Dual diagnosis among schizophrenic patients in Belgian psychiatric services: prevalence and available treatment options

De Hert Marc, Roos Katarina, Gillain Benoit, Detraux Johan, Sweers Kim, Van Werde Dion, Peuskens Joseph

Introduction

Substance abuse is the most common co-morbidity among individuals with schizophrenia (Tandon et al., 2009; Ross and Chappel, 1998). Co-occurring substance use disorders occur in 50%-70% of individuals with schizophrenia (Ziedonis et al., 2005), and nearly half of the people suffering from schizophrenia also present with a lifetime history of substance use disorders (Volkow, 2009).

Substance abuse among schizophrenic patients has the same adverse social, health, economic, and psychiatric consequences as it does for other individuals, but it has additional serious consequences for these vulnerable patients with functional and cognitive deficits (Bennett et al., 2001). Even infrequent use of relatively minimal quantities of substances can cause clinically relevant problems in individuals with schizophrenia (Ziedonis et al., 2005). Dually diagnosed (DD) schizophrenic patients show a poorer and more chaotic course of the disorder (Bennett et al., 2001, Wilkens, 1997; Hambrecht & Häfner, 1996), with more severe symptoms (Peuskens and Vansteelandt, 2003; Westermeyer, 2006), more frequent hospitalizations (Westermeyer, 2006), and more frequent relapses (Linszen et al., 1994; Gupta et al., 1996; Swofford et al., 1996) than patients without co-occurring substance abuse. In addition to exacerbating psychosis, certain substances (e.g. cannabinoids, amphetamines, and cocaine) seem to aggravate and hasten the appearance of EPS (Potvin et al., 2009) and TD (Brady et al., 1990; Olivera et al., 1990; Zaretsky et al., 1993). Furthermore, substance abuse is associated with a greater risk of violent behaviour (Fazel et al., 2009; Bennett et al., 2001, Albanese, 2001) and an increased risk of suicide (Preti et al., 2009; Bennett et al., 2001, Albanese, 2001) and cardiovascular and metabolic disorders (Ziedonis et al., 2005). Finally, substance abuse significantly compromises effective treatment: it may create antipsychotic refractoriness by altering mesolimbic dopaminergic systems (Tandon et al., 2009; Bowers et al., 1990). Such findings illustrate the great need for cross-trained teams and a high need to develop specific integrated treatment programs that address both disorders.

Key Words: dual diagnosis, drug abuse, schizophrenia, integrated treatment, cannabis.
need for treating substance abuse in people with schizophrenia (Bennett et al., 2001).

Since schizophrenia and substance abuse have been determined to be closely interdependent, a DD treatment of schizophrenia and drug abuse is needed (Winklbaur et al., 2006). Research shows that treatment of patients with comorbidity of substance use disorders should include interventions for both disorders because lack of adequate treatment of one of the disorders interferes with recovery. However, although the mental health field has been aware of this highly prevalent comorbidity for decades, the resources devoted to meeting the special challenges of schizophrenia-substance abuse have been limited (Westermeyer, 2006). This highlights the urgency for more awareness and the establishment and improvement of integrated treatment interventions for substance use disorders in schizophrenic patients and for training psychiatrists in the proper treatment of these disorders in schizophrenic patients (Volkow, 2009).

In light of the high prevalence and seriousness of substance abuse in schizophrenia, as well as the need for integrated treatment programs, we wanted to examine the prevalence of substance abuse/dependency in Belgian schizophrenic patients and to evaluate to which extend treatment programs in Belgian psychiatric services are in accordance with integrated treatment philosophy.

RESULTS

The recruitment procedure resulted in the participation of 105 psychiatric units from 63 hospitals/organisations. Of all these respondents, 25 (23.8%) represented a psychiatric hospital and 80 (76.2%) a psychiatric ward in a general hospital, representing respectively 56.7% and 37.3% of the available residential services in Belgium. The total capacity of the services, reported by the respondents, was 3619 beds.

Only 57.1% of the respondents reported that the service in which they worked offered a specific offer for DD patients. Characteristics of respondents, schizophrenic patients and services are given in Table 1.

