

# FEDERAL RESEARCH PROGRAMME ON DRUGS

## SUMMARY

### YOUTH-PUMED

#### **Youth perceptions of nonmedical use of psychoactive medications**

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## 1) INTRODUCTION

Concern about the nonmedical use of prescription drugs (NMUPD) is increasing worldwide. However, the issue has so far received limited attention in scientific research in Belgium, as well as in Europe. Most of the existing studies into NMUPD have been conducted in the United States. The aim of this research is to better understand this phenomenon among young adults (aged 18–29) in Belgium and their perceptions about their own use and associated harms. The research project is funded by the Belgian Science Policy Office (BELPSO) and is a collaboration between Ghent University, Université Saint-Louis – Bruxelles and VIVES Hogeschool.

We explored in particular the nonmedical use of sedatives, analgesics and stimulants, the prescription drugs most predominantly associated with nonmedical use. We used the following definition of 'nonmedical use of prescription drugs': (i) use without a prescription, (ii) or use in ways not intended by the prescriber, such as using prescribed medications in higher quantities, in a manner other than as prescribed, or for purposes other than as prescribed.

Our study was driven by the following research questions:

**RQ1:** What do young people think about their nonmedical use practices, including types of medications used, settings of use and supply, perceptions of risk and social acceptability?

**RQ2:** What information do young people consult and rely on regarding prescription drugs?

**RQ3:** How has the nonmedical use and supply of prescription drugs been discussed among online communities of (potential) users?

**RQ4:** What measures may help to prevent or reduce nonmedical use of prescription drugs and related harms among young people?

## 2) METHODOLOGY

We used a mixed methods approach, combining an online survey, in-depth interviews, and a rapid analysis of online forums. Eligibility criteria to participate in the survey and interviews included: aged 18–29, residing in Belgium, and currently using or having used prescription drugs nonmedically.

a. Online survey

The aim of the online survey was to provide quantifiable insights into the nonmedical use of, and attitudes towards, psychoactive medicines. The questionnaire (available in Dutch and French) was constructed based on previous international and national instruments, together with relevant theoretical information gathered in the literature review phase. It included demographic questions and questions about the medical use of the three types of prescription medicines of interest to this research project. It also included questions on the frequency, type, initiation, motives and context of nonmedical use, administration methods, effects and supply of these prescription drugs. An important part of the questionnaire focused on attitudes towards nonmedical use, diversion behaviours, information sources, perceived problematic behaviour, and current and/or concurrent use of other psychoactive substances. The questionnaire also asked about the effects of the COVID-19 pandemic and associated measures on NMUPD.

The survey was launched on 30 June 2020 and closed on 5 October 2020. It was completed by 574 Belgian young adults (aged 18–29, 61% female) who reported NMUPD, including 380 responses in Dutch (66.2%) and 194 in French (33.8%). Our survey sample was highly educated, with the majority of the respondents having a university degree or studying at university (N=313). The data were analysed using SPSS.

b. In-depth interviews

All survey participants were asked to leave their contact details if they were interested in taking part in the next research phase. The majority of the interview respondents were recruited through this method. Other respondents were reached via snowball sampling. The interview phase ran partly parallel to the online survey: interviews started on 10 July 2020 and ended on 22 October 2020. In total, 63 interviews (online or in person) were conducted by four researchers, 44 in Dutch and 19 in French (42% female). The interviews focused on the following topics: demographic characteristics; current medical use of the three types of prescription drugs; initiation, progress and current NMUPD; supply channels; information sources; perceptions of risk; attitudes and social acceptability; and the impact of the COVID-19 pandemic on NMPUD. The interview guideline also took into account preliminary findings from the survey.

The 63 interviews were audio or video recorded and the participants were compensated with one cinema ticket. Audio recordings of the interviews were transcribed verbatim and, after transcription, coded and thematically analysed using NVivo.

### c. Analysis of online forums

In addition, an online search was conducted to identify online forums that discussed NMUPD. To be included in the explorative analysis, online forums were required to be publicly searchable, in the French or Dutch language, and to be generally open to NMUPD by demonstrating some sort of conversation about, or advice and/or acknowledgement of, NMUPD. In our explorative analysis of online forums, we did not limit our search to drug-related forums only but also included those with a general scope.

