

Pattern of injuries suffered by patients treated for alleged assault at Witbank General Hospital, Mpumalanga

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Abstract

Background

Violence has been with us since time immemorial. In South Africa, violence plays a detrimental role in our daily lives, affecting almost everybody, directly or indirectly. The country experiences high levels of violence, with incidents of violence being reported in the newspapers and on radio and television on a daily basis. In the author's personal experience as a casualty officer at Witbank General Hospital, a considerable number of patients with assault-related injuries were seen every day. The objectives of this study were to assess the demographic and social factors associated with assault incidents, as well as to establish the type of injuries suffered by the victims of assault.

Methods

The method used was a descriptive, cross-sectional survey, undertaken at the casualty department of the Witbank General Hospital in Mpumalanga Province from 29 October 1999 to 1 May 2000. All patients who attended for injuries due to alleged assault (interpersonal violence) and met the inclusion criteria were included in the study. A total of 547 patients were selected as subjects of the study.

Results

The majority of the victims were male (71.8%; N = 389), 69% (N = 377) were single and 91% (N = 498) were of African descent. The age group of the majority (86.9%; N = 475) ranged between 17 and 45 years. All the respondents had injuries to more than one part of the body. Among the assaulted patients, 86.6% (N = 474) had more than one type of injury. The majority of the victims of assault (81.4%; N = 445) were not admitted for in-hospital treatment.

Conclusions

The study revealed that a typical victim of assault treated at Witbank Hospital was an African male between the ages of 17 and 45 years. He had been attacked during the night or over the weekend. He had also probably been drinking. He would have suffered minor injuries, mainly to the head and neck.

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Introduction

Violence has been with us since time immemorial. The earliest reference to trauma in the Bible (in Genesis 4: 8), and expression of man's innate violence, is the slaying of Abel by Cain.¹ In South Africa, violence plays a part in our daily lives, affecting almost everybody, directly or indirectly. The country experiences high levels of violence, with incidents of violence being reported in the news and on radio and television on a daily basis. Patients with a history of interpersonal assaults are commonly seen by casualty officers around the country, yet few South African studies have documented the history of such assaults.

As a casualty officer at Witbank Hospital, I saw a considerable number of patients with assault injuries, which prompted me to carry out this study. Most of these patients were labelled with a diagnosis of "assault" without a specific injury mentioned. This study was intended to establish the pattern of injuries suffered by the victims of assault in order to assist healthcare providers with what they could expect when on duty.

Interpersonal assault studies come mainly from the Western world. Most authors used "intentional injuries" or "interpersonal violence" to express "assault injuries". In this study, all these terms are used synonymously.

Although few studies were found in the South African context, we know by virtue of living here that violence is endemic to our society. The problem is so common worldwide that I found studies from almost every country in the Western world. Barancik et al observed that the highest rate of injury from assault occurred among residents of city centres.² These findings are consistent with the observations of Rushforth, who found that mortality from assault was often elevated in the low socio-economic areas of central city slum areas.³ Van Geldermalsen and Van der Stuyft attributed injuries due to interpersonal violence in Lesotho to the disruption of the social structure of the Basotho society as a result of its dependence on migrant labour, which weakened normative reference, the moral net.⁴ In an American study, Sumner et al. noted that injury was the leading cause of death for Americans from infancy to middle age; 37% of the injuries, they observed, were the result of personal violence.⁵ Furthermore, Brink et al. reported that

accident and emergency departments were valuable sources when information on assault injuries was desired.⁶

The information gathered in this study may provide a basis for several activities, such as appropriate prevention programmes and an informed basis for the training of hospital personnel, and also as a basis for the allocation of resources between different departments in the hospital. As stated by Shepherd et al., solid data could replace the vague impression of anecdotal information and give us a basis upon which to act.⁷ Studies of assault-related injuries have clearly established a relationship between unemployment, alcohol, young age, male sex and illiteracy.^{1,2,4-22} This study has established almost the same pattern. The researcher believes that, to be successful, prevention programmes have to include these factors in education protocols, given the prevalence of assault. The same observations were made by Stein et al.; they reported that each admission may be seen as an opportunity for timeous assessment and intervention.⁸ They further postulated that many patients presenting with trauma may have histories of childhood abuse, of posttraumatic stress disorder, or of alcohol or substance abuse; an assessment of these problems and referral for treatment would be ideal.

