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Polydrug use – prevalence and registration

SHORT REPORT

ESPEN WALDERHAUG

E-mail: espwal@ous-hf.no
Department of Addiction Treatment
Division of Mental Health and Addiction
Oslo University Hospital
Espen Walderhaug, dr. psychol. and research coordinator.
The author has completed the ICMJE form and declares no conflicts of interest.

KARL JOHAN SEIM-WIKSE

Occupational Health Services
Akershus University Hospital
Karl Johan Seim-Wikse, specialist in child and adolescent psychology and head of department.
The author has completed the ICMJE form and declares no conflicts of interest.

ASLE ENGER

Department of Addiction Treatment
Division of Mental Health and Addiction
Oslo University Hospital
Asle Enger, specialist in addiction medicine and infectious diseases, and medical adviser.
The author has completed the ICMJE form and declares no conflicts of interest.

OLEG MILIN

Department of Addiction Treatment
Division of Mental Health and Addiction
Oslo University Hospital
Oleg Milin, specialist in psychiatry and addiction medicine, and senior consultant.
The author has completed the ICMJE form and declares no conflicts of interest.

BACKGROUND

Combination of drugs is the main cause of fatal overdose, and polydrug use is associated with greater treatment needs. This study investigates the prevalence and registration of multiple substance dependence.

MATERIAL AND METHOD

Substance dependence diagnoses for 147 inpatients at the Department of Addiction Treatment, Oslo University Hospital were registered and reassessed with a focus on the ICD-10 diagnosis F19 (chaotic intake of multiple substances). The resulting diagnoses were also assessed according to ICD-11.

RESULTS

Altogether 116 (79 %) out of 147 patients were addicted to two or more drugs. Only 22 (15 %) out of 147 were diagnosed with F19, but this figure increased to 52 (35 %) after reassessment. Using ICD-11 we found a prevalence of the diagnosis 6C4F (multiple substance dependence) of 79 %.

INTERPRETATION

We found an underreporting of the ICD-10 diagnosis F19. It is important to use the F19 diagnosis, because polydrug use is underreported, even though it predicts overdose, prognosis and treatment needs.

MAIN MESSAGE

The ICD-10 diagnosis F19 (chaotic intake of multiple substances) was significantly underreported (15 % vs 35 %) in the admission notes and discharge reports for substance users admitted for inpatient treatment.

In a sample of 147 patients, 79 % were addicted to two or more drugs.

Polydrug use is common, and increases the risk of negative health effects (1). A study that investigated all (N = 194) overdose deaths in Norway in 2012 found an average of 4.9 different drugs per autopsy (2). The study concluded that drugs taken in combination (especially opioids + benzodiazepines) are the main cause of fatal overdose. Mono-intoxication with heroin was not detected in any of the 194 fatal overdoses (2).

Reporting of overdose is largely based on ICD-10, the international statistical classification of diseases and related health problems (3). A single substance, for example heroin, is typically chosen as the main cause of death (2). This gives a wrong impression, because drug-related deaths are rarely caused by one single drug (4). Our impression is that most overdose deaths are due to a pattern characterised by chaotic use of several different drugs. Polydrug use is also associated with poor prognosis, higher rates of comorbidity with other mental disorders (5), and higher demands on the content and length of treatment (1,5).

Multiple drug dependence can be coded with the ICD-10 diagnosis F19 (3), but the threshold for using this diagnosis appears to be high. The guide for F19 states: 'Only in cases in which patterns of psychoactive substance taking are chaotic and indiscriminate, or in which the contributions of different drugs are inextricably mixed, should code F19.- be used.'. It appears that the strict criteria for diagnosis of multiple substance dependence will be phased out in the future. ICD-11 (6) is scheduled to replace ICD-10 from 2022. According to ICD-11, multiple substance dependence should be coded with 6C4F, regardless of pattern of use.

In normal clinical practice, the F19 diagnosis can be a useful indicator of elevated risk and treatment requirements. However, we had the impression that chaotic drug use occurred more often than it was recorded. This study investigates substance dependence diagnoses in a selection of inpatients that had received specialised, interdisciplinary addiction treatment. The prevalence of ICD-10 diagnosis F19 recorded in the patient records was compared with the prevalence of F19 following a review of the records.

Material and method

We reviewed the patient records of 147 patients that had signed the informed consent form related to the 'Youth Addiction Treatment Evaluation Project' (YATEP). All patients were admitted for inpatient treatment during the period 1 January 2011–31 December 2017 at the Department of Addiction Treatment, Oslo University Hospital. Substance dependence is a requirement for admission, and the usual treatment length is 3 to 6 months. This study was approved by the Regional Committee for Medical and Health Research Ethics (2017/1536 REC South East B) and the Oslo University Hospital (OUS) data protection officer.

The admission notes and discharge reports were reviewed in detail by a specialist in medicine and a specialist in psychology. Substance dependence diagnoses in ICD-10 (F10 – F19, except for tobacco (F17)) were recorded for each participant as they appeared in patient records. This was followed by a reassessment that recorded which patients conformed a strict understanding of the F19 diagnosis.

