

Table 1. Annual trends in telephone enquiries and TOXBASE accesses relating to alprazolam.

Year (April-March)	Telephone enquiries	TOXBASE accesses
2013-14	70	768
2014-15	53	840
2015-16	70	944
2016-17	69	1823
2017-18	160	5624
2018-19 (half year to September)	72	3384

effects seen. Annual enquiry and TOXBASE access numbers demonstrate substantial increases since 2016 (Table 1).

Conclusion: Alprazolam-related telephone enquiries and TOXBASE accesses have increased substantially in the UK since 2016. This may reflect increasing availability and misuse of alprazolam obtained via the Internet or dealers.

23. Internet availability of modafinil and methylphenidate

Joanna Hockenfull, David M Wood and Paul I Dargan

Clinical Toxicology, Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom

Objective: There are reports of prescription stimulants being purchased online for use as cognitive enhancers or "smart drugs". The aim of this study was to investigate availability of modafinil and methylphenidate from Internet suppliers from the perspective of a typical UK-based customer.

Methods: Using the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) Internet snapshot methodology, this study was conducted July to August 2018, using Internet search engines: "bing.co.uk", "google.co.uk" and "yahoo.co.uk" and the search terms: "buy modafinil", "buy provigil", "buy methylphenidate" and "buy ritalin". Websites were excluded based on being unresponsive, not selling the desired drug, not shipping to the UK or requiring a prescription to purchase.

Results: A total of 104 modafinil and 138 methylphenidate websites were identified from which the drug could be purchased without a prescription from 67 (64.4%) and 22 (19.8%) websites, respectively. The majority of websites excluded were due to the desired drug not being available to purchase while only five modafinil (4.8%) and six methylphenidate (5.4%) websites were excluded on the basis of requiring a prescription or licence. It was specifically stated that no prescription was required on 27 modafinil (40.3%) and 16 methylphenidate (72.7%) websites. Minimum purchase quantities ranged from 10-90 tablets for modafinil and 1-1,005 tablets for methylphenidate with no apparent upper limit to the number that could be purchased. The price per tablet varied from £0.38-5.31 for modafinil and £0.15-5.70 for methylphenidate. Free shipping was offered if more than a

certain amount was spent on 54 modafinil (80.4%) and ten methylphenidate (45.5%) websites and discounts were offered on 52 modafinil (77.6%) and six methylphenidate (27.3%) websites.

Conclusion: Modafinil and methylphenidate are widely available to purchase on the Internet in the UK without a prescription. The pricing on websites encourages users to buy greater quantities to qualify for discounts and free shipping. The quantities available suggest these purchases may be misused by individuals in greater amounts than would be legitimately prescribed or diverted to other individuals increasing the risk of non-medical use of the drugs. This survey methodology, developed by the EMCDDA, has previously provided useful information regarding the availability of new psychoactive substances and we have shown here that it can also be applied to monitoring Internet markets for prescription drugs. Continual monitoring using this methodology will enable law enforcement and policy makers to understand availability of these substances to potential users.

24. Regional variation in non-medical use of benzodiazepines in the UK

Joanna Hockenfull^a, David M Wood^a, Colleen M Haynes^b, Joshua C Black^b, Karilynn Rockhill^b, Richard C Dart^b and Paul I Dargan^a

^aClinical Toxicology, Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom; ^bRocky Mountain Poison & Drug Center, Denver Health, Denver, United States

Objective: Recent investigations by regulatory authorities in the UK have confirmed increasing diversion and non-medical use (NMU) of prescription medicines, particularly benzodiazepines. There is limited published data on the prevalence of NMU of benzodiazepines in UK, however, and whether there are regional differences in this activity.