The family physician can effectively address these issues through a comprehensive approach involving all the stakeholders to help find the appropriate measures to prevent the recurrence of assault injuries.

Method

For a period of six months, the patients who attended for injuries due to interpersonal violence were assessed and informed consent was received from those who were included in the study. Sexual assaults, child abuse and self-inflicted injuries were excluded.

A total of 551 patients consented to be the subjects of the study. The casualty officer who treated the patient completed a pre-established questionnaire with the patients. For completeness, the researcher reviewed the questionnaires. Four questionnaires were found to have been inadequately completed, and these were discarded. A total of 547 adequately completed questionnaires consequently were analysed.

The questions were structured in such a way that the profile of the as-

sault victims, the factors associated with assault incidents and the specific characteristics of the injuries suffered, i.e. the anatomical distribution, the type of injuries, the weapon of attack, the duration of stay in the hospital and the possible cost incurred in the treatment, were recorded.

The data collected for this study formed part of the normal clinical information in the patient record. No patient identifiers were used on the data collection form. Permission to conduct the study was granted by the Medical Superintendent of the Hospital and the Mpumalanga Department of Health Ethics Committee.

Results

A total of 547 patients were considered as the subjects of the study. When reporting on the study, they are interchangeably referred to as subjects or respondents. Table I shows the distribution of the ages of the victims of the assaults in this study.

Table I: Age groups of assault victims

Age	% (Numbers)
1 to 10	1.4 (N = 8)
11 to 16	3.5 (N = 19)
17 to 25	35 (N = 191)
26 to 35	32.6 (N = 178)
36 to 45	19.3 (N = 106)
46 to 55	6.4 (N = 35)
56 to 60	1.5 (N = 8)
Above 60	0.3 (N = 2)

The majority of the victims were between the ages of 17 and 45 years old (86.9%; N = 475).

The gender of the majority of victims was male (71.8%; N = 389).

Four racial categories are used in South Africa. Butchart et al. reported in a study in Soweto that these categories have neither the ethnic or cultural substance the State claims for them.⁹ Nonetheless, they have become central to the ideology of all South Africans and thus powerfully shape the social, economic and political institutions of the country and also the daily experiences and consequent risk factors of its people.

Table II shows the racial distribution of the victims in this study.

Table II: Race groups of victims

Race	% (Numbers)
Black	91 (N = 498)
White	6.3 (N = 34)
Coloured	1.8 (N = 10)
Indian	0.9 (N = 5)

The overwhelming majority of the respondents in this study were black. This representation reflects population trends in South Africa and in the Witbank area (black people constitute the major population group). The predominance of black victims might be explained, in part, by the fact that race groups other than black have easier access to the private medical system due to the benefits they accrued before South Africa became a democracy. This is substantiated by Tellez et al., who report that patients who have no medical insurance would go to the public hospital emergency room when injured.¹⁰

Figure 1 shows the marital status of the respondents (as percentages).

The fact that the majority of the victims of assault were single could be explained by their younger age. These findings correlate with those of Sumner et al., who reported that the majority of the participants in their study were single, separated or widowed.⁵ Among the respondents in the current study, 69% had never been married.

In terms of the weapons used during the assault, punches with fists (25.6%; N = 140) were the most commonly used weapon, followed by knives (20.4%; N = 111), blunt objects (not otherwise specified) (14.7%; N = 81) and bottles (14.2%; N = 78). Sjamboks and firearms were used to a lesser extent; a total of 3.5% (N = 19) each. The total of 110% is explained by the fact that some of the participants reported that they were assaulted with more than one weapon.

The majority of assaults occurred at night (68%; N = 372) and over weekends (56%; N = 306). The victims were mainly attacked in the street (39.9%; N = 218) or at home (34.1%; N = 187). Most of the victims (72.9%; N = 399) knew their assailants, and 61.3% (N = 335) did not want to press charges or report the incident to the authorities.

