Prevalence of victimization in patients with dual diagnosis

Marleen Maria de Waal, MSc\textsuperscript{1,2}, Jacobus Johannes Maria Dekker, PhD\textsuperscript{1,3}, Anna Emma Goudriaan, PhD\textsuperscript{1,2}

\textsuperscript{1}Department of Research, Arkin Mental Health Care, Klaprozenweg 111, 1033 NN Amsterdam, The Netherlands
\textsuperscript{2}Academic Medical Center, Department of Psychiatry, Amsterdam Institute for Addiction Research, University of Amsterdam, Amsterdam, The Netherlands
\textsuperscript{3}Vrije Universiteit Amsterdam, Department of Clinical Psychology, Amsterdam, The Netherlands

Corresponding author: Marleen Maria de Waal, Department of Research, Arkin Mental Health Care, Klaprozenweg 111, 1033 NN Amsterdam, The Netherlands; Phone: +31 205905895; E-mail address: m.m.dewaal@amc.uva.nl

Author’s e-mail addresses:
Marleen Maria de Waal: m.m.dewaal@amc.uva.nl
Jacobus Johannes Maria Dekker: jack.dekker@arkin.nl
Anna Emma Goudriaan: a.e.goudriaan@amc.uva.nl

Abstract

Objective
The purpose of this study was to determine the prevalence of victimization in patients with co-occurring mental health and substance use disorders (dual diagnosis) and compare them to the general population.

Methods
In this cross-sectional survey study conducted in the Netherlands, 9 different types of victimization (e.g. physical assault) were assessed with the Safety Monitor in patients with dual diagnosis ($N = 243$) and a sample of the general population ($N = 10865$). Chi-square tests were used to compare patients with a weighted sample of the general population.

Results

Compared to the general population, patients with dual diagnosis were more likely to have been a victim of violence (60% versus 11%), property crime (58% versus 30%) and vandalism (21% versus 14%) in the year preceding the assessment. Threats, sexual assault, physical assault, robbery, bicycle theft, other theft and vandalism were more prevalent in patients with dual diagnosis compared to the general population. Car theft was more prevalent in the general population. The risk of burglary did not differ significantly between groups.

Conclusions

Patients with dual diagnosis are highly prone to victimization. In patients with severe mental illness, victimization is associated with psychopathology, substance use, homelessness and engagement in criminal activity. Future research is necessary to explore underlying mechanisms in patients with dual diagnosis and develop interventions to reduce their vulnerability for victimization.

Key words

Victimization, dual diagnosis, co-occurring disorders, addiction, substance dependence, severe mental illness, violence
Patients with psychiatric disorders are more likely to be victims of crime compared to the general population (Maniglio, 2009). A large study conducted in the United States (Teplin, McClelland, Abram & Weiner, 2005) reported past-year rates of violent victimization (e.g. physical assault) of 25% in patients with severe mental illness compared to 3% of the general population. Property victimization (e.g. theft) was reported in 28% of the patients with severe mental illness compared to 8% of the general population. Patients with substance use disorders from four European countries (Stevens et al., 2007) reported past-year rates of 42% violent victimization and 48% property victimization. Victimization is associated with more severe symptomatology, homelessness, substance use, more psychiatric hospitalizations and engagement in criminal activity (Maniglio, 2009).

Approximately 50% of patients with a substance use disorder has a co-occurring mental disorder (Kessler et al., 1996). The prevalence of co-occurring substance use and mental disorders is 3.3% in the general US population (SAMSHA, 2015). These patients with dual diagnosis have more severe and persistent symptoms (Kessler, 2004) and are more often homeless (Drake, Osher & Wallach, 1991) and treatment resistant (Kessler, 2004; Hunt, Siegfried, Morley, Sitharthan & Cleary, 2013). Patients with dual diagnosis may be even more prone to victimization than patients with a severe mental illness or substance use disorder only (Sells, Rowe, Fisk & Davidson, 2003; Havassy & Mericle, 2013). However, research on victimization in this patient group is very limited.