<table>
<thead>
<tr>
<th>Characteristics of respondents, schizophrenic patients and services</th>
<th>All</th>
<th>Psychiatric hospital</th>
<th>Psychiatric ward General hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents/units</td>
<td>105</td>
<td>25 (23.8 %)</td>
<td>80 (76.2 %)</td>
</tr>
<tr>
<td>Hospitals/Organisations</td>
<td>63</td>
<td>38 (60.3 %)</td>
<td>25 (39.7 %)</td>
</tr>
<tr>
<td>% of available services in Belgium</td>
<td>47.0 %</td>
<td>56.7 %</td>
<td>37.3 %</td>
</tr>
<tr>
<td>Capacity</td>
<td>3619</td>
<td>2775</td>
<td>844</td>
</tr>
<tr>
<td>Average unit size</td>
<td>34</td>
<td>35</td>
<td>34</td>
</tr>
<tr>
<td>Patients with schizophrenia in care (% of total capacity)</td>
<td>1,420 (39.2 %)</td>
<td>1,231 (44.4 %)</td>
<td>189 (22.4 %)</td>
</tr>
<tr>
<td>Services with specific offer for DD patients</td>
<td>36 (57.1 %)</td>
<td>31 (81.6 %)</td>
<td>5 (20.0 %)</td>
</tr>
<tr>
<td>Capacity (% of total capacity)</td>
<td>1035 (28.6 %)</td>
<td>865 (23.9 %)</td>
<td>170 (4.7 %)</td>
</tr>
<tr>
<td>Patients with schizophrenia in DD facilities (% of N patients with schizophrenia)</td>
<td>451 (31.7 %)</td>
<td>421 (29.6 %)</td>
<td>30 (2.1 %)</td>
</tr>
<tr>
<td>Services without substance related problems</td>
<td>22 (21.0 %)</td>
<td>10 (12.5 %)</td>
<td>12 (48 %)</td>
</tr>
<tr>
<td>Services without patients with schizophrenia</td>
<td>9 (8.6 %)</td>
<td>3 (3.8 %)</td>
<td>6 (24.0 %)</td>
</tr>
</tbody>
</table>

(DD: Dual diagnosis)
Prevalence of substance abuse/dependency in Belgian psychiatric services

Only patients meeting DSM-IV diagnostic criteria for schizophrenia (N=1420) were included in the sample and subsequent analyses. Of the 1,420 schizophrenic patients in care, representing 39.2% of the capacity of the services assessed, 602 were classified by the respondents as having a substance related problem (42.4%). Their mean age was 28 years (SD: 5.9 years).

Of the 602 DD patients, according to the respondents, 377 (or 26.6% of the total schizophrenic sample) met DSM-IV criteria for current substance abuse, while the remaining 225 (or 15.8% of the total schizophrenic sample) could be classified as having a substance dependency. Cannabis was the most prevalently used substance among Belgian schizophrenic patients: 373 (or 26.2% of the total schizophrenic sample) of the DD patients mainly had problems with cannabis, while only 53 (or 3.8% of the total schizophrenic sample) and 18 (or 1.3% of the total schizophrenic sample) of the DD patients only had problems respectively with stimulants (speed, XTC)/cocaine and opiates. Polysubstance abuse was found among 158 (or 11.1% of the total schizophrenic sample) of DD patients. Rates of substance abuse/dependency and current drug use by type of psychiatric unit are shown in Table 2.

Available treatment options in Belgian psychiatric services

A traditional care model in which substance abuse and psychosis treatment are separate and sequential (i.e., completing treatment of psychiatric illness first before addressing the substance abuse issue or vice versa) was evaluated by the respondents as not feasible for individuals with schizophrenia. Almost all respondents from Belgian psychiatric services (97.2%) reported the use of an integrated (psychosis and substance use together) treatment as the form of team approach while handling the DD patients. In the most general sense, integrated treatment describes a flexible combination of treatments from the mental health and addiction fields that are blended together in the treatment of an individual with co-occurring mental illness and addiction. According to consensus recommendations of American DD experts, it is highly preferable that this integrated treatment be implemented in a single treatment program or by a single treatment provider (Ziedonis et al., 2005). This means the need for cross-trained teams, for integrated treatment practitioners with an understanding of both mental illness and addiction. Only 50% of the respondents in this survey mentioned the use of cross-trained teams in the treatment of DD patients.

