobs barely can provide the daily needs of the owners of these small businesses and they could be regarded as not been gainfully employed. Only 26.3% of victims had tertiary education and these are the individuals that can compete in the tight labour market.

Day time IA was the commonest (82.4%). This differs from studies done in India, England, Scotland and United State, where most cases (53.9%, 52.2%, 63% and 79% respectively) occurred at late night hours (1,4,5,11). Assailants in India preferred night hours because of the advantage of darkness (night) which serves as a cover for their crime, while in England, Scotland and United States, it was mainly related the alcohol intoxication and mainly occurred in and around pubs and bars close to closing time. The reasons for high number of cases occurring in daytime in the index study are not very clear but the events surrounding the assaults may be pointers. These events mainly include cotenant/neighbor misunderstandings, customer (buyer)/seller quarrels, land ownership tussles, community headship tussles and local community youth leadership fights. These quarrels and fights usually occur during meetings, during the day time when buying and selling are going on and the course of use of shared facilities (toilet, bathroom and kitchen) in public crowded buildings.

Head/Face and Neck region was the commonest site of injury accounting for 57.1% of injured sites. Reasons for this cannot easily be deduced. This is similar to findings in South Africa, England and Denmark (3,5,7,9,10). Upper limb was the second commonest site in the index study, which is similar to observations in South Africa and England, but different from reports from India and Scotland (1-7,10). That the UL is second most involved site may possibly be due to the defensive and instinctive reaction of humans toward an external attack by simply extending the upper limbs (1,2). This usually leads to defense wounds. These defense wounds are common in victims of assaults with sharp penetrating or cutting instruments (2). They are common on the palmer surfaces of hands when there has been an attempt to grab the weapon or upon the arms when the victim has attempted to ward off the weapon (2,14).

The majority of injuries associated with IA are mild injuries (1-3,6). More than half of the injuries in the index study were bruises/haematomas and abrasions. This is similar to previous studies (1-3,6). Extrapolating from the information given by the assailants and the victims, that some form of relationships exist between the victim and the assailant, one may conclude that during these IA the aim of the assailant, though is to cause harm or as in many of our cases to instill fear and respect in the mind of the victim rather than to kill or cause severe injury. The fact that almost all the assailants in our study were known to the victims, also limits the threshold (nature and aggressiveness) with which the assailant will cause injury during the assault. Injuries suffered by the victim are

irrespective of the number of assailants during an IA. Most severe injuries occurred during "one assailant vs. victim" episodes. Quadriplegia was the most severe injury seen and resulted from an IA by one male. There is a complicated relationship between number of assailants, weapon use and severity of injury (7,10). With 3 or more assailants, the likelihood and severity of the injury increases (7,15). In this series there is no correlation between number of assailants and injury severity. Two or more assailants were seen in 56.2% of IA and in 43.8% of cases, it was single assailants. This is close to 46% single assailants in Scotland and less than 62% single assailants in England (4,7). A fact from this is that humans could be said to like fighting in groups, believing in the additional strength that comes from one another. Social psychological studies have shown that the elicited aggression of an individual is increased by salient group membership (16).

Body parts (fist and bites) were the first and third most commonly used mechanism of IA. Other studies in South Africa, Scotland, England and Denmark reported fist as the most commonly used instrument (3,4,7,9,10). Various studies in India reported sharp objects, sticks and other blunt objects as most commonly used (1,2,6). The reason for similarity of fist use between Nigeria, Scotland, England and Denmark is not clear. The fact that the bulk of our cases were between neighbors, cotenants or kinsmen of the same community may have reduced the aggressiveness of the assailants and limited them to the use of fist. Weapon use in assault depends on its availability, the aggressiveness and intention of assailant, though regional, cultural and geographical influences are also known to play a role (1,6). Virtually any thing around the vicinity of an assault can be used as a weapon, even a burning firewood or a briefcase. Weapon use is known to result in significantly more severe injury than non-weapon violence, while hard and blunt weapons are commonly used in male and body parts in female victims (6,7,10). These observations were seen in our series as there was a significant correlation between the severity of injury and weapon use.

Drawbacks in this study are that no attempt was made to describe the cloths or the apparels after the IA, neither was alcohol (a known risk factor) estimation done. In assault cases sometimes, description of pattern of tears in apparel has been shown to be a valuable tool to ascertain the weapon of offence (17). Alcohol and drug consumption are related to assault, with a high percentage of those suffering physical violence having been found to have a positive blood alcohol level at the time of the attack (4,8,11,14,18).

In conclusion, the pattern of IA in our environment has been documented and this will serve as a baseline data for future expanded studies. Citizens should be taught that there are other ways of settling misunderstandings that engaging in a fight.

CONFLICT of INTEREST

None declared.

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