Most studies in patients with psychiatric disorders examine either violent victimization or total victimization, without distinguishing between different types of crimes. We aim to indicate the prevalence of 9 different types of crime victimization in patients with dual diagnosis and
compare them to a weighed sample of the general population. In accordance with studies conducted in patients with severe mental illness and patients with substance use disorders we expect that victimization rates in patients with dual diagnosis are higher compared to the general population. This cross-sectional survey study is the first to compare the prevalence of victimization in patients with dual diagnosis to the general population.

Methods

Design

This cross-sectional study utilized baseline data from a randomized controlled trial designed to determine the effectiveness of a new intervention that aims to reduce victimization in patients with dual diagnosis (De Waal, Kikkert, Blankers, Dekker & Goudriaan, 2015). The study has been reviewed, approved and monitored by the ethics committee of the Academic Medical Center of the University of Amsterdam, Amsterdam, The Netherlands and was conducted in accordance with the Declaration of Helsinki.

Participants

The target population consisted of patients 18 years of age or older with substance dependence or substance abuse (involving alcohol and/or drugs) according to Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) criteria and at least one other mental disorder on DSM-IV Axis I or Axis II. Patients could not participate in the study if they did not have sufficient understanding of the Dutch language, were not willing to provide informed consent or were not eligible for group therapy according to their case manager, due to for instance severe psychotic symptoms or anti-social behavior.

Procedures
Patients were recruited in an addiction-psychiatry clinic and allied addiction-psychiatry outpatient care facility in Amsterdam. Patients who met the inclusion criteria were informed and invited by a caregiver and researcher. During the inclusion period, a total of 616 patients with dual diagnosis were available for participation in the care facilities. Of this sample, 129 (21%) were not eligible for participation, mostly due to: severe psychotic symptoms ($N = 49$), severe cognitive problems ($N = 23$), insufficient understanding of the Dutch language ($N = 21$) or severe anti-social behavior ($N = 17$). Of the 487 eligible patients, 216 (44%) declined to participate, 18 (4%) did not show up on appointments and 10 (2%) withdrew from participation during the first assessment. The most frequently reported reasons to decline were being unmotivated for treatment ($N = 65$) and not having time due to work or other therapy programs ($N = 49$). In total, 243 patients were included in the study. Once the procedures had been fully explained and patients had given written informed consent, a face-to-face assessment was performed. The assessments were conducted at the treatment facility by a researcher (master’s degree) and four trained master students (with bachelor’s degree) in clinical psychology.

**Comparison group**

The comparison group consisted of 10865 participants from the general population of Amsterdam, recruited by Research Information and Statistics, commissioned by the governmental institution Statistics Netherlands. Questionnaires were distributed by the internet and as paper copies. Participants who did not respond to the survey were telephoned or visited at home to finish the assessment. Both violent and property victimization are more prevalent in Amsterdam compared to the rest of the Netherlands (Akkermans & van Rosmalen, 2014). To be
able to make a representative comparison, only participants from Amsterdam were included in the comparison group.

**Measures**

General demographic characteristics of participants were collected during the assessments. Current DSM-IV diagnoses of patients were extracted from the electronic patient record.

In both the patient group and the comparison group, victimization was measured with the Safety Monitor (in Dutch: Veiligheidsmonitor), developed by the Dutch Ministry of Security and Justice (Statistics Netherlands, 2011). The Safety Monitor is an adequate self-report instrument used by Statistics Netherlands to measure victimization on a large scale. It strongly resembles the International Crime Victimization Survey (ICVS) (Killias, 2010). The Safety Monitor was used to examine whether participants experienced 9 different types of crime in the last 12 months, subdivided in three categories: violent crimes, property crimes and vandalism. Violent crimes consisted of: threats, sexual assault and physical assault. Property crimes consisted of: burglary, robbery or pickpocketing, car theft or property stolen from inside a car, bicycle theft and other theft. Vandalism is defined as intentional damage to or destruction of personal property. For each crime, participants answered in a dichotomous yes/no format. Violent victimization and property victimization were scored positively when at least one type of crime of that particular crime category was reported by the participant. Total victimization was scored positively when a participant reported at least one type of crime in the last 12 months. For each crime reported, details of the incident were examined. This made it possible for the assessor to determine what exactly had happened and whether the incident indeed fell under that category of crime.
Data analysis