A total of 27 forums were identified and inventoried between March 2020 and March 2021. Nineteen were in Dutch and eight in French. Some of the online forums that respondents had mentioned in the survey and the interviews, such as Drugsforum Psychonaut, Psychoactif, were also included in the explorative analysis.

## 3) RESULTS

### Initiation

The age of initiation for NMUPD usually occurs throughout adolescence. In our study, the median age of initiation was 18 for stimulants and sedatives and 16 for analgesics. Young adults who used prescription analgesics and sedatives were more likely to report receiving these medicines from a family member, while prescription stimulants were more often given by friends. The third most commonly reported source of supply for first nonmedical use was one's own prescription for a medical problem.

### Motives for use

We grouped motives for NMUPD into three categories: self-medication, performance enhancement and recreation. The findings show that NMUPD mainly occurred in a context of self-medication and performance enhancement, and less often for recreational purposes. However, motives for use differed between the types of prescription drugs. The most reported reason for stimulant use in a nonmedical context was for study purposes. For prescription analgesics, the most reported reason for use was to relieve pain, followed by sleep and relaxation purposes. Finally, sedative medicines were mostly used for sleep purposes, followed by the reduction of anxiety, tension or stress.

## **Use patterns**

We examined frequency of use, administration methods, dose patterns, concurrent substance use and setting of use. Respondents were mostly sporadic or occasional users. When prescription stimulants were used for study enhancement, they were used regularly during exam periods and rarely at other times in the academic year. The frequency of use of sedatives and analgesics for self-medication varied widely. While some respondents used sedatives regularly in certain periods, others reported sporadic or low-frequency use. The latter indicated that they used them in 'exceptional situations' and 'in case of emergency'.

The vast majority of respondents administered prescription drugs orally. The second most reported administration method was intranasal administration (snorting). Our findings suggest that intranasal use was most common with stimulant medicines in recreational contexts, in order to alter their psychoactive effects.

Respondents determined their dose of NMUPD based on information they read on the package insert, online sources, their friends' and family members' advice and on their own experiences. The dose consumed varied widely, and depended on the purpose of use – the dose tended to be higher when the prescription drugs were used for recreational purposes than when they were used for self-medication or study enhancement.

Some of the young adults reported the concurrent use of prescription drugs and other psychoactive substances. Sometimes, it seemed a coincidence that multiple substances were taken in the same timeframe, or the substances were taken for the same purposes. In other situations, psychoactive substances were combined purposely in order to increase or decrease their psychoactive effects.

Finally, respondents were asked about the settings in which they had used prescription drugs nonmedically. Prescription drugs were mainly used alone at home; a friend's or family member's home, at school or work was less often mentioned; and they were least often used at a social gathering.

## **Supply**

Many respondents obtained prescription drugs for nonmedical use via family members for free, including from the home medicine cabinet. Also, several participants obtained medication from friends or acquaintances. Most of the time, these others gave them leftover prescription drugs from prescriptions they had themselves been given for medical reasons. Another source

of supply was the user's own prescriptions for medical problems. Purchasing prescription drugs illegally appeared to be less common. More specifically, the internet and dealers were rarely reported as supply channels.

### **Perceptions of risks and acceptability**

The young adults mentioned the health risks associated with NMUPD. However, most respondents believed that the dangers of prescription drugs depended on use patterns and the type of prescription drug used; for instance, sedatives were more often referred to as addictive. Regarding the moral acceptability of NMUPD, multiple respondents considered NMUPD to be morally acceptable when it served a 'functional goal' (e.g. studying, working, health) rather than recreational or hedonistic purposes. Several respondents justified their use by arguing that it only happened in exceptional circumstances: when deemed 'necessary'. Many participants also justified their own use by arguing that they were knowledgeable and disciplined, and therefore they were confident that their use was 'responsible', and the (health) risks of use were considered minimal.

More often, respondents thought that the use of prescription drugs involved a lower risk than the use of illicit drugs. This perception that medicines were safer was related to their accepted social, medical and legal status, their chemical composition and the production processes of pharmaceutical companies. In contrast, they were concerned that illicit drugs could be contaminated with adulterants because of unsafe production processes. At the same time, some respondents believed that this blind trust in prescription drugs and in physicians might involve or even increase health risks, because an individual might act less carefully and mindfully when using prescription drugs. In general, most respondents thought that psychoactive prescription drugs should be used responsibly both medically and nonmedically.