According to many Belgian clinicians, one of the key principles of treatment for patients with DD is to promote treatment adherence, DD approaches should be used without a fixed duration and until goals are reached. 63.9% of respondents reported that the treatment programme is not terminated until goals are reached. Only 5.6% of the respondents use programs with a fixed duration. In 30.6% of the cases the duration of the treatment program is determined by other factors. This result should not be surprising as DD patients need programs that extend over time and are tolerant of patients dropping in and out, sometimes trying to quit and sometimes not, abstaining for a while only to relapse (Bellack & Gearon, 1998). This idea is equally reflected in exclusion criteria used by Belgian clinicians. The most important exclusion criteria for Belgian treatment programs include: dealing (55.6%), deliberate continuous use (38.9%), criminal behaviour (19.4%) and methadone use (19.4%). Interestingly, 19.4% of the respondents reported including no exclusion criteria in their treatment programme. Moreover, dependency (8.3%) and relapse in use (2.8%) were reported as non important exclusion criteria. In the management of patients with schizophrenia and substance abuse, Belgian clinicians unanimously (100%) identified ‘building motivation to change’ as the most important goal of care. Many patients with schizophrenia have relatively low motivation to address their substance use disorder. Most of them are not prepared to address their substance use without motivational enhancement efforts (Ziedonis & Trudeau, 1997), because they

Table 2
Substance related problems in patients with schizophrenia.

<table>
<thead>
<tr>
<th></th>
<th>All (% of total schizophrenic sample, N = 1420)</th>
<th>Psychiatric hospital</th>
<th>Psychiatric ward General hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with schizophrenia and a substance related problem</td>
<td>602 (42.4 %)</td>
<td>467 (37.9 %)</td>
<td>135 (71.4 %)</td>
</tr>
<tr>
<td>Mean age (years)</td>
<td>28.0 SD 5.9</td>
<td>28.2 SD 6.1</td>
<td>26.1 SD 3.8</td>
</tr>
<tr>
<td>Schizophrenic patients with substance abuse</td>
<td>377 (26.6 %)</td>
<td>288 (23.4 %)</td>
<td>89 (47.1 %)</td>
</tr>
<tr>
<td>Schizophrenic patients with substance dependency</td>
<td>225 (15.8 %)</td>
<td>179 (14.5 %)</td>
<td>46 (24.3 %)</td>
</tr>
<tr>
<td>Mainly problems with cannabis</td>
<td>373 (26.2 %)</td>
<td>292 (23.7 %)</td>
<td>81 (42.9 %)</td>
</tr>
<tr>
<td>Problem only with opiates</td>
<td>18 (1.3 %)</td>
<td>11 (0.9 %)</td>
<td>7 (3.7 %)</td>
</tr>
<tr>
<td>Problem only with stimulants/cocaine</td>
<td>53 (3.8 %)</td>
<td>36 (2.9 %)</td>
<td>17 (9.0 %)</td>
</tr>
<tr>
<td>Problem of polysubstance use</td>
<td>158 (11.1 %)</td>
<td>128 (10.4 %)</td>
<td>30 (15.9 %)</td>
</tr>
</tbody>
</table>

...
suffer from some degree of generalized avolition and anergia (Bellack & Gearson, 1998). This is why abstinence is a difficult to obtain initial goal for most patients and effective treatment must somehow increase motivation for decreased substance use. Information/psycho-education was reported as the second most important goal (88,9%), followed by physical detoxification (83,3%), and physical health (72,2%). This care for patients with DD is organised by means of homogenous DD groups (44,4%), individually (36,1%), or other forms of organisation (19,4%).

The most used specific therapeutic models for the treatment of DD patients were the behavioural (27,8%), systemic (25%) and cognitive (19,4%) model. However, more than half of Belgian DD treatment teams (58,3%) prefer the use of an eclectic therapeutic model. Available therapeutic activities for DD patients range from individual (94,4%) and group psychotherapy (72,2%) to other approaches such as occupational therapy (86,1%), psychomotor therapy (77,8%) and music therapy (47,2%). Furthermore, working with family members of DD patients (75%) as well as psycho-education (91,7%) are considered as important activities in the therapeutic programme for patients with DD. All these therapeutic activities are in all cases combined with pharmacological treatment. The main focus of care for patients with DD in Belgian psychiatric services are treatment (83,3%), followed by prevention (66,7%), physical care (63,9%), aftercare/follow-up (63,9%) and crisis management (50%).