Statistical analysis were performed in SPSS Statistics 22.0. Weightings were used to ensure the groups were comparable. We used 3 auxiliary variables – age, gender and ethnicity – that were measured in both groups and may be associated to risk of victimization. Weights larger or smaller than 1 were assigned to participants who were respectively underrepresented or overrepresented in the general population sample compared to the patient sample (for example, males: 70.4% / 46.7% = 1.51). Final weights were calculated by multiplying the 3 weights for age, gender and ethnicity. For each type of victimization, a chi-square test was used to determine whether there was a significant difference between the weighted sample of the general population and patients with dual diagnosis in the prevalence of victimization. Statistical significance was set at $p < .05$. Risk ratios were calculated for each type of victimization.

Results

The 243 included patients with dual diagnosis were on average 42 years old ($M = 42.3$, $SD = 10.8$) and were mostly males ($n = 171$, 70.4%). On average, patients were diagnosed with 3.7 psychiatric disorders according to DSM-IV ($M = 3.7$, $SD = 1.4$; see table 1). This is in accordance with the average number of psychiatric disorders according to DSM-IV in the total group of patients with dual diagnosis in the addiction-psychiatry clinic and outpatient care facility ($M = 3.7$, $SD = 1.1$).

As shown in table 2, patients with dual diagnosis were 1.9 times more likely to have been a victim of crime in the 12 months preceding the assessment (77%) compared to the general population (40%), $\chi^2 (1, N = 11108) = 135.27$, $p < .001$. Violent victimization was 5.6 times more prevalent in patients with dual diagnosis (60%) compared to the general population (11%).
\( \chi^2 (1, N = 11108) = 561.23, p < .001 \). Patients were 5.8 times more likely to be victims of threats, 5.8 times more likely to be victims of sexual assault and 14.8 times more likely to be victims of physical assault in the 12 months preceding the assessment. Furthermore, property victimization was 2.0 times more prevalent in patients with dual diagnosis (58\%) compared to the general population (30\%), \( \chi^2 (1, N = 11108) = 91.35, p < .001 \). Patients were 3.6 times more likely to be victims of robbery or pickpocketing, 2.2 times more likely to be victims of bicycle theft and 4.6 times more likely to be victims of other theft in the 12 months preceding the assessment. Patients were 18.2 times less likely to have been a victim of car theft. The risk of burglary did not differ significantly between groups. Finally, vandalism was 1.6 times more prevalent in patients with dual diagnosis (21\%) compared to the general population (14\%), \( \chi^2 (1, N = 11108) = 12.02, p = .001 \).

**Discussion**

This study demonstrated that patients with dual diagnosis are more likely to be victims of crime compared to the general population. Disturbingly, 60\% of the patients reported violent victimization and 58\% reported property victimization in 12 months prior to the assessment. These rates are higher than those in patients with either a mental disorder or substance use disorder only. By comparison, a Dutch study using the same measurement instrument found past-year rates of 23\% violent victimization and 22\% property victimization in a sample of patients with severe mental illness (De Mooij et al., 2015). A European study in patients with substance use disorders reported past-year rates of 42\% violent victimization and 48\% property victimization (Stevens et al., 2007).
Previous studies showed that victimization is associated with psychopathology, substance use, homelessness and engagement in criminal activity in patients with severe mental illness (Maniglio, 2009; De Mooij et al., 2015). Substance use, more severe psychopathology, homelessness and engagement in criminal activity may decrease patients’ ability to accurately identify, evaluate and avoid or cope with potentially dangerous situations (Maniglio, 2009). For instance, patients who are intoxicated by alcohol or drugs are more likely to leave property unattended, are slower to react and less able to defend themselves, which makes them a suitable target for offenders (Bean, 2014; Traverso & Bagnoli, 2001). The high risk of victimization of patients with dual diagnosis might be due to the fact that a lot of risk factors for victimization are present in these patients. Psychopathology and substance use are inherent to suffering from dual diagnosis. Moreover, homelessness and criminal behavior are common problems in these patients (Drake, Osher & Wallach, 1991; Scott, Lewis & McDermott, 2006). Future research is necessary to expand knowledge on risk factors for victimization in patients with dual diagnosis. It should be examined whether risk factors observed in patients with severe mental illness also apply to patients with dual diagnosis.

