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# THE IMPACT OF THE COVID-19 PANDEMIC ON DRUG DEMAND AND SUPPLY IN ESTONIA

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### Abstract

The COVID-19 pandemic has changed the world and imposed restrictions and rules that democratic countries could not have foreseen. The global health and social care system was put under enormous pressure, and preventing it from a total collapse became the primary objective. This paper looks at how the pandemic affected the illicit drug market, people who use drugs and services designed to support and help them. Based on the available studies and administrative statistics from 2019 and 2020, illicit drug use and need for services remained the same despite the pandemic. Services quickly adopted new operating rules and became available for the target group. There is ample evidence that in some cases illicit drug use (e.g. cannabis) even gained in popularity as a coping method for anxiety and stress. The drug supply fell only temporarily due to the COVID-19, to which it quickly adapted through new IT and crypto possibilities (dark web).

### Key words

COVID-19, drug demand, drug supply, service availability, Estonia.

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## 1. Introduction

On March 11, 2020, the World Health Organization declared COVID-19 a global pandemic. Following March 13, 2020, the Estonian government declared a state of emergency which included social distancing and stay-at-home orders to slow down the viral spread of COVID-19. No movement ban was

imposed in Estonia during the entire pandemic. Estonia has approximately 8,600 people who inject drugs (PWID) (Raag et al., 2019), up to 800 different drug treatment slots, and around 3,500 regular harm reduction clients (National Institute for Health Development, 2022). Based on the available studies and information, this paper gives an insight into the effects of the COVID-19 pandemic on the illicit drug

demand and supply. As all harm reduction and treatment services had to quickly revise their operating procedures to rearrange service provision for their clients, this paper also looks at the availability and use of help and support services for people who use drugs (PWUD).

## 2. Data

The data presented and analyzed in this paper come from different surveys and administrative statistics. All the research describing prevalence of drug use comes from the National Institute for Health Development (NIHD). The NIHD is responsible for several general population studies describing illicit drug use (Vorobjov et al., 2019; Reile, Veideman, 2021), surveys among vulnerable groups (Salekešin et al., 2021) and alternative study methods like wastewater study, syringe residue study and web-based survey among PWUD (Abel-Ollo et al., 2021a; Abel-Ollo et al., 2022; Kütt, 2020). Supply reduction statistics and intelligence information is presented in cooperation with Police and Border Guard Board and EMCDDA's National Focal Point (NFP) situated in the NIHD. The Estonian NFP regularly collects and analyzes supply reduction data from Police and Border Guard Board and Estonian Forensic Science Institute. Information and statistics on harm reduction and

treatment service delivery is part of Estonian NFP's regular work, as all the services are coordinated by the NIHD.

## 3. Results

### 3.1. Drug use in Estonia before and during the COVID-19 pandemic

As of 2018, a quarter (25%) of 16–64-year-olds in Estonia had used illicit drugs in their lifetime, with the last year prevalence of 7% and the last 30 days prevalence of 3%. Cannabis was the most frequently used illicit drug (24%), followed by amphetamine (6%), ecstasy (5%), and cocaine (5%) (Vorobjov et al., 2019). Based on the Estonian health behavior survey conducted in 2020, 13% of the population aged 16–64 had used drugs or psychotropic prescription pharmaceuticals without a doctor's prescription during their lifetime, 7% of them in the last 12 months, and 6% in the last 30 days. Drug use was more common among men than women (17% vs 11%) and significantly higher in younger age groups (Fig. 1). The main drug used in the last 30 days was cannabis, followed by sedatives/hypnotics, ecstasy, amphetamines, and cocaine.

Although studies before the COVID-19 and during the pandemic show different rates for lifetime illicit drug use, the rates for more recent drug use are comparable. Based on the 12 months' and 30 days'

