

COMORBIDITY OF SUBSTANCE USE AND MENTAL DISORDERS

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SUMMARY

Introduction: Comorbidity is a term defined as the presence of two or more conditions occurring either at the same time or having a close relationship to the same individual. World Health Organization (WHO) define it as the "co-occurrence in the same individual of a psychoactive substance use disorder and another psychiatric disorder". Progressive deinstitutionalisation, despite indisputable benefits and improvement of life quality in psychiatric patients, resulted in appearance of new burdens, such as deterioration of family life. Furthermore, wide availability of alcoholic beverages and drugs in communities where the patients live, led comorbid substance abuse disorders to emerge as one of the biggest challenges in the modern psychiatry. There is a limited amount of data concerning the background of the patients with a dual diagnosis, available in the literature, and therefore our aim was to create a sociodemographic profile of such individuals.

Materials and methods: The study was conducted among the patients treated in a drug rehabilitation centre of the Upper Silesian Association "Familia" in Gliwice, Poland using authors' own questionnaire, consisting of 75 items. The study group consisted of 9 females and 91 males (n=100), average age of the patients equalled 29.7 years (95%CI: 28.5-31 years; min/max value: 20/48 years), all the patients had an established dual diagnosis.

Outcomes: 66% of the study group was single, with permanent residency, living with family either in city (47%) or in village (19%). Remaining 34% was spread through the other options (1-4%), with the highest percentage in "single, with permanent residency, living alone in the city" (4%).

Conclusions: Obtained data, demonstrated high homogeneity among the patients with a dual diagnosis in terms of a socio-demographical profile.

Key words: comorbidity – schizophrenia - substance use disorder

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INTRODUCTION

Comorbidity is a term defined as the presence of two or more conditions occurring either at the same time or having a close relationship to the same individual (ECCAS 2006). World Health Organization (WHO) define it as the "co-occurrence in the same individual of a psychoactive substance use disorder and another psychiatric disorder" (EMCDDA, 2004). The United Nations Office on Drugs and Crime (UNODC) defines a person with dual diagnosis as a "person diagnosed as having an alcohol or drug abuse problem in addition to some other diagnosis, usually psychiatric, e.g. mood disorder, schizophrenia" (EMCDDA, 2004). Since the 80s this theme has increasingly become the subject of interest by health researchers, practitioners, policy-makers and service providers (ECCAS, 2006). Usually this condition refers to the presence of psychological/psychiatric problems and associated polydrug use and misuse (ECCAS, 2006). Progressive deinstitutionalisation, and development of community psychiatry, despite indisputable benefits and improvement of life quality in psychiatric patients, resulted in appearance of new burdens, such as deterioration of family life or unemployment (Lauber et al., 2004; Couture et al., 2006). Furthermore, wide availability of alcoholic beverages and drugs in communities where the patients

live, led comorbid substance abuse disorders to emerge as one of the biggest challenges in the modern psychiatry (Dixon, 1999). Comorbidity of substance use and mental disorders also called dual diagnosis (DD) is the term rereferring to the co-occurrence of substance dependence and other mental disorder or coexistence of more than one psychiatric disorders in the same individual (EMCDDA, 2004). The patients with dual diagnosis show a higher psychopathological severity with more hospitalisations, and increased rate of psychosocial impairment (EMCDDA, 2015). It leads to higher costs for society referring to health, social and legal consequences of comorbidity. It is also highlighted that the patients with comorbidity may have a poorer prognosis (ECCAS 2006). There is a discussion on aetiology of DD, and for example Krausz (EMCDDA, 2004) suggests four categories of dual diagnosis:

- a primary diagnosis of a mental illness with a subsequent (dual) diagnosis of substance misuse that adversely affects mental health,
- a primary diagnosis of drug dependence with psychiatric complications leading to mental illness,
- concurrent diagnoses of substance misuse and psychiatric disorders,
- a dual diagnosis of substance misuse and mood disorder, both resulting from an underlying traumatic experience, for example post-traumatic stress disorder.