Respondents perceived different problems as related to the treatment of DD patients, the most important being the limited offer of services and education (22,2%), followed by continued use during treatment (13,8%), therapeutic alliance (11,1%), limited resources (11,1%) and involuntary patients/motivation (8,3%).

Once patients are engaged in outpatients services, different disciplines are involved in the aftercare of DD treatment teams: psychiatrist (86,1%), social worker (50%), psychologist (61,1%), and nurses (61,1%). In most of the cases (77,8%) this aftercare is offered exclusively on a individual basis.

Research by Belgian clinicians concerning the problem of DD is limited, probably often due to a lack of time, funding, institutional support and research skills. According to our survey only 19,4% of clinicians are engaged in active research.

**DISCUSSION**

Sample sizes in DD research sometimes have been too small, thus increasing the potential for skewed findings or false negative associations (Westermeyer, 2006). This was probably not the case in this nationwide study, as our data has been based on questionnaires of respondents of 105 psychiatric units and a sample of 1420 patients with a primary diagnosis of schizophrenia. Many different diagnostic methods and criteria have been used to assess the schizophrenia and/or substance abuse/dependency with schizophrenic patients, but these various diagnostic methods and criteria seem to produce remarkably comparable results (Westermeyer, 2006). Considering these findings, we can expect that our sample of 1420 schizophrenic patients and a self-made questionnaire yielded reliable results.

In the present study 26,6% of the patients classified as having a substance related problem, received a DSM-IV diagnosis of substance abuse, 15,8% a DSM-IV diagnoses of substance dependency. Not surprisingly, the most commonly abused substance was cannabis. Of the patients who received a DSM-IV diagnosis of substance abuse/dependency, 26,2% mainly had problems with cannabis. This is in harmony with the results of the meta-analysis of Koskinen et al. (2009) who reported that the median rate of current cannabis abuse was 20% and that of cannabis dependence 31%. Cocaine abuse rates have remained low among most patients with schizophrenia (Westermeyer, 2006). In our study only 3,8% of the patients with substance abuse or dependency used cocaine. Opiate abuse rates, like those of cocaine, have generally equally been low (Westermeyer, 2006). Moreover, opioid dependency is uncommon in individuals with schizophrenia (Ziedonis et al., 2005). This explains the very low percentage (1,3%) of DD patients using only opiate. Although polysubstance use is frequent in this population (Ziedonis et al., 2005), this type of substance abuse in our survey was only found among 11,1% of patients. Cannabis is frequently used/abused by patients with schizophrenia and is associated with worse clinical outcomes. For example, a recent magnetic resonance imaging study found that first-episode schizophrenic patients who use cannabis showed a more pronounced brain volume reduction over a 5-year follow-up than patients with schizophrenia who did not use this substance (Rais et al., 2008). Beside its high prevalence of abuse, cannabis increases the risk for other drug abuse and may be a vehicle for consuming substances such as PCP, amphetamines/cocaine, and heroin (Ziedonis et al., 2005). Reported prevalence rates of cannabis use in schizophrenic patients ranges from 17%-80,3% (Volkow, 2009). According to a recent meta-analysis, reviewing 35 studies (1996-2008), every fourth schizophrenic patient had a diagnosis of cannabis use disorder. These disorders were especially common in younger and first-episode patients samples as well as in samples with a high proportion of males (Koskinen et al., 2009). For example, in a study of Barnett et al. (2005) half of the people with first-episode psychosis met DSM-IV criteria for cannabis abuse or dependence. Like most studies, we reported combined abuse and dependence rates. Dual diagnosis is significantly related to overall problem severity (e.g. negative symptoms), having a diagnosis of personality disorder, depression or anxiety, as well as a wide range of demographic variables (being male, single, having low education). As we did not evaluate the influence of these factors on the relationship between schizophrenia and the abuse of substances, this could be indicated as a limitation of this survey.