The findings should be considered in the light of several limitations. We used baseline data of a randomized controlled trial and therefore the generalizability of the sample can be questioned. Patients that lacked the motivation or time declined participation. Nevertheless, the average number of psychiatric disorders of patients in this study sample is in accordance with the average number of psychiatric disorders of all patients with dual diagnosis in the addiction-psychiatry clinic and outpatient care facility. This supports the representativeness of the sample. In addition, victimization was measured with a self-report questionnaire, which is subject to
memory bias. However, self-reports of victimization are considered to be more accurate than police reports, which tend to underestimate victimization rates (Truman & Planty, 2012).

This study is the first to compare past-year rates of victimization of patients with dual diagnosis with a sample of the general population. The results indicate that patients with dual diagnosis are highly prone to victimization. Awareness should be raised among clinicians and prevention programs are needed to reduce patients’ vulnerability for victimization. A better understanding of the mechanisms underlying victimization can contribute to the development of prevention programs.

**Disclosures**

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Table 1: Demographic and clinical characteristics of patients with dual diagnosis (N = 243)

|                                | N (%) | M (SD) |
|--------------------------------|-------|--------|
| Age (years)                    |       | 42.3   | (10.8) |
| Male                           | 171   | (70.4) |
| No fixed abode                 | 56    | (23.0) |
| Substance use disorder         |       |        |
| Alcohol                        | 154   | (63.4) |
| Cannabis                       | 112   | (46.1) |
| Cocaine                        | 107   | (44)   |
| Opioid                         | 56    | (23.0) |
| Sedatives                      | 49    | (20.2) |
| Other substances               | 39    | (16.0) |
| Psychiatric disorders          |       |        |
| Psychotic disorder             | 93    | (38.3) |
| Personality disorder           | 90    | (37)   |
| Mood disorder                  | 54    | (22.2) |
| Anxiety disorder               | 52    | (21.4) |
| Intellectual disability        | 31    | (12.8) |
| Attention-deficit/hyperactivity disorder | 20 | (8.2) |
| Other disorder                 | 28    | (11.5) |
| Total number of Psychiatric Disorders |       | 3.7    | (1.4) |
Table 2: Comparison of prevalence of victimization in patients with dual diagnosis and a weighted sample of the general population of Amsterdam

| Type of victimization | Patients with dual diagnosis (N = 243) | Population Amsterdam (N = 10865) | $\chi^2$ | $p$ | RR | 95% CI |
|-----------------------|----------------------------------------|----------------------------------|---------|----|----|--------|
| Total victimization   | 77                                     | 40                               | 135.27  | <.001 | 1.92 | [1.79-  |
| Violent              | 60                                     | 11                               | 561.23  | <.001 | 5.64 | [5.02-  |
| Threats              | 47                                     | 8                                | 447.83  | <.001 | 5.84 | [5.04-  |
| Sexual assault       | 12                                     | 2                                | 101.42  | <.001 | 5.83 | [4.02-  |
| Physical assault     | 38                                     | 3                                | 929.55  | <.001 | 14.75| [12.12-17.96] |
| Property             | 58                                     | 30                               | 91.35   | <.001 | 1.96 | [1.75-  |
| (Attempted) burglary | 10                                     | 7                                | 3.57    | .059 | 1.46 | [.99-2.14] |
| Robbery and pickpocketing | 17                                   | 5                                | 72.25   | <.001 | 3.58 | [2.66-4.81] |
| Car theft and theft from car | 0                                   | 7                                | 17.32   | <.001 | .055 | [.01-.39] |
| Bicycle theft        | 32                                     | 15                               | 56.98   | <.001 | 2.20 | [1.82-  |
| Other theft          | 30                                     | 7                                | 201.31  | <.001 | 4.61 | [3.76-  |
| Vandalism            | 21                                     | 14                               | 12.02   | .001  | 1.57 | [1.23-  |

$^a$df = 1