Results

The sample consisted of 93 (63 %) men and 54 (37 %) women. The participants were on average 23.6 (SD = 2.9) years of age and had completed 10.8 (SD = 1.5) years of education (Table 1).

Table 1

Prevalence of ICD-10 substance dependence diagnoses in the admission notes and discharge reports at the Department of Addiction Treatment, Oslo University Hospital. The patients were admitted to inpatient treatment during the period 1 January 2011–31 December 2017.

	Number (cumulative per cent)
F19 recorded in the patient record	22 (15 %)
F19 following reassessment[1]	52 (35 %)
≥3 substance dependence diagnoses	87 (61 %)
≥2 substance dependence diagnoses	116 (79 %)
≥1 substance dependence diagnoses	147 (100 %)

[1]F19 coded retrospectively by two specialists

The ICD-10 code F19 was recorded on 22 (15 %) of patients in the patient records, but this number increased to 52 (35 %) following reassessment by two specialists in consensus. A total of 116 out of 147 (79 %) patients had two or more substance dependence diagnoses. That is, 79 % of the sample classified for the ICD-11 definition of multiple substance dependence (6C4F).

Discussion

In view of the documentation above, we found that the ICD-10 code F19 was underreported. Clinicians seem to record several separate substance dependence diagnoses in preference to coding F19 when this would have been most appropriate. This can partly be explained by the notion that F19 is perceived as inaccurate, rather than a correct description of chaotic drug use. It is a valid point that the F19 diagnosis alone does not indicate which substances

the patient struggles with. This can be solved by coding the F19, followed by the diagnoses of the individual substances included in the addiction disorder. This would also be a useful adoption for the future ICD-11 guidelines for classification. We hope that the ICD-11 code for multiple substance dependence (6C4F) will have an efficient system for 'post-coordination', where the specific substances involved can be recorded. We also hope that ICD-11 can facilitate a shift in focus for current practice, towards combinations of drugs as a major risk factor for fatal drug overdose (4).

This study is limited as it relies on information from the patient records, and the sample is not necessarily representative for this patient group. Furthermore, the ICD-11 codes on substance dependence could change in the period before implementation. Divergent practice and deficient registration of F19 is not a local phenomenon, but occurs throughout Europe (7). Preliminary figures show that patients seeking treatment for substance dependence report a prevalence of polydrug use ranging from more than 95 % (Cyprus and Poland) to less than 5 % (Malta and Slovenia). Figures from Norway are not included in this dataset, due to an insufficient recording of polydrug use (7). Future research should increase its efforts to investigate the prevalence and consequence of polydrug use, and utilise data from the Norwegian Patient Registry. Clinical practice for coding of multiple substance dependence should be harmonised and quality controlled. Polydrug use is probably an increasing trend, and 6C4F may become the most common substance dependence diagnosis in future multidisciplinary, specialised drug addiction treatment.

CONCLUSION

This study examined the prevalence of multiple substance dependence defined by F19 (ICD-10) and 6C4F (ICD-11) in a sample of substance-dependent inpatients. We found underreporting of the ICD-10 diagnosis F19, and a high prevalence of the ICD-11 diagnosis of 6C4F. It is important to code F19 when it occurs, because it predicts overdose, prognosis and treatment needs.

The article has been peer-reviewed.

LITERATURE

1. Selected issue on polydrug use: patterns and responses. Lisbon: European Monitoring Centre for Drugs and Drug Addiction, 2009. http://www.emcdda.europa.eu/system/files/publications/534/EMCDDA_SIo9_polydrug_use_187893.pdf Lest 3.6.2019.

2. Edvardsen HE, Tverborgvik T, Frost J et al. Differences in combinations and concentrations of drugs of abuse in fatal intoxication and driving under the influence cases. Forensic Sci Int 2017; 281: 127–33. [PubMed][CrossRef]

3. The ICD-10 Classification of Mental and Behavioural Disorders – Diagnostic Criteria for Research. Geneva: World Health Organization, 1993.

4. Simonsen KW, Edvardsen HME, Thelander G et al. Fatal poisoning in drug addicts in the Nordic countries in 2012. Forensic Sci Int 2015; 248: 172–80. [PubMed][CrossRef]

5. McCabe SE, West BT. The three-year course of multiple substance use disorders in the United States: A national longitudinal study. J Clin Psychiatry 2017; 78: e537–44. [PubMed][CrossRef]

6. World Health Organization. International statistical classification of diseases and related health problems (11th Revision). https://icd.who.int/browse11/l-m/en Lest 3.6.2019.

7. Montanari L, Guarita B. Polydrug use among drug treatment clients in Europe. What implications for treatment? Presentation at EMCDDA technical conference, Lisboa, 22.09.2015. http://www.emcdda.europa.eu/attachements.cfm/att_243617_EN_01.%20LM%20-%20Polydrug%20use%20TDI.pdf Lest 3.6.2019.

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