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Prevalence and predictors of mental disorders in intentionally and unintentionally injured emergency centre patients

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Abstract

Little is known about the prevalence and predictors of mental disorders amongst injured emergency centre (EC) patients in low- and middle-income countries. Patients presenting with either an intentional or unintentional injury were recruited (n=200). Mental health, injury and psychological trauma histories were assessed. Descriptive statistics and logistic regressions were conducted and predictors for current mental disorder were identified. Diagnostic criteria for a current mental disorder, including substance use disorders, were met by 59.5% of participants. Compared to those with an unintentional injury, intentionally injured participants were more likely to be diagnosed with a current mental disorder (66.9% vs 48.8%; $p=0.01$). High frequencies of previous intentional injuries predicted for current mental disorder (OR = 1.460, 95% CI 1.08-1.98), while male gender and witnessed community violence predicted substance use disorder diagnoses. Findings indicate that injured EC patients, particularly those with intentional injuries, are at risk for mental disorders. Psychosocial interventions in the EC context can potentially make an important contribution in reducing the burden of mental disorders and injuries in low- and middle-income countries.

Keywords

Mental disorder; emergency; injury

Introduction

Mental disorders make a considerable contribution to the global burden of disease, accounting for 7.4% of all healthy years of life lost, particularly affecting the 15-39 year age group (Murray et al., 2012). The lifetime prevalence of mental disorders globally ranges from 12 to 47.4% (Kessler et al. (2007), with low- and middle-income countries (LMICs) such as Colombia (39.1%), Ukraine (36.1%) and South Africa (30.3%) recording high prevalence rates. Although studies have documented the prevalence of common mental

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disorders among patients presenting to primary care in LMICs (Carey et al., 2003; Kauye et al., 2013; Patel et al., 2008; Sorsdahl et al., 2010; Van Heyningen, 2011), there is presently a lack of studies investigating mental disorders and their risk factors amongst injured patients.

Investigating the prevalence of mental disorders and risk factors for these conditions amongst injured emergency centre (EC) patients in LMICs is important for a number of reasons. Firstly, studies from high-income countries (HICs) suggest that injured patients presenting to ECs may represent an at-risk group for mental disorders. A number of these studies have found that patients presenting with an injury were more likely to meet criteria for a pre-existing mental disorder than their non-injured counterparts (Dicker et al., 2011; O'Donnell et al., 2009; Poole et al., 1997; Wan et al., 2006). For example, a Canadian study found that patients hospitalized for injury were over nine times more likely to have been hospitalized for a mental disorder prior to the injury admission, and over three times more likely to have submitted mental health physician claims than the matched non-injured cohort. Of these claims over 80% were for depression, panic or anxiety symptoms (Cameron et al., 2006). At the present time, very little research on this issue has been conducted in LMICs such as South Africa.

The few studies that have looked at patients presenting to ECs in LMICs tend to focus solely on alcohol and drug use, with no studies investigating the prevalence of other mental disorders (Bowley et al., 2004; Cherpitel, 2007a; Parry et al., 2005; Plüddemann et al., 2004). These studies found extremely high rates of substance use associated with injuries. For example, data from Belarus, Mexico and India found that between 17% and 32% of injured patients tested positive for alcohol on breath or blood analysis (Cherpitel & Borges, 2001; Cherpitel et al., 2005). Studies performed in South African ECs documented that between 36% and 79% of injured patients had been using alcohol just prior to their injury (Peden & Bautz, 2000; Plüddemann et al., 2004) and between 33% and 62% had been using illicit drugs (Parry et al., 2005). While many of the studies performed in other LMIC emergency contexts elicit histories of substance use, they were mainly limited to the time period immediately preceding the injury and very few attempt to diagnose substance use disorders (Cherpitel, 2007b), thus the investigators were not able to identify individuals at increased risk of further substance-related harm. Furthermore, since substance use disorders frequently co-occur with other mental disorders (Grant et al., 2004), the investigation of comorbidities in these patients is important especially with regard to the planning of further treatment. Studies from HICs have shown high rates of substance use disorders co-occurring with other mental disorders in injured EC patients (O'Donnell et al., 2009; Richmond et al., 2007).