Methods: Data collected in the third quarter of 2017 in the UK by online Survey of Non-Medical Use of Prescription Drugs were analysed. Post-stratification weights were applied to responses from 10,019 individuals to represent distribution of age, gender, and region of 52,927,659 adults living in the UK. This online survey collects data on the prevalence, motivations and behaviours for NMU of prescription drugs. The prevalence estimates of last 12 month NMU were calculated of any benzodiazepines (alprazolam, bromazepam, chlordiazepoxide, clobazam, clonazepam, diazepam, flurazepam, lorazepam, nitrazepam, oxazepam, or temazepam) and the five most commonly non-medically used benzodiazepines (diazepam, temazepam, lorazepam, clonazepam, and alprazolam) for the following regions: London, England (except London), Northern Ireland (NI), Scotland, and Wales.

Results: London had the highest prevalence for any benzodiazepine NMU (1.86%, 95% Confidence Interval (CI) 1.15-2.58) while the lowest prevalence was seen in the rest of England (0.67%, 95% CI 0.47- 0.87) (Table 1). While the prevalence of NMU of benzodiazepines is low, there are differences by type.

Table 1. Prevalence of last 12 month non-medical use of benzodiazepines in the UK.

Region	Last 12 month non-medical use % (95% CI)					
	Any Benzodiazepine	Alprazolam	Clonazepam	Diazepam	Lorazepam	Temazepam
London	1.86 (1.15-2.58)	0.42 (0.08-0.76)	0.51 (0.13-0.89)	1.08 (0.53-1.63)	0.63 (0.22-1.04)	0.42 (0.08-0.76)
England (except London)	0.67 (0.47-0.87)	0.07 (0.01-0.14)	0.14 (0.03-0.24)	0.54 (0.37-0.71)	0.14 (0.05-0.22)	0.19 (0.09-0.29)
Northern Ireland	0.95 (0.00-2.79)	0.95 (0.00-2.79)	0	0	0	0
Scotland	0.91 (0.26-1.56)	0.42 (0.00-0.90)	0	0.82 (0.19-1.45)	0	0.09 (0.00-0.25)
Wales	1.33 (0.00-2.77)	0	0.29 (0.00-0.86)	1.33 (0.00-2.77)	0.29 (0.00-0.86)	0

Diazepam showed the highest prevalence of non-medical use in London, England (except London), Scotland, and Wales, while alprazolam showed the highest prevalence in NI.

Conclusion: There is regional variation in the NMU of benzodiazepines within the UK, despite similar regional prescribing policies. Further research is needed to investigate factors responsible for the regional variation observed and understand the motivations of benzodiazepine NMU to inform the design of public health interventions.

25. Differences in the pattern and prevalence of non-medical use of prescription benzodiazepines, gamma-aminobutyric acid (GABA) analogues and stimulants in Europe

Joanna Hockenfull^a, Paul I Dargan^a, Colleen M Haynes^b, Joshua C Black^b, Richard C Dart^b and David M Wood^a

^aClinical Toxicology, Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom; ^bRocky Mountain Poison & Drug Center, Denver Health, Denver, United States

Objective: There is increasing concern across Europe on the non-medical use (NMU) of prescription medicines. The aim of this study was to determine the prevalence of last 12 month NMU of benzodiazepines, GABA analogues, and stimulants through data collected in five European countries via the Survey of Non-Medical Use of Prescription Drugs (NMURx) Program.

Methods: Data from the NMURx Program from the 4th quarter of 2017 from France (n = 10,072), Germany (n = 15,051), Italy, (n = 10,019), Spain (n = 10,062), and the 3rd quarter of 2017 from the UK (n = 10,019) were analysed. Post-stratification weights for gender, region, and age were applied to represent distribution of the general population of adults in each country. For each survey, the estimated prevalence and 95% confidence interval of respondents reporting NMU within the last 12 months were calculated and compared. NMU was defined as "using a medication without a doctor's prescription or for any reason other than what was recommended by their doctor".

Results: Spain, Italy and France had higher prevalence of last 12 month NMU of benzodiazepines than GABA analogues (Table 1). Germany had the highest prevalence of recent NMU of GABA analogues and the lowest prevalence for benzodiazepines; NMU of GABA analogues in Germany was at least double that seen in other countries. The rate of NMU for stimulants were low in all countries compared to the other drug groups.

