INTRODUCTION

Workplace violence has been defined as “incidents where employee(s) are physically or emotionally abused, harassed, threatened or assaulted (overt, covert, direct, indirect) in circumstances related to their work, including commuting to and from work, involving an explicit or implicit challenge to their safety, well-being or health”.1 As such, workplace violence is a serious problem in the healthcare services worldwide.2,3 In general, it is reported that between 35.0% and 80.0% of hospital staff have been physically assaulted at least once; while up to 82.0% of nursing staff have experienced verbal abuse.4-6 Other studies have reported high rates of psychological assaults ranging from 32.2% in Bulgaria to 67.0% in Australia; while physical assaults have been reported in 33.0% among nurses in Turkey.6-10

In South Africa, the Medical Research Council conducted a study on workplace violence in the healthcare industry and reported that most respondents had experienced it in different forms. Verbal abuse was reported by 92.3% of respondents, while 36.4% of interviewees had occasionally been threatened with physical assault.11-12 Within health facilities, emergency departments and psychiatric settings constitute areas with more incidents of violence.13

Given the lack of published data on the extent of workplace violence among healthcare service workers from Limpopo Province, South Africa, the purpose of this study was to describe the violent assaults by patients experienced by healthcare service workers from this province based on data submitted to the Compensation Commissioner in terms of the Compensation for Occupational Injuries and Diseases Amendment Act 61 of 1997.14 In doing so, this study endeavoured to contribute to raise the debate on this topic and provide data that could be used for planning appropriate interventions.

METHODS

Data submitted to the Compensation Commissioner from January 2007 to December 2009 were extracted using a pre-tested data collection form. This form was designed by the investigator for this study. Cases were defined as...
reports about any act of assault suffered by a healthcare worker in a healthcare setting during the study period in Limpopo Province.

The following data were collated: age and gender of victim, year of report, year of employment, professional category, how the assault was carried out and its outcome, and the health district where the assault occurred. Data were captured in a spreadsheet and the accuracy of capturing was checked by means of a comparison of a printout to the original forms. From the year of employment, the number of years of working experience and the time it took to being assaulted were calculated. The age was dichotomised into less than 40 years and 40 years and above based on the mean value of the age parameter. Analysis of variance was conducted to test the difference between younger and older victims with regard to how long it took for one to be assaulted. The level of statistical significance was set at p<0.05. Ethics approval to conduct this study was obtained from the Medunsa Research Ethics Committee.

RESULTS
The total number of cases of assault reported during the study period was 33, an average of 11 cases per year. There were no cases in the Sekhukhune district, only one case in Waterberg district (Figure 2), which involved a male nursing manager who was assaulted by a patient in 2008.

The districts most affected by workplace violence (in descending order) were Mopani (51.5%), Capricorn (24.2%), and Vhembe (21.2%). There was a significant difference among districts based on the trend of assaults during the 3-year period (p = 0.028). In the Capricorn and Vhembe districts, the number of cases increased sharply from 2007 to 2008 and then decreased sharply between from 2008 to 2009; in contrast, in Mopani district, the cases increased significantly, rising from two in 2008 to 12 in 2009 (Figure 3).

<table>
<thead>
<tr>
<th>How the assault was carried out</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beating (use of fists and punching)</td>
<td>22</td>
<td>66.7</td>
</tr>
<tr>
<td>Kicking</td>
<td>3</td>
<td>9.1</td>
</tr>
<tr>
<td>Biting</td>
<td>2</td>
<td>6.1</td>
</tr>
<tr>
<td>Pushing</td>
<td>2</td>
<td>6.1</td>
</tr>
<tr>
<td>Beating and biting</td>
<td>1</td>
<td>3.0</td>
</tr>
<tr>
<td>Strangulation</td>
<td>1</td>
<td>3.0</td>
</tr>
<tr>
<td>Hard squeezing of hand</td>
<td>1</td>
<td>3.0</td>
</tr>
<tr>
<td>Hitting with an object</td>
<td>1</td>
<td>3.0</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 1. Modalities of assault to healthcare service workers by patients in Limpopo Province of South Africa 2007-2009 (n=33)

Though the majority of assaults were beatings, some cases involved kicking, pushing, and strangulation (Table 1). As a result of assaults, three victims (9.1%) missed three, four and seven days of work respectively, as they were being treated for their injuries. These three victims were
one male and two female nurses from Vhembe and Mopani districts. Most victims sustained soft tissue injuries and bruising which led them to claim for compensation. Among the serious cases, a 65-year old woman was strangled by a psychiatric patient in November 2007; she survived with severe neck injury. She worked as a cleaner in a hospital of Vhembe district. In a different hospital of Vhembe district in June 2008, another psychiatric patient assaulted a male nursing assistant, fracturing one of his fingers. Other victims of assaults by patients suffered from head injuries, lacerations and swellings (Table 2).