Secondly, EC patients in HICs are known to have higher exposure rates to risk factors for mental disorders. These risk factors include past traumatic experiences and witnessing community violence (Cunningham et al., 2006). Although community violence and trauma variables in the EC have not been investigated in LMICs, various studies indicate that there are high rates of trauma and community violence exposure in many of these countries. For example, psychological trauma is highly prevalent in South African society. Data from a nationally representative sample reveal that approximately 75% of South Africans experience some traumatic event during their lifetime. This includes, having someone close

(e.g., family/friend) experience a trauma (43%), witnessing trauma (27.9%), criminal victimization (25.1%), and partner violence victimization (24.3). Most South Africans have experienced more than one traumatic event in their lifetime (55.6%) (Williams et al., 2007). Furthermore, mental disorders are significantly associated with such traumas in LMIC settings (Ribeiro et al., 2013; Roberts et al., 2008; Shields et al., 2009; Uwakwe et al., 2012; Williams et al., 2007).

Third, in LMICs such as South Africa there is a high burden of injuries, which makes a considerable contribution to the country's overall burden of disease. Injuries account for 2.3 million healthy years of life lost or disability-adjusted life years (DALYs) (Norman et al., 2007). With the exclusion of self-inflicted injuries, intentional injuries¹ due to violence are second only to HIV/AIDS as a contributor to DALYs, followed by tuberculosis, and road traffic injuries (Norman R, 2006). Injured individuals represent a significant proportion of South Africa's EC patient burden. Injury has been shown to be a recurring phenomenon, especially in those sustaining violence-related or intentional injuries (Brooke BS, 2006; Dowd MD, 1996; Ponzer et al., 1996; Sims et al., 1989; Worrell SS, 2006). For example, data from New Zealand indicates that compared to unintentionally² injured patients, assault-injured patients presenting to an emergency centre were 39.5 times more likely to present with further injuries due to violence (Dowd MD, 1996). Furthermore, along with recurring injuries the risk for mental disorders increases (Bryant et al., 2010; Creamer et al., 2001; O'Donnell et al., 2013) and both sets of conditions contribute to an increasing burden on individuals, families, communities and health systems.

This study begins to address the lack of research investigating the prevalence of mental disorders and their risk factors amongst injured patients in LMIC ECs.

Methods

Study sites

This study was undertaken in two 24-hour ECs in Cape Town. The Elsies River and Khayelitsha sites were identified due to the burden of violent injuries in these peri-urban, low socioeconomic areas (Naledi et al., 2009). Both of these facilities provide services for walk-in patients and refer to Tygerberg Hospital for specialized services if required.

Participants

A convenience sample of 200 participants was recruited from the ECs while they were seeking treatment for an injury due to violence or unintentional causes. Only those patients presenting with an injury were requested to participate in the study. Patients presenting with self-inflicted injuries were not included in the sample. Patients were excluded from the study if they were younger than 18 years of age, too unwell to participate, if they required referral

¹Intentional injuries are those injuries resulting from the use of violence. The World Health Organization defines violence as “the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation” (Krug et al., 2002).

²Unintentional injuries are those injuries which result from an unplanned incident, such as a road traffic crash, a fall or a fire.

to a higher level of care, or if they were unable to give informed consent. This was often due to the influence of alcohol and drug use, or medication prescribed for pain.

Procedure—During day, night and weekend shifts at the EC, patients were approached by health counselors in the EC after they had been triaged and once it was ascertained that they were medically stable. The triage process is a scoring system which enables medical staff to prioritize patients according to the severity of their injury or medical condition. If they were amenable to being interviewed, the study which was approved by the Institutional Review Board (IRB) of the University of California, Los Angeles and the Human Research Ethics Committee of the University of Cape Town, was fully described in a confidential setting. If the patient agreed to participate, informed consent was taken. If the participant was needed by the medical personnel, the study staff would temporarily suspend the interview and continue after the medical care had been completed. Participants requiring referral for mental health or social reasons were referred to the appropriate services. Participants requiring urgent attention were referred directly to the emergency center medical staff. On completion of the interview, participants were offered a R40 supermarket voucher.

