Impact of workplace violence towards public service emergency care providers on access to emergency medical care in Gauteng Province, South Africa

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Background. Workplace violence is a global concern that threatens access to equal and efficient healthcare in developing countries.
Objective. To discuss the impact of workplace violence towards Gauteng Province-based public service emergency care providers on access to emergency medical care within Gauteng communities.
Methods. This study was based on a larger non-experimental, convergent parallel mixed-methods study guided by an interpretive framework founded on pragmatism. Evidence on workplace violence towards Gauteng-based public service prehospital emergency care providers was collected from the general population of Gauteng, sampled using multistage cluster sampling, public service emergency care providers, sampled using two-stage cluster sampling and purposively sampled managers of Gauteng Emergency Medical Services as well as South African Police Services. Surveys were used to gather information from the general population, focus group discussions were conducted with prehospital emergency care providers and semi-structured interviews were conducted to engage managers. Both quantitative and qualitative data were collected concurrently, and findings were triangulated. Parallel mixed-methods analysis that involved separate analysis of the quantitative and qualitative data was used to analyse the data.
Results. A total of 413 survey questionnaires comprising of 196 web-based and 218 paper-based responses were included in the quantitative subphase of the study. The majority (66.1%; n=273) of participants resided in townships, 24.5% (n=101) in the city, 3.6% (n=15) in informal settlements, 2.9% (n=12) in school accommodation or school residences and only 2.9% (n=12) in flats, complexes, rural areas, security estates, smallholdings or suburbs. These are the participants who met the inclusion criteria, and specifically who were non-members of medical schemes and resided in communities where public service emergency care providers mostly render their services. For the qualitative subphase, two subthemes emerged during the interviews of managers supporting access to emergency medical care in Gauteng. The themes were 'limited access to emergency medical care' and 'delayed response time'. At the same time a theme 'leaving a violent scene' emerged from the prehospital emergency care providers' focus group discussions.
Conclusion. The study revealed that workplace violence towards public service prehospital emergency care providers has a negative impact on access to emergency medical care among low- to middle-income communities in Gauteng who depend on state-funded healthcare.

Access to healthcare is a Constitutional right enshrined under section 27 of the Constitution of South Africa (SA).[1] In line with the Constitution, the National Department of Health's mission is focused on equity, efficiency and access to improve healthcare delivery systems.[2] In addition, SA's National Development Plan aspires to provide efficient and equitable quality healthcare, and precedes the United Nations Sustainable Development Goal 3.8, which aspires for the realisation of access to effective and affordable quality healthcare for all.[3,4] Despite these comprehensive policy entitlements, socioeconomically disadvantaged population groups are more likely to experience declining health status, multimorbidities

and disability in SA.[5] SA's healthcare system is an unequal, two-tier system that consists of a public and private sector that unequally share 8.5% of the total gross domestic product (GDP).[6] In Gauteng Province, 75% of the total population are non-members of medical aid schemes and depend on state-funded emergency medical care (EMC).[7] Gauteng Emergency Medical Services (GEMS) is a state-funded provincial emergency medical service directly responsible for the provision of EMC to 75% of Gauteng's total population.

The country has seen a surge in violence and crime after transitioning into democracy, to have one of the highest urban crime rates in the world.[8,9] The high crime rate indicates a divided

society with immense marginalisation and social exclusion.[10,11] Low- to middle-income areas accounted for the highest numbers of contact crimes reported within Gauteng.[12] Equally, the majority of workplace violence incidents (55.6%) towards public service prehospital emergency care providers (PECPs) in Gauteng occurred within townships, followed by informal settlements (13.3%).[13] Workplace violence towards PECPs is a global concern, and one of the foremost factors accounting for the high-risk nature of the EMC profession.[14,15] It is defined as hostility or intimidation towards an employee within their work environment.[14] Workplace violence threatens access to equal and efficient healthcare in developing countries such as SA.[16]

The aim of this article is to discuss the impact of workplace violence towards Gauteng-based PECPs on the access to EMC within Gauteng communities.