The majority of victims were females (54.5%); their ages ranged from 27 to 65 years, with a mean of 45.5±9.3 years and median of 47 years, and 75.8% of victims were 40 years and above. Health professionals, namely nurses were the most affected (66.7%); in addition, one female pharmacist assistant was beaten up by a patient at a regional hospital in Mopani district during 2009. Among the non-professional staff members, the cleaning and administrative personnel were the most affected (12.1% for each category). The least affected staff members were kitchen staff members and pharmacy personnel (Table 3). Of note, no cases of assault were reported among medical doctors or pharmacists.

Overall, based on the number of years of work experience; it took on average 14.2 ± 8.8 years to becoming a victim of an assault. However, there was a significant difference between younger and older victims (Table 4); the mean number of years was only 3.8 ± 3.6 years in those younger than 40 years old versus 17.5 ± 7.3 years in those 40 years and older (p = 0.001).

**DISCUSSION**

This study found that, on average, 11 cases of assaults per year were reported to the Compensation Commissioner from Limpopo Province. Although diverse categories of healthcare service workers were involved, nurses were the most assaulted, most likely because they are the ones who attend to patients primarily, most often, and interact with patients the longest. Based on the average number of 8000 nurses employed in the province during the 3-year study period, the 22 cases of assault among nurses represent a reported annual incidence of 27.5 cases per 10 000 nurses. This figure is consistent with reports that showed that up to 11.5% of healthcare workers in South Africa have been victims of assault. Female healthcare workers were slightly more affected than males in this study. This finding concurs with reports from many other countries such as USA, France, Kuwait, and Canada that show that female workers are more often victims of violence than males.

Besides the age and the professional category of victims as discussed above, several other risk factors associated with violence against healthcare workers include shift work, working at night, being alone with the perpetrator, and working during weekends. In this study, the circumstances surrounding the incidents were not documented in the records reviewed.

The assaults led to two documented outcomes. This study documented lost productivity in terms of number of
Table 4. Results of one-way analysis of variance based on age category

<table>
<thead>
<tr>
<th>Age category</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Max</th>
<th>Min</th>
<th>DF</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger than 40 years old</td>
<td>3.8</td>
<td>3.6</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>27.57</td>
<td>0.001</td>
</tr>
<tr>
<td>40 years and older</td>
<td>17.5</td>
<td>7.3</td>
<td>36</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

working days that were lost. The findings from this study concur with a previous report by Steinman who reported that over 60% of those who had been physically attacked had to take 1 to 3 days’ leave, while about 20% stayed home for 1 to 3 weeks, and about 10% for 1 to 6 months. Although the monetary value of these lost days were not estimated in South Africa, data from other settings suggest that, in 1996, the total costs for 344 non-fatal work-related assaults were estimated at $5 885 448 in the United States of America.

In addition, injuries as outcomes of assaults were consistent with reports by other investigators. In particular, soft tissue injuries, bruising and swellings resulting from punching and kicking have been reported by Shepherd and co-workers. Victims of workplace violence may also suffer consequences that lead to psychological, psychosomatic and musculoskeletal health disorders as well as post-traumatic stress disorder. However, no such data were available in this study. Although no fatalities were reported among the victims of assaults, the details of the severe cases are worrying. The reason for this is that the perpetrators were psychiatric patients. This finding suggests that there was a failure in the system with regard to the control and isolation of psychiatric patients. Additionally, the victims may have been physically unable to defend themselves given their ages and may have been unable to detect the signs of aggression.

The above findings suggest that managers of health districts and facilities need to take actions to prevent . . .

“. . . there should be a comprehensive strategy that includes the implementation of prevention measures . . .”
Lessons Learned

1. Healthcare service workers, especially nurses, and women and older workers, are at risk of assault by patients.
2. Healthcare workers must be trained to recognise behaviours in patients which may indicate a risk of assault.
3. Healthcare workers must be actively involved in the design and implementation of strategies aimed at addressing workplace violence.
4. Healthcare workers must participate and conduct operation research studies aimed at improving the safety and security of patients and themselves in healthcare settings.
REFERENCES


