



Death and injury on duty — a study of South African police officers

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Objectives. Sections of contemporary South African society are characterised by high levels of crime and interpersonal conflict. The South African Police Service (SAPS) is in the front line, with many deaths and injuries occurring among serving officers in recent years. The circumstances and nature of the injuries sustained by these officers have received little attention in the medical literature.

Design. A retrospective review of all injured SAPS members was undertaken at a single level one trauma centre in Johannesburg between June 1993 and June 2002. The following factors were recorded: demographics, mechanism and anatomical site of injury, mode of transportation to hospital, whether personal protection had been used, mortality, and return to work.

Results. One hundred and thirty-four SAPS personnel were admitted over a 9-year period. The majority (95%) were male and the median age was 31 years. One hundred and thirty-two were on duty and two were in transit to a place of duty when injured. Ninety-two (69%) were injured by gunshot, (including 3 attempted suicides and 9 injuries due to negligent discharge), 2 members were stabbed, 31 were involved in motor vehicle accidents, 2 in motorbike accidents, 1 member was struck by a car while directing traffic, 3 officers

were injured by falls from a height, 2 members were injured in helicopter crashes, and 1 member required treatment for gas inhalation.

Documentation on whether some form of personal protection was worn at the time of injury was only available for 43 of the 92 cases of gunshot wounds (47%); of these, only 15 (35%) were wearing a bulletproof vest. Use or non-use of a seat belt was documented by hospital staff for only 6 of the 31 officers (19%) injured in motor vehicle accidents. None of the 6 officers had been restrained by a seatbelt. Nineteen SAPS personnel (14%) died of their injuries, but the majority of surviving members returned to duty.

Conclusion. There is an unacceptably high level of violence in South African society today and SAPS members regularly have to deal with dangerous or violent situations. There is a clear need to introduce a reporting system within the SAPS to record the use of personal protection by officers. Education needs to target SAPS members in order to enhance their use of personal protection. There is a further need to design and implement personal protection that will be universally acceptable by SAPS members.

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Sections of contemporary South African society are characterised by high levels of crime and interpersonal conflict, leading to what has been described as a 'malignant epidemic of trauma'.¹ The causes of this trauma epidemic are complex,² but the South African Police Service (SAPS) is in the front line, with many deaths and injuries occurring among serving officers in recent years. The circumstances and nature of the injuries sustained by SAPS members have received little attention in the medical literature. This study was undertaken to investigate the problem of injury and death among SAPS personnel while on duty. The issue of personal protection and its use by SAPS members was studied in order to understand how injury to police officers can be prevented.

Design

A retrospective review of the case records of all injured SAPS members was undertaken at Milpark Hospital, a level one trauma centre in Johannesburg, between June 1993 and June 2002. The following factors were recorded: patient demographics, mechanism and anatomical site of injury, mode of transportation to hospital, whether personal protection had been used, mortality, and return to work.

Results

One hundred and thirty-four SAPS personnel were admitted over a 9-year period. Seventy-six were transported by ambulance, 39 by medical helicopter, 5 by police helicopter, 13 by squad car, and 1 by private vehicle. The majority were male (95%) and the median age was 31 years. One hundred and thirty-two were on duty and 2 were in transit to a place of duty when injured. Ninety-two SAPS members (69%) were injured by firearms. Of this number, 80 were shot by criminal suspects,

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3 SAPS members attempted suicide and sustained self-inflicted gunshot wounds, and 9 members were injured due to negligent discharges. Two members were stabbed by criminal suspects, 31 (23%) were involved in motor vehicle accidents, 2 in motorbike accidents, 1 member was struck by a car while directing traffic, 3 members were injured by falls from a height, 2 members were injured in helicopter crashes, and 1 member required treatment for gas inhalation. The rank of the SAPS members is documented in Table I; 74 (55%) of the SAPS members were sergeants.

Table I. Rank of injured SAPS members admitted to Milpark Hospital, Johannesburg

Rank of injured SAPS member	Number	%
Sergeant	74	55
Constable	18	13
Inspector	17	13
Captain	6	4.5
Reservist Constable	6	4.5
Detective Sergeant	3	2
Detective Constable	1	< 1
Detective Captain	1	< 1
Detective Inspector	1	< 1
Lieutenant	1	< 1
Clerk	1	< 1
Not recorded	5	3.7

Documentation on whether some form of personal protection was worn at the time of gunshot injury was only available for 43 of 92 cases (47%); of this number only 15/43 (35%) were wearing a bulletproof vest. No records were kept with regard to the use of helmets or visors.

The anatomical site of injuries in those shot by criminal suspects is documented in Table II; 70% of these members had injuries to the chest or abdomen. Of the 9 SAPS members

Table II. Anatomical site of gunshot wounds in 80 SAPS members wounded by criminal suspects

Anatomical site	Number of SAPS members with injuries at this site	%
Chest	32	40
Abdomen	24	30
Lower limbs	21	26
Upper limbs	16	20
Face	9	11
Buttock/pelvis	8	10
Head	7	8.75
Neck	6	7.5
Spine	4	5
Back	2	2.5
Eye	1	1.25

injured by the negligent discharge of a firearm, 4 had a wound to the lower limbs, 1 had a wound to the abdomen, 1 had a wound to the face, 1 had a wound to the head, 1 sustained a wound that injured his face, neck and spinal cord, and 1 sustained a thoracoabdominal gunshot wound. Of the 3 SAPS members who attempted suicide and sustained self-inflicted wounds, 2 had gunshot wounds to the head and the third sustained an abdominal wound.