### **COVID-19**

The COVID-19 pandemic and related confinement measures did not seem to affect access to or the availability of all types of psychoactive medications, according to our respondents. Some reported small changes in the amount they used or the type of medication they took during the early period of the COVID-19 pandemic ('strict lockdown'), for sedatives and stimulants in particular. Some respondents who used prescription sedatives for self-medicating purposes clearly highlighted the burden of the COVID-19 pandemic on their mental or physical health and on their overall daily lives. Several respondents reported a slightly higher use of sedatives during the lockdown because of the stress of not being able to see friends or family. Others, who felt more comfortable when living in social isolation, reported a

slightly higher use directly after the strict lockdown was lifted. They experienced difficulties in coping again with their anxiety, acute stress reactions or panic attacks in social situations. Regarding prescription stimulants, the impact on respondents' use patterns also seemed to be twofold. On the one hand, several respondents, and particularly the ones who occasionally use prescription medication for performance enhancement, cited some changes in their use patterns. These respondents referred to the fact that during the lockdown courses were taught online or people were mainly working from home. Some found it easier to focus on their job or school assignments and reported they had used less. On the other hand, some respondents whose prevalence and frequency of stimulants was highest during examination periods reported that they kept using those medications in a similar frequency and dosage.

### **Information sources**

Most respondents indicated that they had, at some time, sought information about prescription drugs used nonmedically. Information was mostly sought online, in particular via large search engines such as Google and from the specialised websites of professional organisations or pharmacies. Several respondents also reported specifically looking for peer-based online forums that contained useful information such as 'trip' reports, personal stories or experience-based advice. Respondents recognised the value of the (online) package insert and professional websites as important objective sources of information. At the same time, some indicated that these sources offered too much generalised information and not enough detail about what the user actually experienced. Aside from online sources, respondents also obtained information from their friends, family and physicians.

Some respondents mentioned having basic knowledge about the psychoactive medications they were using nonmedically, while others were less confident of their knowledge. Despite these different views, almost all pointed out that learning about the medications was essential in managing their own use and any potential harms. Most respondents looked for information about the drugs' chemical structure, effects and side effects, dose limit, administration methods, and the risks and harms associated with use. They were particularly interested in finding out about dangerous combinations of the drugs, and their addiction potential.

### **Discussions about NMUPD in online communities**

Given the broad scope of our analysis, one of the important findings to emerge is the principal focus of the identified forums on drug-related issues. Among the 27 online forums, we observed a clear preponderance of online forums dedicated to drug-related topics only (n=18)

in which the sharing of drug-related information – whether about prescription drugs or illicit drugs – was a prominent feature.

In the threads associated with nonmedical use, the subjects being discussed seemed to differ between each type of medication. In the case of prescription stimulants and sedatives, the issues were very often closely linked to the main motives of use identified in this study. For instance, the threads associated with the nonmedical use of stimulant medication mainly concerned questions and discussions about the effects, including side-effects and desired effects, related to study performance enhancement.

The nonmedical use of prescription sedatives was also discussed in several online forums. While these discussions focused on advice and personal experiences, the content of the threads was often different to that for stimulant medication. For instance, far more threads about sedatives addressed topics concerning their use for self-medicating purposes and its associated risks and harms.

The way the nonmedical use of prescription analgesics was discussed in online forums was again different from the other types of prescription medication. There was a clear emphasis on discussions about the recreational use of analgesics. For instance, these threads focused on how forum members could create the ‘best high’ or ‘most euphoria’ when using painkillers.

#### **4) POLICY RECOMMENDATIONS**

Based on these study findings and a synthesis of information obtained in the literature review, we propose a set of recommendations to prevent and reduce NMUPD and associated harms.

##### **Society**

We observed that our participants considered the use of prescription drugs to be less risky than the use of illicit drugs, and this tended to be associated with the way they were produced, their medically sanctioned use, their legal status and their widespread use by many people for health purposes. This societal image may have negative consequences for the use of prescription medications and the perception of harm they might cause. Therefore, it is important that the general public is correctly informed about the benefits, side effects and health risks of prescription drug use. It is of equal importance to increase awareness of non-pharmacological alternatives among the general population (e.g. sleep hygiene, exercise and coping mechanisms). Our study findings show that profiles, motives and use patterns were

different for each type of medicine. Therefore, it is important for intervention and prevention programmes to be diversified and tailored to the specific target groups.