Measures

In addition to basic demographic information such as age, gender, race, marital status, education and employment, the following measures were included:

Mental disorders—The Mini Neuropsychiatric Interview (MINI): The MINI (version 6.0) is a validated, structured diagnostic interview which is compatible with the international Classification of Diseases (ICD-10) and the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) (Sheehan et al., 1998). The MINI is widely used in clinical and research settings. This measure provided a psychiatric diagnosis for 12 month and lifetime prevalence of a mental disorder. The MINI consists of the following modules: major depressive disorder (current, past and recurrent), suicidality, manic episode (current and past), hypomanic episode (current and past), bipolar I and II disorders (current and past), bipolar disorder not otherwise specified (current and past), panic disorder (current and lifetime), agoraphobia (current), social phobia (current), obsessive-compulsive disorder (current), posttraumatic disorder (current), alcohol abuse and dependence (past 12 months), substance abuse and dependence (past 12 months), psychotic disorders (current and lifetime), mood disorders with psychotic features (current and lifetime), anorexia nervosa (current), bulimia nervosa (current), generalized anxiety disorder (current) and antisocial personality disorder (lifetime).

Injury—Injury intent (intentional or unintentional) and the number of previous intentional injuries for which the participant accessed medical care were documented. One of the participant groups in this study had sustained an intentional injury, while participants in the other group presented with an unintentional injury.

Traumatic stressors—The Trauma History Questionnaire (THQ): The THQ is a validated 26-item measure which interrogates various subgroups of trauma over the lifetime of a subject, including: crime-related trauma, general disasters and traumatic experiences

and trauma due to sexual experiences (Hooper et al., 2011). The frequency of any trauma was calculated to give an indication of the trauma burden, and categorized as 0 traumas, 1-10 traumas, 11-20 traumas and > 20 traumas.

Community violence—Witnessed community violence was measured using the witnessing module of the Survey of Exposure to Community Violence (SECV)(Richters & Saltzman, 1990). The answers for this 11-item questionnaire were documented as yes or no. The ‘yes’ answers were summed to provide a score.

Analysis

Data were analyzed using IBM SPSS Statistics version 20. Means and proportions were compared using t-tests and chi-square tests as appropriate. We examined the unadjusted associations between having a mental disorder on demographic, injury and trauma variables as independent variables. Statistical significance was based on 2-sided tests and set at $\alpha = 0.05$. Additionally, 3 logistic regression models were developed to predict any current mental disorder including substance use disorders, substance use disorders and substance use disorder with another mental disorder. The results of the regression models were reported as odds ratios (ORs) with 95% confidence intervals (CIs).

Results

Two hundred participants were recruited for the study. The sociodemographic, trauma and injury characteristics of the participants are presented in Table 1, along with a breakdown of those with or without a mental disorder. The majority of the sample were male (67%), between the ages of 25-40 years of age and did not complete high school (67.5%). High frequencies of previous intentional injuries (up to 12 injuries), witnessed community violence exposure and lifetime traumatic experiences were documented in this sample. On average participants had experienced six of the eleven community violence events and over 40% of the sample had been exposed to more than ten lifetime traumatic experiences.

This sample displayed a high prevalence of mental disorders with 59.5% suffering from a current mental disorder and 63% of participants meeting criteria for a lifetime mental disorder. Participants with a mental disorder were more likely to be unemployed ($p=0.05$), present with an intentional injury ($p=0.023$), have experienced a higher frequency of previous intentional injuries ($p<0.001$), have witnessed more community violence ($p=0.001$) and have a higher occurrence of lifetime traumatic experiences ($p=0.007$) than those without a mental disorder. The most frequently reported mental disorders in the sample were major depression (24.5%) and substance use disorders (43%). Of the total sample, 59% of participants presented with common mental disorders which could easily be identified in a primary care setting namely: substance use, current depression, an anxiety disorder or suicidality.