In the same publication of the EMCDDA from 2004 there is also a theory of Morel (1999) that distinguishes non-specific psychiatric disorders found among drug addicts from complications specifically connected with drug use. National Institute on Drug Abuse (NIDA, 2010) mentions of three scenarios that deserve consideration while discussing on causality of comorbidity:

- drug abusing may cause one or more symptoms of another mental illness,
- mental illnesses can lead to drug abuse e.g. as a form of self-medication,
- both drug use disorders and other mental illnesses are caused by other factors such as brain deficits, genetic vulnerabilities, exposure to stress or trauma.

Kathleen Sciacca divided the patients with dual diagnosis into four types (Szlapa-Zalewska et al. 2005) patient with severe mental illness and drug dependence:

- drug abusers with personality disorders,
- drug abusers with psychiatric disorders caused by drugs e.g. hallucinations, depression,
- drug dependence, mental illness and brain deficits in various types.

The occurrence of drug and/or alcohol comorbidity in psychiatric the patients, especially in case of the schizophrenia, varies in literature. According to some authors, prevalence of DD in general population is around 17%, while in the group of psychiatric the patients it may reach 65% (Meder et al. 2006). In a study on a Danish population, Toftdahl et al., demonstrated DD in case of 46.4% of the patients with personality disorders, 36.6% with schizophrenia, 34.9% with bipolar disorder, and 31.9% with depression, and the most common type of SUD was an alcohol use disorder (Toftdahl et al. 2016). Other reports, demonstrate epidemiology of DD in the patients with schizophrenia, to vary from 10% to even 70% (Mueser et al. 1990). Such a wide range of results, may be caused by the differences in studied populations, different ways and clinical practices in diagnosis of SUDs or socio-demographic profiles of study groups.

Fragmented, and often weakening one another approaches of the mental health, and substance abuse care system, may lead to multiple hardships in treatment and diagnosis (Dixon 1999). Many authors agree, that insufficient drug treatment outcomes are usually caused by paying too much attention to one diagnosis, while neglecting the other (Meder et al. 2006). Patient with DD should be treated in dedicated treatment centres, by a qualified staff capable of simultaneous therapy of both disorders (Błachut 2013). One of such treatment settings for the patients with dual diagnosis are modified therapeutic communities that evolved a model for modifying drug abuse behaviour and reducing psychological symptoms (de Leon 1993).

There is a limited amount of data concerning the sociodemographic characteristics of the patients with a dual diagnosis, available in the literature. Most authors

focus on prevalence of DD (Wright et al. 2000, Carra et al. 2012, Toftdahl et al. 2016), efficacy of different treatment protocols (Drake and Brunette, 1998; Drake et al. 1998, Meder et al. 2006, Beer & McMurrey 2013, McGovern et al. 2014) and influence of a secondary diagnoses on state of the psychiatric patients (Yakovenko et al., 2016), only rarely delving into details about this group of patients, and even then often focusing on very narrow populations (Miles et al., 2003; Walsh et al., 2014). Therefore our main goal was to obtain the social-demographic profile of those the patients, that should be useful for conducting further more detailed studies and modifying interventions into the most suitable for the patients' needs.

MATERIALS AND METHODS

The study was conducted among the patients treated in a drug rehabilitation centre of the Upper Silesian Association "Familia" in Gliwice, Poland (Centrum Leczenia Uzależnień Górnośląskiego Stowarzyszenia "Familia" w Gliwicach). The program of the treatment centre is based on a modified therapeutic community approach with a maximum one year of rehabilitation. The study group consisted of 9 females and 91 males (n=100), average age of the patients equalled 29,7 years (95%CI: 28,5-31 years; min/max value: 20/48 years), all the patients had an established dual diagnosis. Most of them (81%) had a combination of schizophrenia (F20) and of other psychoactive substance dependence (F19.2). In this group, 12% (10% of a whole group) had additionally third diagnosis, usually impulse disorders (F63). The admissions to the treatment centre are usually referred from psychiatric hospital settings or psychiatric ambulatory treatment services, and the patients are in a rather stable psychological condition. All the participants expressed an informed consent for the participation, and were able to not answer any question they found uncomfortable.

The study was conducted using authors' own questionnaire, consisting of 75 items, divided into following subgroups: sociodemographic data (such as age, gender, marital status, education, living status, employment), psychoactive substance use (with the name of a substance, status, route of administration, age of first use, age of regular use), history of drug treatment, history of psychiatric treatment, behavioural dependences, legal position, family situation, medical status, motivation for treatment.