On the basis of a subjective assessment by the casualty officer, 48.2% (N = 264) of the respondents were found to be under the influence of alcohol. Table III shows the types of injuries sustained by the respondents.

Figure 1: Marital status of the respondents

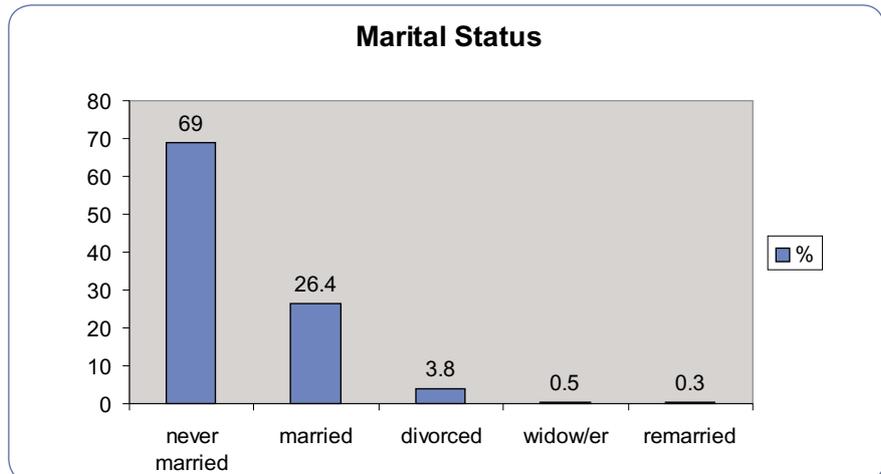


Table III: Injuries sustained by the respondents

Injuries sustained	% (Numbers)
Bruises	47.1 (N = 258)
Abrasions	43.5 (N = 238)
Lacerations	41 (N = 224)
Penetrating wounds	4.3 (N = 24)
Others (not specified)	1.6 (N = 9)
Fractures and tendons injuries	1.3 (N = 7)
Hemo/pneumothoraces	1.1 (N = 6)
Bowel lesions	0.4 (N = 2)

The total is above 100%, which confirms what the researcher established clinically, namely that some individuals suffered more than one injury.

The part of body that was injured in the assault is shown in the table below. A total of 86.6% of the respondents (N = 474) suffered more than one injury, and minor injuries in the majority of cases.

Table IV: Part of body injured

Part of body injured	% (Numbers)
Head	65.5 (N = 358)
Neck	11.8 (N = 66)
Anterior chest	6.6 (N = 36)
Posterior chest	6.4 (N = 35)
Upper arm	5.6 (N = 30)
Forearm	6.7 (N = 37)
Anterior abdomen	1.5 (N = 8)
Posterior abdomen	0.4 (N = 2)
Buttock ,thigh	1.3 (N = 7)
Leg	3.8 (N = 21)
Genitalia	0.4 (N = 2)

In terms of the treatment of the victims, 81.4% (N = 445) were treated and discharged home from the casualty department. A total of 39.3% had their wounds sutured. Reassurance without any additional treatment was offered to 1.5% of the participants. Reassurance was offered to all the patients in the study in addition to other types of treatment. The duration of hospital stay (if any) and the treatment given to the victims are summarised in Figure 2 and Table V respectively.

Table V: Treatment offered to the respondents

Treatment offered	% (Numbers)
Wound suturing	39.3 (N = 215)
Medication	30.5 (N = 167)
Combination of therapies	18.2 (N = 99)
Wound dressing	9.2 (N = 50)
Reassurance alone	1.5 (N = 8)
Application of plasters	1.3 (N = 7)