Existing legislation relating to medicines prohibits the advertising of prescription drugs to the general public but allows it for non-prescribed medicines. It is important to be aware of the potential impact of such advertising on the normalisation of the use of medicines in daily life. Finally, the media can also play a role in the prevention of NMUPD. Media reports with sensational headlines about NMUPD might spark curiosity and encourage some individuals to experiment with their use. Therefore, careful and sensitive reporting might contribute to lowering that effect.

## **Education**

Initiation to NMUPD often occurs at a young age. Therefore, school-based strategies could be designed to reach youth at different stages of their education, including middle school, high school and college. It is also clear that universities and university colleges play an important role in informing their students about the risks of using prescription drugs nonmedically. Knowing that students are especially vulnerable to the academic and social pressures that can spur health risk behaviours, campus health professionals should be educated about such behaviour and involved in dispelling myths about the nonmedical use of stimulants to improve academic performance. Universities and university colleges could organise workshops and courses focusing on study methods and stress management, and encourage their students to use the available and accessible mental health resources if they have anxiety or depression. The current crisis related to the COVID-19 pandemic might have increased those underlying mental health risks, and therefore the need to address them. Finally, it is crucial for this issue to be addressed in some health-related or pharmacology-related courses. Prevention information is most effective when the messages are co-created by students, so one component of a larger effort to inform and educate students could be to set up project work on particularly relevant courses where students participate in developing prevention messages, training or workshops around NMUPD.

## **Household**

The research found that prescription medication, especially sedatives and analgesics, were often initially, but also subsequently, obtained through adult family members, parents in particular. It is therefore important to increase parents' awareness of NMUPD and its risks, and about non-pharmacological alternatives. Some young adults in this study took prescription drugs that had not been prescribed for them from the medicine cabinet at home, without the

knowledge of their parents. Useful strategies in this regard include improving educational efforts about safe storage and disposal, which could be promoted by setting up drug disposal programmes and awareness campaigns.

## **Healthcare**

Physicians were an important supply source of prescription drugs used nonmedically, when these were obtained for medical purposes but used outside of the medical guidelines. Therefore, regulations for prescribing and dispensing psychoactive medicines should be strict, while not undermining patients' access to essential treatments. Physicians and pharmacists should be educated about the health and legal consequences of NMUPD and the diversion of medicines, and should inform their patients about these risks. It is also important that they stress the need for non-pharmacological alternatives to medicines.

The majority of the respondents in our study mentioned that they obtained information about prescription drugs mostly from online sources and less often from medical professionals. However, physicians have an important educational role. We recommend creating opportunities for young people to talk about NMUPD with their physicians.

## **Online communication**

Young adults participating in our study mostly looked for information about prescription drugs online. They indicated that peer-based online forums and social media contained information they found useful. There is a need to increase the presence of healthcare professionals in online platforms and to design and implement online harm reduction initiatives.

## **Recreational contexts of use**

Our study findings show that young people who used prescription drugs recreationally were more likely to have experience with illicit drug use. We therefore recommend similar prevention and harm reduction efforts for the recreational use of prescription medicines as those already existing for illicit drugs. Our findings also illustrate that prescription drugs were used concurrently with other psychoactive substances, and therefore interventions should focus particularly on the risks of simultaneous polysubstance use.

## **Future research**

To date, few studies have focused specifically on the nonmedical use of prescription drugs among young people in Belgium, so there is a crucial need to gather more data about this

heterogeneous population. Future research should pay particular attention to the challenges related to identifying and reaching young people who use prescription drugs nonmedically. Our study's recruitment process has shown that young adults who use or have used prescription drugs nonmedically are a hard-to-reach population, in particular because of not having distinctive characteristics. Despite applying diverse recruitment strategies, over an extended period of time, the sample for this study was still relatively small and biased towards higher educated young adults, perhaps due to the dissemination strategies. Therefore, future research should devote particular attention to reaching different profiles of young users, particularly lower-educated and working young adults. It is also important to complement the findings on users' perceptions with healthcare professionals' perceptions and own experiences with NUMPD-related issues, in order to construct a more complete picture of this phenomenon.