All included the participants have been selected during the clinical meeting of the staff after the analysis of his/her mental health condition and the phase of adaptation in the therapeutic community. The questionnaire was being completed by the interviewer during an interview with a patient. The measurements were taken from May 2016 till March 2017 with a pilot study in March 2016.

RESULTS

There were four basic questions considering socio-demographical status. Marital status, with 6 possible answers (single, married, divorced, widowed, informal relationship, other), residency status, with 5 possible answers (permanent residency, non-permanent residency, homeless, living in an institution [f.e. therapeutic center], other), “who he/she lives with”, with 8 possible answers (alone, family, spouse, cohabitant, friends, institution, homeless, other) and place of living with three possible answers (city, village and other). Although there were more than 720 possible combinations of answers to those questions, 66% of the study group was single, with permanent residency, living with family either in city (further referred to as “group 1”; 47%) or in village (further referred to as “group 2”; 19%). Remaining 34% was spread through the other options (1-4%), with the highest percentage in “single, with permanent residency, living alone in the city” (4%).

If it comes to the education, 29% of the respondents passed the matura exam, and 9% had a higher degree (either master or licentiate) (Table 1).

In the group 1, 32% of the respondents finished a high school, 17% a junior high school, and 33% a vocational school. 20% passed the matura exam and 8% finished only a primary school. In group 2, 23% of the respondents had finished a junior high school, or a vocational school, 53% a high school, and 23% passed the matura exam. There is also a visible difference in a methods of obtaining an income between group 1 and group 2 (Figure 1).

23% (n=3) of those living in villages and 2% (n=1) of those living in cities had a full time job. 2% of the respondents living in a city had an odd job, and 2% were self-employed. Majority (40%; n=19) of the participants living in cities, were getting a pension (as their only source of an income), and 29% (n=14) were maintained by a family. In case of people living in villages, those values were respectively 23% (n=3) and 38% (n=5). Utilization of a social assistance, was present in case of 12% (n=6) of the participants from group 1 and 15% (n=2) from group 2. In the whole study population, average amount of jobs undertaken to the moment of admission to the Upper Silesian Association “Familia” rehabilitation center, was 6.65 (95%CI: 5.18-8.12) for males, and 7.77 (95%CI: 0.78-14.76) for females. Average value of the longest period of employment in one job, was respectively 27.97 months (95%CI: 20.2-35.6) for males and 28 months (95%CI: 5.67-50.32) for females. There was a weak, statistically significant correlation between the average amount of jobs undertaken by the participants and the longest period of employment (Figure 2; $r=-0.2$; $p<0.05$). Number of jobs undertaken by a respondent, correlated also with the longest period (in months) of outpatient and inpatient addiction treatment (respectively: $r=0.21$ and $r=0.32$; $p<0.05$) as well as number of different substances used (Figure 3; $r=0.26$; $p<0.05$), but was not linked to the treatment in the mental health outpatient clinic.

Table 1. Education levels of the participants

	n	Percentage (%)
Primary school	7	6.93
Junior high school	17	16.83
Vocational school	18	17.82
Vocational school (with the matura exam)	14	13.86
High school	16	15.84
High school (with the matura exam)	15	14.85
Licentiate	4	3.96
Master	5	4.95
Other	4	3.96

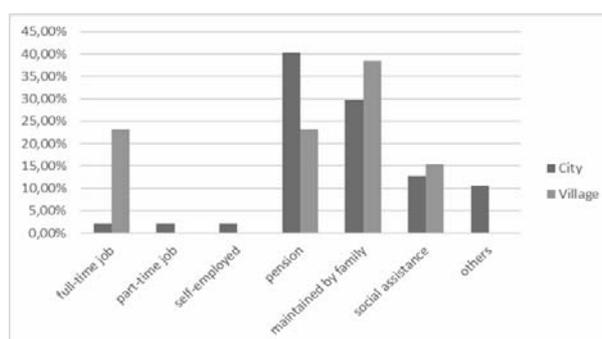


Figure 1. A source of income for the participants, divided based on a place of living