Conclusion: Differences were observed in last 12 month NMU of different drug classes across five countries in Europe. Further work is required to understand the reasons for these differences in NMU and whether this relates to national prescribing practices, ease of diversion between countries or other reasons.

Table 1. Prevalence of last 12 month non-medical use of prescription drugs in Europe.

Country	Last 12 Month Non-Medical Use, Prevalence % (95% CI)		
	Benzodiazepines	GABA analogues	Stimulants
France	1.7 (1.5-2.0)	1.4 (1.2-1.6)	0.6 (0.4-0.7)
Germany	1.0 (0.9-1.2)	3.2 (2.9-3.5)	0.7 (0.6-0.9)
Italy	2.5 (2.1-2.8)	1.1 (0.8-1.3)	0.6 (0.4-0.7)
Spain	4.0 (3.6-4.4)	1.5 (1.2-1.7)	1.0 (0.8-1.2)
UK	1.0 (0.8-1.2)	1.3 (1.1-1.6)	0.5 (0.4-0.7)

Understanding patterns in NMU can inform strategies and interventions to prevent NMU more appropriately.

26. Gender differences in benzodiazepine-addicted patients

Gabija Valauskaite^a, Deima Eitmontaite^a and Robertas Badaras^b

^aVilnius University, Faculty of Medicine, Vilnius, Lithuania; ^bVilnius University Emergency Hospital, Centre of Toxicology, Faculty of Medicine, Vilnius University, Vilnius, Lithuania

Objective: The aim of this study was to establish different addiction patterns between genders in benzodiazepine (BZD)-addicted patients.

Methods: We retrospectively evaluated patients, who were diagnosed with BZD dependence and had undergone benzodiazepine detoxification treatment at Vilnius University Emergency Hospital 2012 to 2018. Patients admitted for benzodiazepine overdose and those who had been using benzodiazepines for <6 months were excluded from the study. Since patients had used different kinds of benzodiazepines, the doses were converted into diazepam equivalent (DE) [1]. Data was processed by MS Excel and SPSS 22.0 software.

Results: Overall 54 patients were included, 33 females and 21 males. The age median was 48.5 years (27-74 years), female age median was 53 years (34-74 years), male age median was 46 years (27-65 years). Age was not statistically significantly different between genders, p = 0.136. DE dose median was 56 mg (15-450 mg). Men used statistically significantly higher DE doses than women, p = 0.037. The median DE in men was 68 mg (20-450 mg) and in women 38 mg (15-329 mg). The median duration of hospitalization was 9 days (3-44 days). Men spent statistically significantly less time in hospital, p = 0.018. The median hospitalization time in men was 7 days (3-38 days) and in women 10 days (3-44 days). Men were more frequently addicted to smoking than women, 38.1% versus 6.1%, p = 0.003. Men were also more frequently addicted to alcohol than women, 52.4% versus 21.2%, p = 0.018.

Conclusion: Men were more prone to be addicted to alcohol or cigarettes in comparison to women. Men were also using higher doses of benzodiazepines and spent less time in treatment.

Reference

- [1] Farinde A. Benzodiazepine Equivalency Table: Benzodiazepine Equivalency. 2017 April 28 [cited 2018 October 5]. Available from: <https://emedicine.medscape.com/article/2172250-overview>

27. Fatality associated with therapeutic antidepressant and NBOME recreational drug use

William J Meggs^a, Susan N Miller^a, Jennifer L Parker-Cote^a and Mohan Punja^b

^aEmergency Medicine, East Carolina University, Greenville, United States; ^bEmergency Medicine, Augusta University, Marietta, United States

Objective: Many psychotropic drugs sold for recreational purposes enhance serotonin effects. Serotonin reuptake inhibitors such as fluoxetine have the potential to interact with recreational drugs including the NBOME serotonergic compounds. Lithium