Use or non-use of a seat belt was documented by hospital staff for only 6 of 31 SAPS members involved in motor vehicle accidents. None of the 6 officers had been restrained by a seatbelt.

Nineteen SAPS personnel (14%) died of their injuries. Of the 115 survivors, return-to-work status was recorded in only 57 cases (50%) at latest follow-up. Of the surviving officers whose return-to-work status was documented after a minimum follow-up of 9 months, 33/57 (58%) had returned to full duty, 12/57 (21%) had returned to light duty, and 12/57 (21%) had been discharged from the SAPS.

Discussion

The official SAPS website lists a roll of honour of 127 SAPS members who lost their lives during 2001 alone; only those members whose inquests have been completed are recorded.³ Death and injury to serving SAPS members is a major concern and this study is, to our knowledge, the first of its kind in South Africa to analyse injuries sustained by members of the SAPS during discharge of their duties. Studies from the USA suggest that the rate with which law enforcement officers are killed can be predicted by the general homicide rate, the rate of justifiable homicide by police officers and by the degree of violence and social disintegration in a society.^{4,5}

This study has shown that among SAPS members admitted to a level one trauma centre, more than 70% of gunshot wounds occur to the torso, while 11% of such injuries are to the face and nearly 9% are to the head. Studies from other police services have shown that many penetrating injuries sustained by police officers can be alleviated through the use of body armour.⁶ The patterns of wounding in this study are similar to those reported from a variety of military conflict situations around the world.^{7,8} A study of wounding patterns in the Lebanon War revealed similar patterns, with 10% of all penetrating injuries occurring to the mid-face, and 45% to the torso.⁷ In a study of US army personnel injured during an urban battle in Somalia,⁸ body armour was shown to reduce the number of fatal penetrating torso injuries. Most fatal penetrating injuries in that conflict were caused by missiles entering through areas not protected by body armour, such as the face, neck, pelvis, and groin. Military personnel can be ordered to wear body armour; however, no such directive exists in the SAPS.



Documentation on use of seatbelts among SAPS personnel injured in motor vehicle crashes was very poor; however, it is clear that use of restraints was far from universal. Unrestrained occupants may be ejected from the vehicle, significantly increasing the risk of serious injury.⁹ Unrestrained backseat passengers may be thrown forward, injuring other car occupants. The risk of death for belted front-seat occupants travelling with unbelted rear-seat passengers has been shown to be raised nearly fivefold.¹⁰ In head-on collisions of passenger cars, combined air bag and seat belt use has been shown to reduce mortality by more than 80%.¹¹

Although police officers have commonly been referred to as a high-risk group for suicide,¹² a minority of injuries in this series fell in that category. This finding concurs with other recent studies that have explored suicide in police units and have been unable to show elevated suicide rates among police officers.^{13,14} Nevertheless, stress on SAPS members can be extreme and commanders must be alert to signs of psychological distress. In addition, police officers who have been injured on duty may express anxiety about returning to work as police officers, or may not be able to return at all due to psychological distress.⁶ The law enforcement department's response to the spouse of injured personnel is also important. Appropriate departmental response to the death of a police officer has been shown to reduce post-traumatic stress scores in a bereaved spouse, and studies from the USA indicate that good interaction between a bereaved spouse and police support groups lowers psychological distress scores more effectively than contact with other groups outside of policing.^{15,16} These findings suggest that police agencies and personnel may help the families of injured police officers and policy should be formulated to provide long-term contact and assistance.

The majority (55%) of the injured SAPS members in this series were sergeants. The reason behind this finding is unclear; perhaps sergeants are most likely to be the point of first contact between the SAPS and violent or dangerous criminals. Injury of these experienced officers may have profound implications for the ongoing effectiveness of the SAPS.

The majority of injured SAPS members were transported to our unit by civilian agencies. Some law enforcement agencies in other countries have developed 'tactical emergency medical services' (TEMS) to support police officers in law enforcement situations where there is a substantial risk of serious injury to law officers, bystanders, hostages, or perpetrators. Evidence exists within the military, civilian law enforcement, and medical literature that on-scene TEMS serves to improve mission success and team safety and health, while decreasing

morbidity and mortality in the event of an injury or illness suffered during operations.¹⁷ Specialised medical services are being introduced this year in the SAPS. These specialised units will be piloted in three police stations with responsibility for education, training and operations support.

Conclusion

There is a clear and urgent need to improve the documentation and reporting of information surrounding trauma to SAPS personnel. Accurate data on the use (or otherwise) of body armour will facilitate efforts to educate SAPS members. Members will then be more able to make informed choices about whether to use bulletproof vests, helmets and visors during the execution of their duties. Feedback concerning the effectiveness of body armour and information from members on comfort and ease of use will enable design improvements to be made, further improving acceptance of protective equipment. Use of front and back seat restraints should be mandatory in police cars, especially during high-speed pursuits. The initiative to introduce medical units within the SAPS is to be welcomed; their function must be appraised and if found to be effective SAPS medical services should be introduced nationwide. Ongoing attention must be paid to the psychological support of officers and their families.

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