The prevalence of current mental disorders was higher in those presenting with an intentional injury than in those with an unintentional injury (66.9% vs 48.8%, $p=0.01$). More specifically, the prevalence of disorders such as major depression (19.5% vs 28%, $p=0.172$), any anxiety disorder (9.8% vs 20.3%, $p=0.045$) and substance use disorders (32.9% vs 50%,

p=0.016) was higher in the intentional injury group. Individuals meeting criteria for both a substance use disorder and another mental disorder were more likely to present with an intentional injury (33.1% vs 11%, p<0.001).

Investigations into the unadjusted and adjusted effects of participant demographic, injury and trauma characteristics on any current mental disorder are presented in Table 3. After adjusting for the effects of the other variables in the model, unemployment (OR=0.526, 95% CI 0.28-1) and a high frequency of previous intentional injuries was significantly associated with the diagnosis of any current mental disorder (OR = 1.460, 95% CI 1.08-1.98).

In the final adjusted regression model predicting substance use disorder, participants were more likely to be male (OR=0.249, 95% CI 0.11-0.55) and have witnessed high levels of community violence (OR=1.188, 95% CI 1.04-1.36). (See Table 4.) Similarly, participants who met criteria for both a substance use disorder and another mental disorder were more likely to have witnessed high levels of community violence (OR=1.252, CI 1.03-1.53) than those without these disorders. (See Table 5.)

Discussion

This study resulted in a number of important findings in an injured LMIC EC population. Firstly, there was a high prevalence of mental disorders among injured patients presenting to ECs. Secondly, substance use disorders and major depression were the most frequently reported mental disorders. Third, individuals presenting with an intentional injury were more likely to meet criteria for a mental disorder, particularly substance use disorders, than those presenting with an unintentional injury. Fourth, diagnosis of any mental disorder was associated with unemployment and a high frequency of previous intentional injuries, while any substance use disorder was associated with male gender and high levels of witnessed community violence.

The present study found a high prevalence of mental disorders among patients presenting to ED with an injury. This finding is consistent with the international literature (Dicker et al., 2011; O'Donnell et al., 2009; Wan et al., 2006), where some studies found that prevalence rates of mental disorder in injured populations were twice those documented in the general population (Dicker et al., 2011; Herman et al., 2009). For example, an Australian EC study found a high mental disorder lifetime prevalence rate of 63% in their sample of injured patients (O'Donnell et al., 2009). Our finding of a 63% lifetime prevalence matched these results, confirming that the injured population in this study is an at-risk group for mental disorder.

The most prevalent disorders found in our sample were substance use disorders (43%) and major depression (24.5%). It is not surprising that substance use disorders were the most frequently reported mental disorders amongst this population given its strong association with injury and the high prevalence of substance use disorders reported in South Africa (Stein et al., 2009). This finding is consistent with data from high income countries where substance use disorders are also particularly prevalent in intentionally injured participants (Dicker et al., 2011; O'Donnell et al., 2009; Poole et al., 1997; Wan et al., 2006). In these

studies, the prevalence of alcohol abuse ranged from 10 to 53%, while alcohol dependence rates were between 18 and 37%. Similarly, our study found an alcohol dependence prevalence of 24%, and a further 10% of participants were found to be abusing alcohol. These study data are also consistent with previous data from South African ECs and mortuaries, indicating that a significant proportion of injuries are associated with alcohol ingestion (Donson, 2009; Plüddemann et al., 2004), suggesting that further research in other injured South African EC populations will also reveal a high prevalence of substance use disorders. Since it has been well-documented that people with substance use disorders have high rates of comorbid mental disorders (Grant et al., 2004; Substance Abuse and Mental Health Services Administration, 2010), it seems likely that a high prevalence of mental disorders will be detected in other South African emergency populations. Furthermore, our finding of major depressive disorder in 24% of the sample is consistent with studies from HICs which have found the prevalence of major depression or depressive symptoms in injured populations to range from 18% to 46.7% (Dicker et al., 2011; O'Donnell et al., 2009; Poole et al., 1997; Ranney et al., 2011).