Methods

The study was conducted using a non-experimental, cross-sectional and convergent parallel mixed-methods design guided by an interpretive framework founded on pragmatism. The study was approved by the Durban University of Technology's Institutional Research Ethics Committee (ref. no. IREC 096/19). Gatekeeper permission was approved by the GEMS and the SA Police Service (SAPS). Ethical considerations were addressed using the four ethics principles, namely autonomy, beneficence, maleficence and justice.[17] No compensation or incentives were offered for participation. Informed consent was sought from all participants before participation, and participation was voluntary. Therefore, all participants could withdraw at any time. The study had three participant cohorts that included multistaged cluster-sampled Gauteng community members, two-stage cluster-sampled GEMS and purposive-sampled SAPS Gauteng management and GEMS PECPs. Recruitment advertisements were distributed at the GEMS and the Gauteng Province SAPS to attend recruitment presentations, where the researcher explained the study further and addressed any questions that were raised by the target population (PECPs, management and policy-maker cohorts) regarding the study. A recruitment advertisement was also distributed using newspapers and social media for community members to attend a live stream social media recruitment presentation. In addition, recruitment advertisements were also distributed in various places of religious worship, shopping malls and community notice boards for community members to attend a recruitment presentation. This was hosted in a community meeting place such as a place of religious worship or community hall, where the researcher explained the study further and addressed questions that were raised by the community cohorts. Electronic recruitment letters were made available for members of the target population who have internet access and access to social media, and the link was shared during the live social media stream. During the recruitment presentations, participant sign-up forms were used to screen participants.

A quantitative survey was developed for the quantitative subphase of the study. The questionnaire was also translated into IsiZulu as the majority of Gauteng's population speak isiZulu,[7] while a focus group discussion guide and an interview schedule were developed for the qualitative subphase of the study. These qualitative and quantitative data collection tools enabled narrative and numerical information to be acquired and investigated to answer related aspects of the research questions and to archive the study objectives.[18] The quantitative data collection tool was then pre-tested on five PECPs working at a private sector emergency medical service in Gauteng in order to attain rigour and reliability of the data collection tool.[19] The qualitative data collection tools were pre-tested on eight KwaZulu-Natal Province community members in order to enhance validity of the data collection tool.[19] No changes were made to the data collection tools. The questionnaire asked Gauteng community members about their experience with prehospital EMC, crime in their communities, safety of PECPs in their communities, the impact of violence to PECPs within the communities and steps that would help to prevent violence towards PECPs. The focus group discussion guide asked Gauteng-based public service PECPs about their experiences regarding workplace violence towards PECPS in Gauteng. This 'grand tour' question consisted of eight open-ended probing questions. The interview schedule asked SAPS and GEMS managers their views on workplace violence towards public sector emergency care providers working in Gauteng. This grand tour question consisted of seven open-ended probing questions.

Qualitative and quantitative data collection was implemented concurrently within a single phase of the study.[20] For the quantitative subphase, 413 survey questionnaires comprising 196 web-based and 218 paper-based responses were received, and included in the data analysis and interpretation from all five Gauteng districts.

For the qualitative subphase, seven face-to-face, semi-structured individual interviews were conducted and consisted of a total of five managers from the GEMS and two managers from SAPS Gauteng Province. In addition, five focus group discussions were conducted with a total of 35 public service operational PECPs working in Gauteng.

NVivo qualitative data analysis software (QSR International, USA) was used to analyse qualitative data through Tesch's eight-step open coding approach.[20] IBM SPSS version 25 (SPSS, USA) was used to analyse quantitative data. Descriptive statistics were used to analyse the categorical and sociodemographic data.[21] The χ^2 test was used to determine statistical significance between categorical variables.[22] A binomial test was used to test whether a significant number of participants selected one from a potential two or more responses.[22] One sample t-test was used to compare the means of two groups.[23] The level of significance was set at $p<0.05$. The assistance of a statistician was sought during data analysis.

Results

Quantitative subphase

This article only discusses the quantitative responses attained when Gauteng community members were asked about their experience with prehospital emergency medical care and the impact of violence to PECPs within their communities.

Demographic data showed that majority (66.1%; n=273) of participants resided in townships, 24.5% (n=101) in the city, 3.6% (n=15) in informal settlements, 2.9% (n=12) in school

accommodation or school residences and 2.9% (*n*=12) in flats, complexes, rural areas, security estates, smallholdings and suburbs (Fig. 1). A total of 52.3% (*n*=216) of the participants were employed, whereas 47.2% (*n*=195) were unemployed and 0.5% (*n*=2) did not respond to the question. Most participants 92.5% (*n*=382) spoke a native SA language at home, whereas 4.1% (*n*=17) were English speaking, 2.9% (*n*=12) were Afrikaans speaking and 0.5% (*n*=2) spoke other languages (Portuguese and Filipino).

Awareness of prehospital EMC
A significant number of participants (30.8%; *n*=127) indicated that they are aware of the prehospital EMC profession but knew little about it (*p*<0.0005), whereas 7.5% (*n*=31) of participants indicated they were not aware of the ambulance worker profession, 21.5% (*n*=90) indicated they were aware of the ambulance worker profession but did not know anything about it and 18.2% (*n*=75) indicated they were aware of the ambulance worker profession and knew quite a bit about it. A total of 21.1% (*n*=87) indicated that they were aware of the ambulance worker profession and knew quite a lot about it, whereas 0.7% (*n*=3) did not respond.