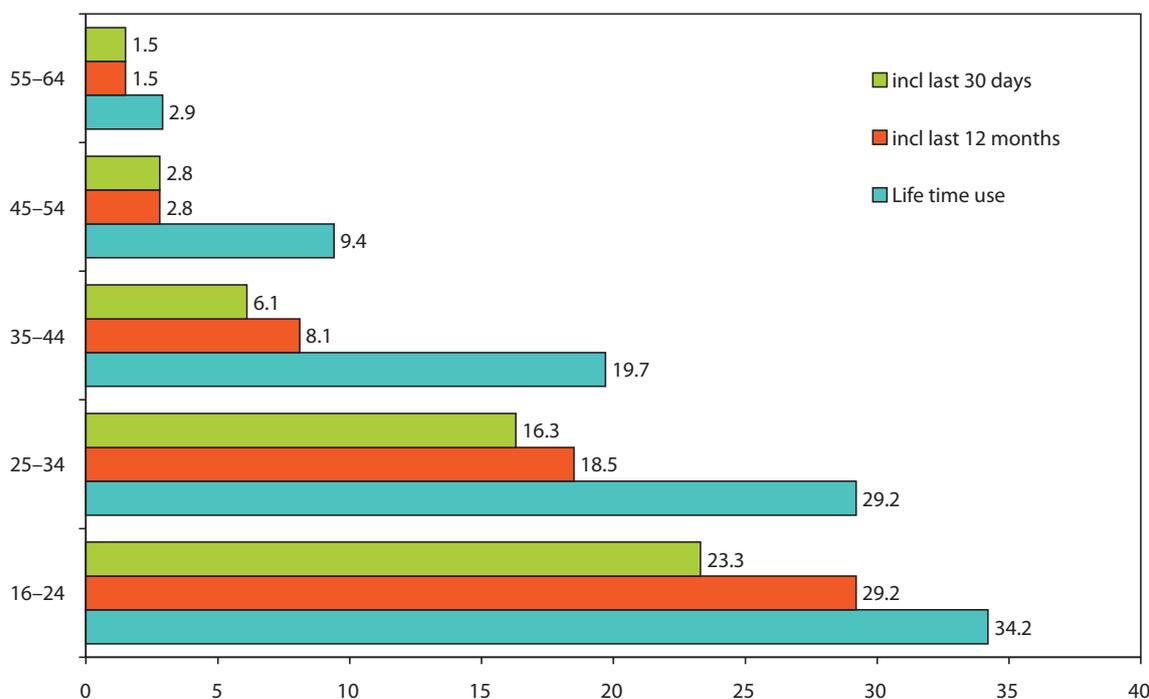


Fig. 1. Use of narcotic drugs or misuse of psychotropic prescription pharmaceuticals in men by age group (%) 2020

Source: Estonian Adult Health Behavior Survey 2020 – Reile, Veideman, 2021.

prevalence data from the 2018 and 2020 population studies, we can assume that illicit drug use has remained stable or even increased with time (last 30 days prevalence 3% vs 6%).

To obtain a better insight into the impact of COVID-19 on the drug situation, at the beginning of the pandemic (April–May 2020), Estonia participated in the EMCDDA-led **mini web survey**. The main objective of the survey was to assess possible changes in the drug market, illicit drug use, and availability of support services in times of local and global restrictions due to COVID-19. According to the results, 84% of the respondents (n=1146) had used at least one substance in the past 30 days. Most of the respondents used cannabis (92% had used cannabis in the past 12 months, 76% in the past 30 days). Almost 30% of the respondents had not made any changes to their use of illicit drugs during the lockdown. 21% of the respondents reported they used illicit drugs less and 17% had not used any illicit drugs during the COVID-19 restrictions. 24% of the respondents began using drugs more frequently, and 8% found it difficult to tell whether their drug use pattern had changed.

Those who reduced the use of illicit drugs justified it with fewer opportunities to use drugs (34%) and limited opportunities to buy drugs (27%), also due to their financial situation. People had more free

time during the lockdown, but there were also fewer options to spend time outside home and limited social support to cope with the difficult times. Drug use mostly increased because of boredom (77%) and anxiety (44%) (Kütt, 2020).

Based on the results of the 2019 and 2020 (15–21.09.2020) Tallinn **wastewater survey**, it can be stated that despite the restrictions and a decrease in tourism, drug use had not significantly decreased compared to 2019, but rather increased in the case of some substances. The most common substances in Tallinn wastewater were cannabis, amphetamine, and cocaine, followed by methamphetamine and MDMA (Fig. 2). The situation had not changed significantly compared to 2019.

Comparing the 2019 and 2020 results of the Tallinn survey, the amount of methamphetamine in wastewater dramatically increased, which indicates an increase in the availability of this substance on the drug market.