In the present study, patients in the intentional injury group were significantly more likely to meet criteria for a current mental disorder compared to the unintentional injury group (66.9% vs 48.8%). A number of studies conducted in high income countries have reported similar findings with higher rates of mental disorders in intentionally injured patients compared to patients with an unintentional injuries (O'Donnell et al., 2009; Whetsell et al., 1989). In the literature, 20-63% of individuals admitted with an unintentional injury were found to have a mental disorder (Dicker et al., 2011; O'Donnell et al., 2009; Poole et al., 1997; Wan et al., 2006), while 63-78% of patients either seen in the EC or admitted to hospital with intentional injuries were diagnosed with one or more mental disorder (O'Donnell et al., 2009; Poole et al., 1997; Saliou et al., 2005). Our prevalence of 53.7% in the unintentionally injured group and 69.5% in the intentionally injured group is very similar to the above data, suggesting that the picture in LMICs could be similar to that in HICs.

In our sample, in addition to unemployment, a current mental disorder was significantly predicted by higher frequencies of previous intentional injuries. Given the association between mental disorders and injuries due to violence this is not unexpected. Evidence from previous research suggests that mental disorders are associated with violence-related injury in several ways. Firstly, these two sets of conditions have been shown to share risk factors or associations, such as income levels and alcohol use (Lopez et al., 2006; Lund et al., 2010; Rehm et al., 2009). Secondly, injuries have been implicated as a precipitating factor in various mental disorders such as PTSD and depression (Bryant et al., 2010; Holbrook et al., 1999). Thirdly, mental disorders such as substance abuse and psychotic disorders have been shown to place sufferers at risk of injury (McGinty et al., 2012; Poole et al., 1997). Previous research has documented the high prevalence of mental disorder in intentionally injured patients (O'Donnell et al., 2009; Whetsell et al., 1989), yet this study is the first to present the association between exposure to high frequencies of intentional injury and a mental disorder diagnosis.

Furthermore, high frequencies of witnessed community violence significantly predicted substance use disorders as well as a substance use disorder diagnosis in conjunction with

another mental disorder. High frequencies of witnessed community violence are known to be present in injured EC populations (Cheng et al., 2003; O'Donnell et al., 2009). Given that South Africa's age-standardized homicide rate of 64.8 per 100 000 establishes the country as one of the most violent countries globally (Norman et al., 2007), the high frequencies of witnessed community violence documented in this study will most likely also be found in other South African emergency centres. Additionally, this variable is a known risk factor for mental disorder in other populations (Goldmann et al., 2011; Green et al., 2010). Having witnessed community violence is known to be associated with substance use in adolescent community samples; yet this has not been widely explored in adult populations (Aisenberg & Herrenkohl, 2008; Zinzow et al., 2009). These findings are the first to present data on predictors of mental disorder in an adult population presenting to an EC.

Several limitations of this study must be considered when interpreting these findings. Firstly, because of convenience sampling and the small sample size, the results may not be generalizable to the South African population. However, findings from the South African's nationally representative study of mental disorders, which demonstrate high levels of common mental disorders as well as of exposure to injury throughout the country (Herman et al., 2009; Williams et al., 2007), suggest that similar data would emerge from other South African ECs. Furthermore, the female group was very small, limiting the generalizability of our findings to female patients and limiting our ability to comment confidently on gender differences. Secondly, data on past injury was self-reported. Unfortunately, South Africa does not currently have an injury surveillance system making it impossible to retrieve information regarding previous injury presentations. Thirdly, patients with severe substance use intoxication were not included, so estimates of the prevalence of substance use disorders here may be conservative. Lastly, the PTSD module of the MINI was not administered in conjunction with the THQ, but relied on the MINI screening question. This could have resulted in under-reporting of PTSD in this study.

Conclusion

Despite these limitations, the findings of this study have a number of implications for practice in ECs, and for formulation of health policy and community interventions, in LMICs such as South Africa. As in HIC studies, the high prevalence rates of mental disorders in this population indicate that injured EC patients, especially intentionally injured patients, in South Africa are at-risk for mental disorders. Many LMIC emergency centres, such as those in South Africa, do not offer routine mental health screening or brief interventions to their patients. This study emphasizes the need for such interventions in LMICs. Screening, early detection of, and intervention for common mental disorders and their modifiable risk factors could make an important contribution to decreasing the treatment gap for mental disorders in LMICs and reducing recurrent injuries in EC populations. The range of predictors for mental disorder in our study highlights the need for hospital-based as well as community interventions. Psychosocial interventions in the EC context, in conjunction with interventions in other contexts, can potentially make an important contribution in reducing the burden of disease in low- and middle-income countries.