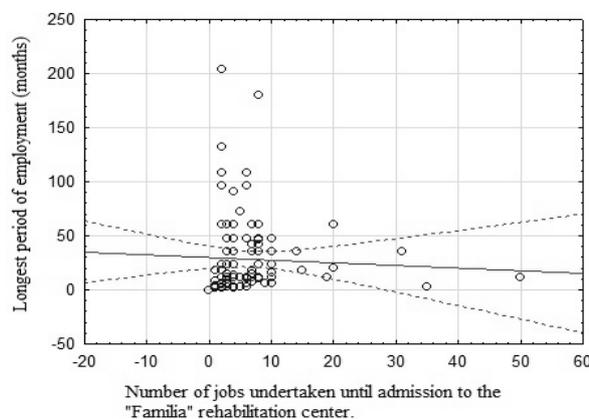


Figure 2. Correlation between number of jobs undertaken by a respondent, and the period of the longest employment before admission to the treatment center

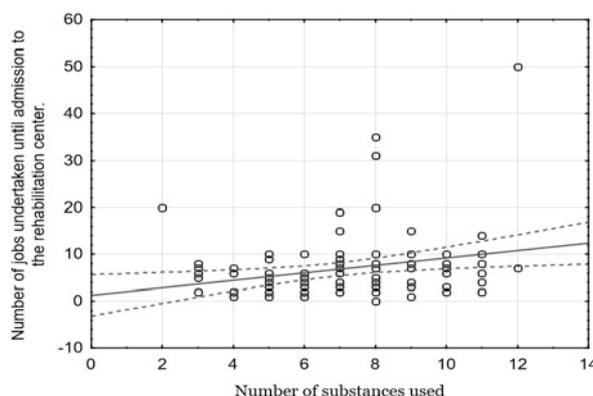


Figure 3. Correlation between number of jobs undertaken by a respondent, and number of substances used

The average number of different types of substances used by the participants. was 6.91 (95%CI: 6.45-7.36). 91-98% of the respondents, at least once tried marihuana, amphetamine and alcohol beverages. 86% used hashish, 78% designer drugs, 62% ecstasy, 45% methamphetamine and 42% psilocybine. Cocaine was used by 39% of the participants. Other substances were used by less than 40% of the respondents (Figure 4).

Average age of introduction to drugs and alcohol was 20.4 (95%CI: 14.9-25.8) years. The lowest average ages applied to alcoholic beverages (Figure 5). For beer it equalled 13.98 (95%CI:13.3-14.6), for wine 14.83 (95%CI:14.1-15.5) and for vodka 14.88 (95%CI:14.1-15.5). The highest average age was in case of designer drugs – 25.2 (95%CI: 19.7-25.9) years. In case of marihuana it was 15.8 (95%CI: 15.1-16.4) and of amphetamine 18.7 (95%CI:17.7-19.7).

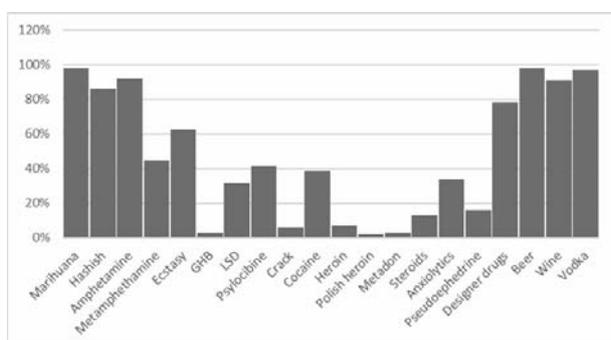


Figure 4. Percentage of the respondents using respective types of substances

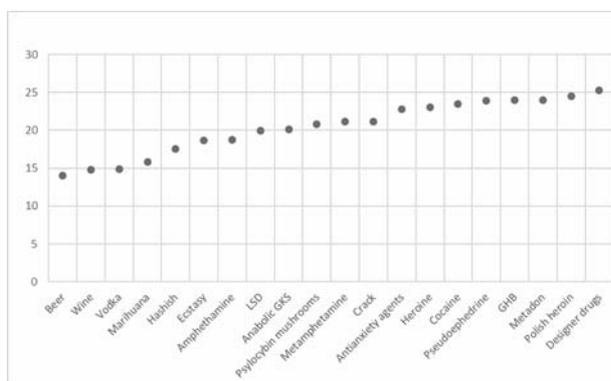


Figure 5. Average age of introduction to the respective types of substances

55% of the participants were convicted, mostly due to thefts (21%). Other crimes included inter alia: assault and battery, drunk driving, possession of illegal substances, vandalism or perjury. Judgments were usually issued in suspension, although 25% of the convicted persons were imprisoned at least once. Furthermore 57% had debts, usually caused loans (63%; n=36) and fines (33%; n=19).