To date, the strongest evidence for effective management of DD patients has been utilization of integrated treatment services, which combines both mental health and substance abuse
treatments concurrently (Tsuang & Fong, 2004). While the existing literature does not lend itself to recommend a specific psychosocial treatment or case management approach, the superiority of an integrated treatment approach has been well established (SAMHSA, 2002). Integrated treatment certainly is the new standard for evidence-based treatment for this population (Ziedonis et al., 2005). Therefore, the development of integrated programs that address both disorders in Belgian psychiatric services is necessary. Pilot projects, receiving federal funding and examining the effectiveness of patient treatment programs for DD patients, have been implemented in certain Belgian psychiatric services (Sabbe & De Wilde, 2003; 2004). Preliminary results were promising (Sabbe & De Wilde, 2004). However, since these results were preliminary findings, one of the projects has been expanded until May 2010 (Persbericht van de ministerraad, 2009). Almost all respondents from Belgian psychiatric services (97.2%) reported the use of an integrated treatment as the form of team approach while handling with DD patients. This is in accordance with the considerable research documenting better outcomes in treatment programs that combine and integrate services for both schizophrenia and substance abuse (Tenhula et al., 2009). However, as said before, it is highly preferable that this integrated treatment is implemented in a single treatment program or by a single treatment provider, meaning there is a need for cross-trained teams, for integrated treatment practitioners with an understanding of both mental illness and addiction. Only 50% of the responders mentioned the use of such cross-trained teams in the treatment of these patients. In this regard it is interesting to refer to the limited offer of services and education and limited resources perceived by Belgian clinicians as important problems related to the treatment of patients with DD. Considering these elements, it is concluded that there still remains a therapeutic gap in Belgian psychiatric services. Other aspects of programs, implemented by Belgian clinicians in the treatment of DD schizophrenic patients, are in accordance with recommended guidelines. Belgian clinicians emphasize a motivation-based approach to care, with both abstinence-oriented treatment and non abstinence-oriented management approaches. These approaches should be used without a fixed duration and until goals are reached. Only 5.6% of the respondents reported using programs with a fixed duration, and 63.9% reported that treatment programs are not terminated until goals are reached. Treatment plans should also include reconnection with family and friends, who can often serve as important support systems for long-term psychiatric stability (Ziedonis et al., 2005). 75% of Belgian clinicians consider working with family members of DD patients as an important activity in the treatment program.

APPENDIX

Question 1-9 : Identifiers respondents and units (name respondent, name service, unique service identifier (CIV number), name unit, function respondent in the organisation, telephone number, Email address, organisation represented, name of the unit from which the patient data were collected).

Question 10 : Capacity of the ward/unit (n beds or places).

Question 11 : Current n people with schizophrenia on the ward/unit.

Question 12 : Of the patients with a diagnosis schizophrenia how many abuse illegal substances (DSM-IV criteria).

Question 13 : Of the patients with a diagnosis schizophrenia how many have a dependency problem (DSM-IV criteria).

Question 14 : Of the group with a problem of abuse (see previous 2 questions), how many have:
- mainly problems with cannabis, weed, marihuana
- only problems with opiates (heroin)
- only problems with stimulants (cocaine, speed, XTC)
- mainly problem of polysubstance use

Question 15 : Mean age DD group.

Question 16 : Proportion males of the DD group.

Question 17 : Do you have a specific therapeutic offer for the DD group (yes/no).

Question 18 : If yes, since when (year).

Question 19 : We have exclusion criteria (multiple options possible):
- methadone
- delinquencies
- dealing
- relapse
- desire to continue substance use
- dependency
- other
- we do not have exclusion criteria
Question 20: The main focus of our DD treatment is (multiple options possible):
- prevention
- physical health care
- crisis intervention
- treatment
- aftercare
- other

Question 21: The main goals of our DD treatment are (multiple options possible):
- psychoeducation
- motivate to change
- physical health
- coping with substance
- abstinence
- other

Question 22: Organisation DD treatment offer:
- in homogenous DD group
- individual offer
- other

Question 23: Duration DD treatment offer:
- fixed duration with fixed content
- until goals are reached
- other

Question 24: In DD treatment patients can participate in (multiple options possible):
- pharmacological treatment
- psychoeducation
- family therapy
- group psychotherapy
- individual psychotherapy
- occupational therapy
- psychomotor therapy
- music therapy
- other