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Table 1
Demographic, injury and trauma characteristics of the sample

| | Total sample | Meets DSM-IV Criteria (n=126) | Does Not Meet Criteria (n=74) | p-value |
|--|--------------|----------------------------------|----------------------------------|-------------------|
| Age | | | | |
| 18-25 | 60 (30) | 41 (32.5) | 19 (25.7) | 0.359 |
| 25-40 | 86 (43) | 55 (43.7) | 31 (41.9) | |
| >40 | 54 (27) | 30 (23.8) | 24 (32.4) | |
| Gender | | | | |
| Male | 134 (67) | 87 (69.0) | 47 (63.5) | 0.422 |
| Female | 66 (33) | 39 (31.0) | 27 (36.5) | |
| Race | | | | |
| Black | 105 (53) | 65 (52) | 40 (54.1) | 0.884 |
| Coloured | 92 (46.2) | 59 (47.2) | 33 (44.6) | |
| Other | 2 (1) | 1 (0.8) | 1 (1.4) | |
| Marital status | | | | |
| Alone | 105 (53) | 69 (54.8) | 36 (50) | 0.518 |
| In a relationship | 93 (47) | 57 (45.2) | 36 (50) | |
| Completed High School | | | | |
| Yes | 65 (32.5) | 39 (31) | 26 (35.1) | 0.546 |
| No | 135 (67.5) | 87 (69) | 48 (64.9) | |
| Employed | | | | |
| Yes | 104 (52) | 56 (44.4) | 48 (64.9) | 0.05* |
| No | 96 (48) | 70 (55.6) | 26 (35.1) | |
| Injury presentation | | | | |
| Unintentional | 82 (41) | 44 (34.9) | 38 (51.4) | 0.023* |
| Intentional | 118 (59) | 82 (65.1) | 36 (48.6) | |
| # prev intent injuries (med, range) | 0, 12 | 1, 12 | 0,4 | <0.001* |
| Community violence (mean, sd) | 5.9, 3 | 6.47; 2.71 | 4.94; 3.19 | 0.001* |
| Lifetime traumas (THQ) | | | | |
| 0 | 29 (14.5) | 16 (12.7) | 13 (17.6) | 0.007* |
| 1 to 10 | 88 (44) | 47 (37.3) | 41 (55.4) | |
| 11 to 20 | 41 (20.5) | 28 (22.2) | 13 (17.6) | |
| > 20 | 42 (21) | 35 (27.8) | 7 (9.5) | |

* p<0.5

Table 2
Prevalence of mental disorders in an injured emergency centre population

| | Total sample | | Unintentional injuries | | Intentional injuries | | p-value |
|---------------------------------------|--------------|------|------------------------|------|----------------------|------|-------------------|
| | N | % | N | % | N | % | |
| All mental disorders | 126 | 63 | 44 | 53.7 | 82 | 69.5 | 0.023* |
| Current mental disorders (12-month) | 119 | 59.5 | 40 | 48.8 | 79 | 66.9 | 0.010* |
| Current mental disorder alone | 33 | 16.5 | 13 | 15.9 | 20 | 16.9 | 0.837 |
| Any AOD dependence/abuse | 86 | 43 | 27 | 32.9 | 59 | 50 | 0.016* |
| AOD alone | 38 | 19 | 18 | 22 | 20 | 16.9 | 0.375 |
| AOD & another current mental disorder | 37 | 18.5 | 9 | 11 | 28 | 23.7 | 0.016* |
| AOD & any lifetime mental disorder | 48 | 24 | 9 | 11 | 39 | 33.1 | <0.001* |
| Any MIDE | 49 | 24.5 | 16 | 19.5 | 33 | 28 | 0.172 |
| Any manic or hypomanic | 6 | 3 | 4 | 4.9 | 2 | 1.7 | 0.194 |
| Any anxiety disorder | 32 | 16 | 8 | 9.8 | 24 | 20.3 | 0.045* |
| PTSD | 13 | 6.5 | 4 | 4.9 | 9 | 7.6 | 0.438 |
| Any panic, agoraphobia, gen anxiety | 23 | 11.5 | 5 | 6.1 | 18 | 15.3 | 0.046* |
| Any psychosis | 12 | 6 | 5 | 6.1 | 7 | 5.9 | 0.961 |