Exposure to prehospital EMC
The mean total response received indicating participants' use of a government ambulance was 3.9% (*n*=16), for use of a government ambulance by friends or family 97.6% (*n*=403), for calling an ambulance for someone who was sick or injured 96.9% (*n*=400) and seeing a government ambulance helping someone who was sick or injured was 97.8% (*n*=404).

Ambulance response to emergencies in the community
The participants responded that there was significant agreement that government ambulances in Gauteng always arrive late to the scene (mean (M) 3.77, standard deviation (SD) 1.139, t (3) =

Fig. 1. Percentage of participants per district.

13.646, *p*<0.0005). However, there was significant disagreement that ambulance drivers are reckless when they respond to calls (M 2.66, SD 1.113, t (3) = −6.073, *p*<0.0005).

Impact of violence on the community
Participants were asked to indicate their agreement with six statements about the impact of violence on ambulance workers on the community. There was significant agreement among participants that ambulance response times are delayed when ambulances wait for a police escort before responding to the scene (M 3.28, SD 1.295, t (3) = 4.370, *p*<0.0005). In addition, there was significant agreement that few ambulances are available to respond to calls within the community owing to: hijackings of ambulances; vandalising of ambulances; repairs to ambulances and other matters (M 3.53, SD 1.195, t (3) = 8.194, *p*<0.0005). There was also significant agreement that police have slower reaction times to crime scenes in the community as they have to escort ambulances within the community (M 3.48, SD 1.238, t (3) = 7.672, *p*<0.0005). Furthermore, there was significant agreement that there is a lack of concentration by PECPs when providing EMC on the scene as they fear for their lives and must be constantly aware of their surroundings (M 3.37, SD 1.283, t (3) = 5.766, *p*<0.0005). There was also significant agreement that community members have to use private transportation to transport the sick and injured to hospital as ambulances cannot enter the community during protests (M 3.76, SD 1.123, t (3) = 13.538, *p*<0.0005). Additionally, there was significant agreement that there are not enough advanced life-support PECPs servicing communities in Gauteng as they resign or transfer owing to crime and fear of being attacked while on the job (M 3.53, SD 1.157, t (3) = 9.122, *p*<0.0005).

Qualitative subphase
From the interviews, the theme 'access to EMC' emerged. From this theme, the two relevant subthemes that emerged were 'limited access to EMC' and 'delayed response time'.

Limited access to EMC
The participants reported that public service PECPs experience difficulties in accessing those who need EMC owing to workplace violence that they experience within communities that have been classified as high risk for workplace violence in Gauteng. One participant described their experience as follows:

> 'As GEMS, we have a mandate to provide medical emergency medical services to all the communities, but with the current violence and attacks, we cannot even reach to, or we cannot even service even those that they are in need of emergency medical services.' (GEMS; P#3)

Another participant highlighted that despite the severity of the illness or injury requiring EMC, PECPs may have to resort to terminating services to guarantee the safety of PECPs in some communities:

> 'If it's a high-risk area, it will be avoided and uhm just to protect the personnel … irrespective of how serious the patient is, it shouldn't be our problem until such time that the community
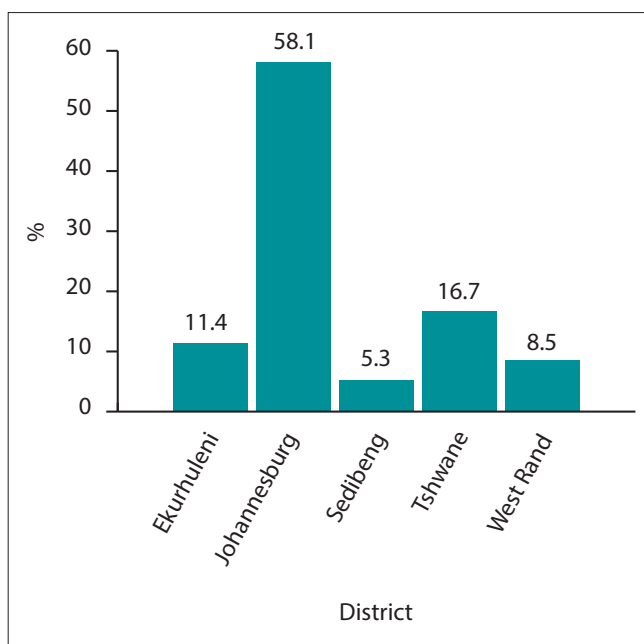
can uhm, show *gore* [Sesotho] their willing to protect emergency care workers.' (GEMS; P#4)

One participant also highlighted that ill or injured patients from these communities end up having to transport themselves from the scene to areas deemed safe by PECPs to access EMC:

> 'We've identified places that are high risk and there's critical patients there, and we cannot respond to them, because obviously their wellbeing or their health and uhm survival rate decreases exponentially so, and the more we say they must actually meet us at a certain meet point that we consider our safe zone, how will they get there if they don't have means of transport, uhm what will happen to the patient that is critical from within their home to the point that they are supposed to meet the EMS.' (GEMS; P#4)

Delayed response time
Participants acknowledged that workplace violence results in delayed emergency medical service response times as PECPs must obtain police escorts before responding to scenes in high-risk communities. One participant reported that:

> 'I'll mention the areas like uhm Gomora [informal settlement in Pretoria] as an example … you know very well that you may be attacked at any time, then as a result …you get the uhm escort from the SAPS to accompany you to where the call is … as a result, the response time, we working on the response time, and eventually you going to be delayed.' (GEMS; P#7)

Another participant reported that:

> 'Uhm there are places which are, are high risks, which even if, no matter people are sick, we know we understand but they can't risk going there without the escort of the police, and that delays the response time, and a person, they might end up dying.' (GEMS; P#2)

Leaving a violent scene
From the focus group discussions, this article discusses only the results related to the theme 'impact of workplace violence'. From this theme, it only discusses the subtheme 'leaving a violent scene'.

Participants reported that whenever they do not feel safe on a scene and no protection is available, then they leave the scene. One participant reported the following:

> 'If I feel I'm not safe, there is no other ambulances to back me up and SAPS is not showing, then I leave the scene, so if I'm not safe, I'm leaving the scene, that's what I do.' (FG#2; P#6)

Another participant reported the following:

> 'Sometimes when you receive a call you feel that you are not safe, even if it's a genuine call you end up having fear, because our area is rural, so sometimes they are dark, so you fail to look for the caller and at the end you end up leaving.' (FG#3; P#3)

Discussion
The triangulation of the focus group discussion findings offered complementarity to the interview theme, whereas the quantitative results offered convergence. The findings of the interview and quantitative strands revealed that workplace violence hinders access to life-saving EMC for the ill and injured and results in delays in ambulance response times, as ambulances need to obtain police escorts before responding to high-risk communities. Additionally, the interview strand also shows ambulances experiencing difficulties in accessing patients in communities classified as high risk for workplace violence. Likewise, findings of the focus group discussion strand show that when ambulances can access these communities, the PECPs at times have to leave the scene altogether when they do not feel safe or hastily transport the ill and injured without providing EMC. Working in violent and stressful environments leads to negative perceptions among employees about their safety climate, resulting in decreased organisational service delivery.[24] In addition, the World Health Organization has noted that workplace violence has a negative impact on the quality of healthcare provision, and hence results in poor service delivery.[16]

The quantitative strand of this study also shows that government ambulances are perceived as always being late among the Gauteng population. Quantitative findings show that during strikes, the Gauteng populace must resort to using private transportation to ferry the ill and injured to healthcare facilities, as ambulances cannot enter their communities at these times. These findings illustrate the extent to which workplace violence towards PECPs negatively affects the population of Gauteng. The literature shows that workplace violence results in delays in treatment and increased waiting times.[25] In contrast, according to the Broken Windows Theory of Criminal Behaviour, crime flourishes in communities where disorderly behaviour is ignored.[26] Workplace violence data from GEMS reveal that most incidents of workplace violence occur in low- to middle-income areas, which shows that it is these areas that are more likely to be classified as high-risk communities.[13]

These low- and middle-income areas have a high prevalence of low medical scheme membership, and high rates of unemployment, with many households redistributing household income to sustain basic household needs as a result of increasing inflation.[27] Therefore, many households cannot afford access to private sector EMS as an alternative service provider in the absence of public service EMS. They also have no access to private means of transportation, especially late at night when there is no access to taxis or trains in their communities. In addition, the ill or injured may have types of injuries or conditions that warrant a certain degree of urgency, and therefore EMC, specialised interventions or equipment and specific patient positioning that can only be provided by an ambulance.

Limitations
This article is based on research conducted on provincial public sector emergency medical services only. However, Gauteng is currently also serviced by municipal emergency medical services and private emergency medical services, who are also subjected to workplace violence.

Conclusion
Workplace violence towards public service PECPs is a challenge to the public health system in Gauteng that negatively affects PECPs and access to EMC among low- to middle-income communities in Gauteng who depend on state-funded

healthcare. This may reduce the chances of survival for those within these communities and decrease their quality of life. It also increases the financial burden among low- and middle-income households in Gauteng. SA has a widening gap of inequality; therefore, it is important for cost-effective and sustainable strategies to be developed and implemented in order to prevent workplace violence towards public service PECPs in Gauteng, as the majority of the population is dependent on state-funded healthcare.

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