Question 25: DD treatment is done by:
- team exclusive from substance use care
- team exclusive from psychosis care
- cross-trained team psychosis and substance use
- we engaged therapists from other units/wards

Question 26: Practice of DD treatment:
- serial treatment (first schizophrenia then substance abuse or vice versa)
- parallel treatment (at the same time but separate offer)
- integrated treatment (psychosis and substance use together)

Question 27: Our therapeutic frame of reference is mainly (multiple options possible):
- eclectic
- cognitive
- experiential
- behavioural
- systemic
- pedagogic
- other

Question 28: In the aftercare we offer consultations with (multiple options possible):
- psychiatrist
- psychologist
- nurse
- social worker
- other

Question 29: The aftercare is offered:
- exclusively in group
- exclusively individual
- both individual and in group
- other
Une enquête nationale (N=1420) a été réalisée afin d’analyser le taux de prévalence d’utilisation de substances chez des patients atteints de schizophrénie et de voir dans quelle mesure des programmes intégrés sont implantés dans les services psychiatriques. 42,4% des patients présentaient un trouble lié à l’utilisation de substances, parmi lesquels 26,6% recevaient le diagnostic d’abus et 15,8% le diagnostic de dépendance à une substance. Le cannabis était la substance la plus consommée (26,2%). L’utilisation de stimulants (speed/XTC)/cocaïne et opiacés était moins fréquente : 3,8% et 1,3% respectivement. L’abus et/ou la dépendance à plusieurs substances concernaient 47 % des patients. Seulement 50% des personnes interrogées rapportaient l’utilisation des équipes « cross-trained » dans la prise en charge des patients présentant un double diagnostic. Il apparaît donc que le développement des traitements intégrés et la formation des équipes « cross-trained » dans les services psychiatriques belges devraient constituer la première étape pour améliorer la prise en charge des patients présentant un double diagnostic.

CONCLUSION

Co-occurring substance abuse is common in Belgian schizophrenic patients, and in accordance with the results of other published studies and meta-analyses. It presents unique challenges that are best addressed through integrated treatment programs. Unfortunately, a lack of integrated treatment approaches still exist for this population. There is a high need for cross-trained teams and a high need to develop specific integrated treatment programs that address both disorders. As only 50% of the respondents in this survey mentioned the use of cross-trained teams in the treatment of DD patients, there still remains a therapeutic gap in Belgian psychiatric services. Belgian clinicians must therefore obtain necessary mental health and specifically addiction treatment skills by training to meet this therapeutic gap, and coordinated efforts will be required to provide optimal care for this vulnerable population.

RéSUMÉ

Samenvatting

Omwille van een hoge prevalentie en de nood aan geïntegreerde behandelingsprogramma’s onderzochten we de prevalentie van substantiemisbruik/afhankelijkheid in Belgische schizofrene patiënten en evalueerden we de mate waarin de behandelingsprogramma’s toegepast in Belgische psychiatrie diensten beantwoordden aan de filosofie van een geïntegreerd behandelingsprogramma. In ons nationaal uitgevoerde vragenlijstonderzoek (N=1420) werden 42,4% van de patiënten geclassificeerd als hebbende een middellangehouden stoornis. Van deze patiënten ontvingen 47% de DSM-IV diagnose van substantiemisbruik en afhankelijkheid. Cannabis was de meest gebruikte substantie (26,2%), terwijl enkel 3,8% en 1,3% van de totale steekproef respectievelijk enkel problemen had met stimulerende middelen (speed, XTC)/cocaïne en opiaten. Meerzijdig middellennmisbruik werd aangetroffen bij 11,1%. Enkel 50% van de respondenten vermeldden het gebruik van cross-trained teams in de behandeling van dubbel diagnose (DD) patiënten. Er is dus nog steeds een grote behoefte aan cross-trained teams en aan het ontwikkelen van specifieke behandelingsprogramma’s die beide stoornissen aanpakken.


Sabbe B., De Wilde B. Onderzoek naar de effectiviteit van behandeling programma’s, specifiek voor patiënten met een dubbele diagnose. Federaal wetenschapsbeleid, rapport oktober 2004.