* p<0.5

- AOD = alcohol or drug abuse/dependence; MIDE = major depressive episode; PTSD = post-traumatic stress disorder
- Any MIDE included the following MINI modules: current, past and recurrent major depression
- Any manic or hypomanic included: current/past manic episode and current/past hypomanic episode
- Any anxiety disorder included: lifetime/current panic disorder, lifetime limited panic symptoms, current agoraphobia, social phobia, current obsessive-compulsive disorder, current post-traumatic stress disorder, current generalised anxiety disorder
- Any psychosis included: lifetime/current mood disorder with psychotic features and lifetime/current psychotic disorder

Table 3
Logistic regression results for demographic, injury and trauma correlates of any current mental disorder[†]

| Variable | Any current mental disorder | | |
|---|-----------------------------|---------------------------|---------------------------|
| | Yes (%) | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
| Age | | | |
| 18-25 | 38 (31.9) | 1.00 | 1.00 |
| 25-40 | 51 (42.9) | 0.844 (0.43-1.66) | 0.721 (0.34-1.54) |
| >40 | 30 (25.2) | 0.724 (0.34-1.53) | 0.668 (0.3-1.51) |
| Gender | | | |
| Male | 82 (68.9) | 1.00 | 1.00 |
| Female | 37 (31.1) | 0.809 (0.45-1.47) | 1.039 (0.52-2.08) |
| Race | | | |
| Black | 59 (50) | 1.00 | |
| Coloured | 58 (49.2) | 1.330 (0.75-2.36) | |
| Other | 1 (0.8) | 0.780 (0.05-12.8) | |
| In a relationship | | | |
| Alone | 66 (55.5) | 1.00 | |
| In a relationship | 53 (44.5) | 0.783 (0.44-1.39) | |
| Completed high school | | | |
| No | 85 (71.4) | 1.00 | |
| Yes | 34 (28.6) | 0.645 (0.35-1.18) | |
| Employed | | | |
| No | 67 (56.3) | 1.00 | 1.00 |
| Yes | 52 (43.7) | 0.433 (0.24-0.77)* | 0.526 (0.28-1)* |
| Injury presentation | | | |
| Unintentional | 40 (33.3) | 1.00 | 1.00 |
| Intentional | 79 (66.4) | 2.127 (1.19-3.79)* | 1.284 (0.65-2.54) |
| # prev intentional injuries (med, range) | 1, 12 | 1.571 (1.19-2.07)* | 1.460 (1.08-1.98)* |
| Community violence (mean, SD) | 6.4, 2.7 | 1.155 (1.04-1.28) | |
| Lifetime trauma (THQ) | | | |
| None | 15 (12.6) | 1.00 | 1.00 |
| 1 to 10 | 44 (37) | 0.933 (0.4-2.16) | 0.945 (0.38-2.35) |
| 11 to 20 | 28 (23.5) | 2.010 (0.75-5.36) | 1.667 (0.59-4.71) |
| > 20 | 32 (26.9) | 2.987 (0.08-8.26)* | 1.655 (0.54-5.08) |