If it comes to the family members of the participants, 63% of the respondents came from family with alcohol problems (usually father – 40% of cases), however they did not differ in amount of different types of substances

they used (U Mann-Whitney test; p=0.33) from rest of the study group. 18% had a drug addiction in their family, and in this group there is a statistically significant higher number of different types of substances used (7.27 [95%CI: 6.37-8.17] vs 6.82 [95%CI: 6.3-7.35]; U Mann Whitney test; p=0.02). 31% of the patients had a family member with a diagnosed mental disorder.

The main reason of undertaking the treatment for 69% of the respondents, was a progressive deterioration of a mental health. On the second place was a family pressure (64%), poverty (11%), legal situation (9%), problems with health (8%) and friends (7%). 95% of the participants plan to undertake a new job after finishing treatment, 70% to raise their qualifications either through vocational trainings or continuation of their education. 83% expect improvement in their mental health, and 63% in somatic. 75% plan to improve their relation with family, and 50% to start a new family.

DISCUSSION AND CONCLUSIONS

In our study, similarly to the data available in literature (Miles et al. 2003, Gorczyca & Teodor 2013), the majority of the patients were single males, with a primary diagnosis of schizophrenia. Average age was lower than in most studies found in literature, and equalled 29 years.

The results of our study, demonstrated that the patients with DD usually stayed and lived with their relatives. Every third respondent was maintained by a family, what may imply, that mental health disorders prevent them from leaving their family home, and establishing a new family. Furthermore their families were probably also involved in the treatment or care process due to the mental illness of the family member (child, husband/wife etc.). Therefore, the situation of people with DD, affect patients' families as well. It was also visible when taking into consideration motivation for treatment of respondents. After the main reason of a progressive deterioration of a mental health, the following one was a family pressure. On the other hand, over half of the respondents came from families with an alcohol dependence problem, mostly pertained to fathers. Every fifth participant had a drug problem in the family, furthermore there were also cases of a diagnosed mental disorder. This may lead to a recommendation of inclusion of the families into the consultation, education or even treatment process. Especially due to the fact that the treatment is strongly expected by the respondents to improve mental health condition and relation with their family.

The respondents used variety of different types of substances but the most common were marihuana, amphetamine and alcohol beverages. The pattern of substance use was diversified and many substances probably were being used in order to improve the mental condition. The age of first alcohol use was the lowest among all substances, and few months later, the

respondents usually had their first experiments with marihuana and amphetamine. The designer drugs, also popular among the participants, were usually one of the last substances tried out, what may be due to the most recent appearance in Poland, as well as increasing popularity and accessibility of those substances in recent years.

Around half of the respondents we reconvicted, but judgments were usually issued in suspension. This might imply that this group of patients do not have an exceptionally abundant criminal record, but still quarter of the convicted persons were imprisoned at least once.

Most of the respondents reached either high or middle school level of education or graduated vocational schools. Respondents living in villages tended to have full time jobs more often than those in cities, who were more prone to getting a pension as their only source of an income. Average amount of jobs undertaken by the respondents, before admission to treatment, was also notable (at the level of around 7 places of employment), what may imply difficulties in maintaining a stable occupation. What should be emphasized is that the vast majority of the participants plans to undertake a new job after finishing treatment, as well as raise their qualifications, either through continuation of education or vocational trainings. This is the challenge for the rehabilitation programs to consider including an offer focused on reintegration and preparation of patients with dual diagnosis for future employment.

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Drafting of manuscript: M. Struzik, K Wilczyński, K. Krysta;

Critical revision: K. Krysta, J. Chałubiński.

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