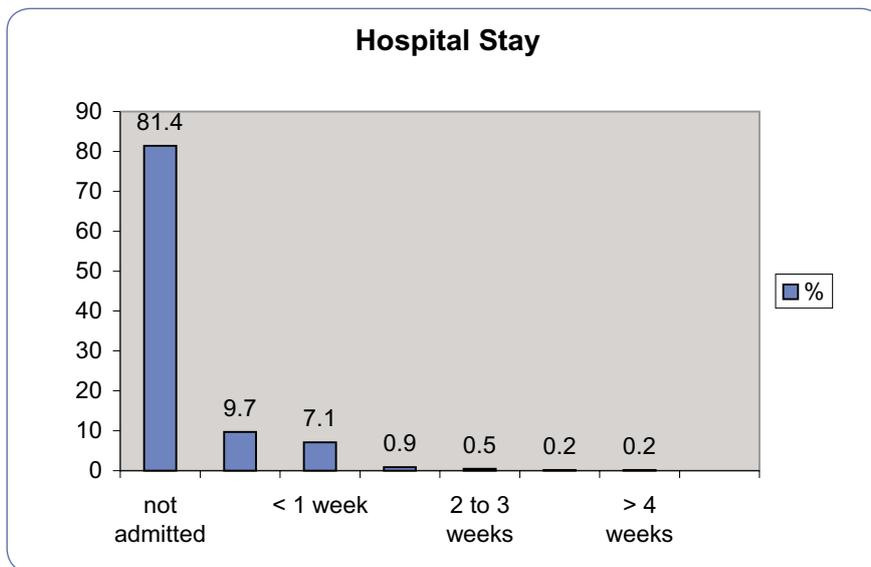
During the period of this study, three patients died of assault-related injuries: a man died of gunshot wounds to his head, a woman died of massive hemo/pneumothoraces and intra-abdominal bleeding, and another man died of myoglobinuria with severe renal failure due to sjambok injuries because he arrived at the hospital too late. This shows that, although the majority of the victims of assault suffered minor injuries, a few of them suffered severe injuries that led to their death.

Discussion

Part of the body injured

The total figure of more than 100% for the part of the body injured (see Table

Figure 2: Duration of hospital stay



IV) was an indication that some of the victims had injuries to more than one part of the body. The anatomical sites of the injuries due to assault were similar to those found in other studies. Brink et al. found that the majority of their patients were injured to the head and the neck, with 69% of their respondents having cranio-facial injuries.⁶ Payne-James and Dean reported that the head was the most common site of injury.¹¹ Shepherd and colleagues found that facial injuries were extremely common (83%), and that the upper limbs were the most common site after the head (14%),⁷ while Wright and Kariya found that 60% of all assault injuries were to the head and neck.¹² This is also confirmed by Hocking, who found that the head and neck were the most injured, followed by the trunk, the upper limbs and then the lower limbs.¹³ The same has been also reported by Wladis et al., who found in their study that 72% of the respondents had suffered cranio-cerebral injuries.¹⁴

Types of injuries sustained

The total of more than 100% in the type of injuries sustained indicates that some of the victims of assault had more than one injury; this was also clinically confirmed by the treating doctors. The preponderance of minor injuries among the victims of assault was reported in most of the studies. The same pattern was found by Hedeboe et al., who noted that the majority of lesions suffered by their respondents were classified as minor injuries.¹⁵ The trend is similar in the studies done by the following authors:

- Hutchinson et al. reported that the victims of assault suffered mainly

bruises (59%), abrasions or lacerations (49%).¹⁶

- Butchart and colleagues reported the same findings,⁹ as did Sumner and colleagues, who reported that contusions were the injuries suffered most by the victims of assault.⁵
- Hocking, on the contrary, found that lacerations came first, followed by contusions and abrasions.¹³
- Wladis et al. reported that fatal injuries are rare in violence victims.¹⁴
- Honkanen and colleagues also reported that their respondents suffered only minor injuries.¹⁶

Our study also confirmed that the victims of assault suffered primarily minor injuries and that they could be treated as outpatients without the need for admission for in-hospital treatment.

Weapons used

The findings of this study correlate with those of Hocking, who found that most (46%) of his respondents were assaulted with fists.¹³ Other weapons, used to a lesser extent, were knives in 15% of cases and bottles in 9% of cases.¹³ The differences in the use of the last two weapons could be explained by the different settings in which the two studies were conducted (UK and South Africa).

Shepherd et al. found that assault injuries most often resulted from punching (72% of cases) or kicking (42%).⁷ Only 6% of the victims in their study reported injuries with knives, but 11% were injured by broken drinking glasses. The different types of societies could possibly account for the different weapons used.