* p<0.05

[†] any current mental disorders includes substance use disorders

Table 4
Logistic regression results for demographic, injury and trauma correlates of substance use disorders[†]

| Variable | Any AOD | | |
|---|-----------|---------------------------|---------------------------|
| | Yes (%) | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
| Age | | | |
| 18-25 | 31 (36) | 1.00 | 1.00 |
| 25-40 | 35 (40.7) | 0.642 (0.33-1.25) | 0.540 (0.23-1.28) |
| >40 | 20 (23.3) | 0.550 (0.26-1.16) | 0.415 (0.16-1.08) |
| Gender | | | |
| Male | 72 (83.7) | 1.00 | 1.00 |
| Female | 14 (16.3) | 0.232 (0.12-0.46)* | 0.249 (0.11-0.55)* |
| Race | | | |
| Black | 43 (50) | 1.00 | |
| Coloured | 43 (50) | 1.265 (0.72-2.23) | |
| Other | 0 | 0 | |
| In a relationship | | | |
| Alone | 48 (55.8) | 1.00 | |
| In a relationship | 38 (44.2) | 0.82 (0.47-1.44) | |
| Completed high school | | | |
| No | 62 (72.1) | 1.00 | |
| Yes | 24 (27.9) | 0.689 (0.38-1.27) | |
| Employed | | | |
| No | 48 (55.8) | 1.00 | |
| Yes | 38 (44.2) | 0.576 (0.33-1.01) | |
| Injury presentation | | | |
| Unintentional | 27 (31.4) | 1.00 | 1.00 |
| Intentional | 59 (68.6) | 2.037 (1.14-3.66)* | 0.775 (0.35-1.74) |
| # prev intentional injuries (med, range) | 1, 12 | 1.195 (1.01-1.41)* | 1.176 (0.95-1.46) |
| Community violence (mean, SD) | 6.9, 2.6 | 1.248 (1.11-1.4)* | 1.188 (1.04-1.36)* |
| Lifetime trauma (THQ) | | | |
| None | 12 (14) | 1.00 | |
| 1 to 10 | 27 (31.4) | 0.627 (0.26-1.49) | |
| 11 to 20 | 22 (25.6) | 1.640 (0.63-4.29) | |
| > 20 | 25 (29.1) | 2.083 (0.8-5.45) | |

* p<0.05

[†] substance use disorders includes substance use disorders alone as well as those occurring with another mental disorder

Table 5
Logistic regression results for demographic, injury and trauma correlates of the comorbidities of substance use disorders with another mental disorder

| Variable | AOD and current mental disorder | | |
|---|---------------------------------|---------------------------|---------------------------|
| | Yes (%) | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
| Age | | | |
| 18-25 | 12 (32.4) | 1.00 | 1.00 |
| 25-40 | 15 (40.5) | 0.845 (0.36-1.96) | 0.589 (0.21-1.64) |
| >40 | 10 (27) | 0.909 (0.36-2.31) | 1.053 (0.33-3.36) |
| Gender | | | |
| Male | 28 (75.7) | 1.00 | 1.00 |
| Female | 9 (24.3) | 0.598 (0.26-1.35) | 0.707 (0.26-1.93) |
| Race | | | |
| Black | 14 (37.8) | 1.00 | 1.00 |
| Coloured | 23 (62.2) | 2.167 (1.04-4.52)* | 1.433 (0.52-3.92) |
| Other | 0 | 0 | 0 |
| In a relationship | | | |
| Alone | 19 (51.4) | 1.00 | |
| In a relationship | 18 (48.6) | 1.086 (0.53-2.22) | |
| Completed high school | | | |
| No | 26 (70.3) | 1.00 | |
| Yes | 11 (29.7) | 0.854 (0.39-1.86) | |
| Employed | | | |
| No | 24 (64.9) | 1.00 | 1.00 |
| Yes | 13 (35.1) | 0.429 (0.2-0.9)* | 0.529 (0.22-1.26) |
| Injury presentation | | | |
| Unintentional | 9 (24.3) | 1.00 | 1.00 |
| Intentional | 28 (75.7) | 2.52 (1.12-5.68)* | 1.457 (0.52-1.05) |
| # prev intentional injuries (med, range) | 1, 12 | 1.054 (0.89-1.25) | |
| Community violence (mean, SD) | 6.4, 2.2 | 1.346 (1.14-1.59)* | 1.272 (1.04-1.55)* |
| Lifetime trauma (THQ) (med, range) | 22, 44 | 1.039 (1.01-1.07)* | 1.020 (0.99-1.05) |

* p<0.05