Admission to hospital

The overwhelming majority (81.4%) of the victims of assault in our study were not admitted. This trend is explained by the fact that the victims of assault suffered mainly minor injuries and the majority were discharged immediately after treatment. Those who were admitted spent only a few days in the hospital, with very few of them (1.8% of the total number of victims of assault in this study) spending more than a week in hospital. These findings correlate with those of other studies.^{11,12,15,22} Hocking reported that only 12% of the victims of assault in his study were admitted.¹³ Wladis et al. found that about 15% of assault victims required admission.¹⁴ Brink et al. found that only 10.3% of their respondents were admitted.⁵ Our findings of only 19.6% of respondents being admitted reflect the pattern around the world.

Conclusions and recommendations

The results of this study provide a picture of the typical assault victim as being an African male between the ages of 17 and 45 years. He has been punched by a known person while in the street or in a drinking establishment, and is likely to have been drinking. He will attend the casualty department at night or over the weekend. He is more likely not to report the incident to the police because he probably knows his attacker. He has a good chance of having been assaulted before, and he would have suffered minor injuries.

Taking into consideration these findings, the following can be recommended:

- Legislation should prohibit the carrying of dangerous weapons such as knives, firearms and sjamboks in public places.
- Those who abuse alcohol and other drugs should be identified and programmes should be established to help them.
- If at all feasible, the companies manufacturing beer and other alcoholic drinks should consider alternatives to bottles, e.g. cans or plastic containers.

It has been demonstrated that the experience of hope and a sense of control over one's environment are related to a decrease in aggressiveness.⁸ Positive images of African and other previously disadvantaged people are essential to help young people to settle their differences by means other than violence. The data from this study may be valu-

able to other agencies, such as the Police Services, victim support centres and social welfare organisations.

Assault victims form a significant part of the workload of the casualty department at Witbank Hospital, although the majority of their injuries are minor and they are treated in the emergency room. They present to the casualty department particularly at night and over weekends, when the backup facilities are fewer. The victims and their friends can cause disproportionate disruption to the work of the department and may upset and frighten other patients.

This study suggests that patterns of injury can be identified in individuals. Because such injuries appear to be related to known factors, it is possible to intervene timeously to interrupt the pattern. In order to approach the problem of injury prevention, it is necessary to know the demographic data of the victims and the pattern of their injuries, which is what this study has established.

The young age (17-45) and the male sex of the majority are well established. The relationship between lack of skills and assault is also well demonstrated. The underreporting of assault incidents to the police is of great concern, as law enforcement cannot be applied. The lack of involvement by agencies such as victim support centres and social welfare must be addressed.

Efforts to reduce interpersonal violence should be "person centred", especially during the victims' contact with the casualty department, because this is the only agency they might come into contact with if they do not report the incident to the police or other agencies.

This study substantiates the significant costs of assault injuries and emphasises the financial burden that Witbank Hospital has to bear, and specifically the Department of Family Medicine through its casualty cost centre.

Furthermore, any policy that decreases the incidence of assault will improve the financial bottom line of the casualty department. The integration of hospital services with other institutions, such as the police, schools, social welfare organisations and victim support centres is advocated. These departments should work together and collaborate in recommending multidisciplinary intervention strategies to reduce violence

in the community. Tellez et al. reported that trauma centres and emergency rooms represent laboratories where violence prevention research, injury epidemiology and potential collaboration for public development can be instituted.¹⁰ I believe this study has echoed their call.

Unless we continue to investigate and find solutions or alternatives to violence, we can expect intentional injuries to be the bulk of our workload in the casualty department, especially at night and over weekends. The implication is that an increased number of health professionals must be available to deal with the workload.

Limitations of the study

The researcher acknowledges the limitations of this study, as it surveyed only those individuals who attended the Witbank Hospital casualty department. The researcher cannot confidently extrapolate the results to include all the victims of assault in Witbank, because some of them look for help in private practices or other hospitals, while others might not even have sought medical care. The incidences of assault in Witbank are probably underreported.

Acknowledgements

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