For both study years, differences in use between days of the week were most seen for MDMA and cocaine. These two substances were mostly used at weekends, and it can be assumed that they were also used for recreational purposes at gatherings/parties during the fall of 2020. Although there were no large public events and parties, there is reason to believe that both online and in-person private parties and

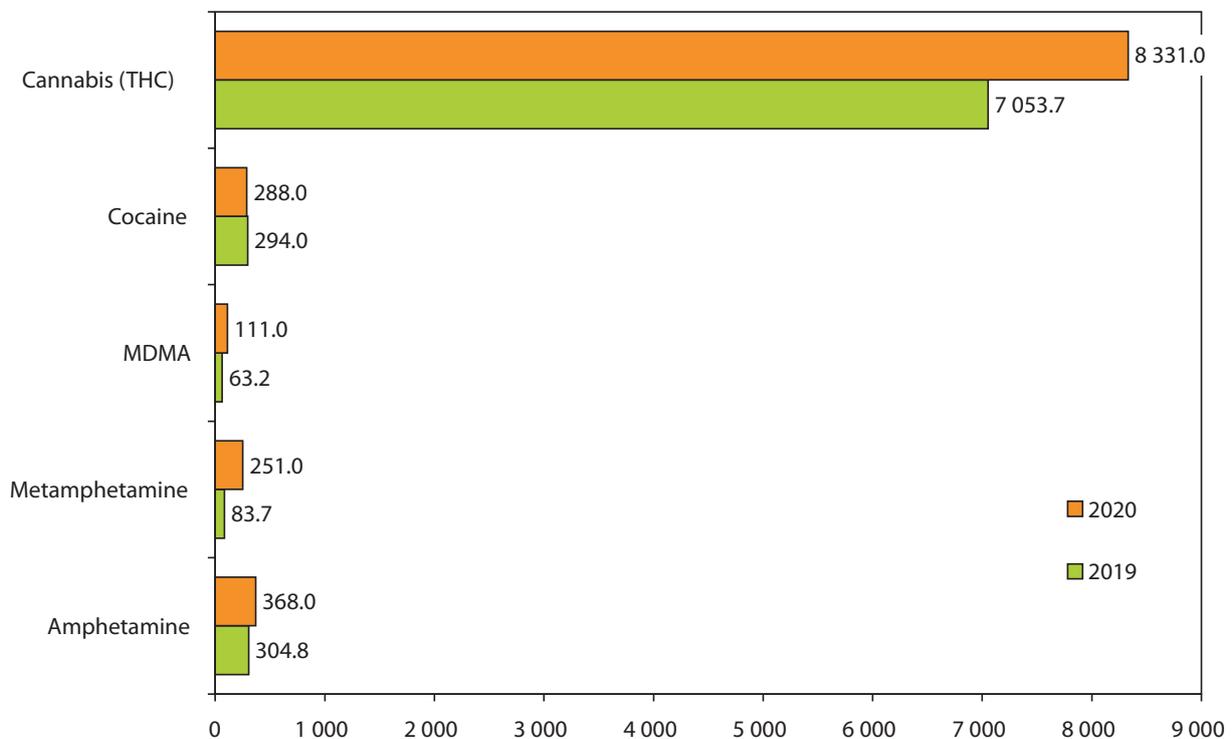


Fig. 2. The average amount of used substance in Tallinn wastewater per 1000 inhabitants per day by days, mg, 2019, 2020.

Source: Wastewater study for drugs and their metabolic products in Tallinn and Pärnu: Abel-Ollo, Riikoja, Barndök, Kurbatova, 2021a.

gatherings took place more than usual. Cannabis use, which has somewhat increased since 2019, may indicate a method of coping with stress in uncertain and anxious times during the COVID-19 pandemic (Hollo et al., 2020; Abel-Ollo et al., 2021a).

### 3.2. Service provision

Findings suggest there was a decline in the availability of European drug services during the first two months of the pandemic in both providing treatment and harm reduction interventions (EMCDDA, 2020). Estonia reacted quickly to the situation; within the first weeks of the pandemic, a new operational framework for drug treatment and harm reduction services was created. There were no service closures during the pandemic. Only residential treatment was closed to new patients for a few weeks. Although new patients were not admitted as a precaution to protect the patients already in treatment, patients on the waiting list were supported by counselors via mobile and online channels. Later, a COVID unit was organized where COVID-19 was also treated as part of the residential drug treatment. A set of rules and recommendations was developed by the National Institute for Health Development for drug services with the focus on implementing new hygiene and social distancing measures. Needle and syringe exchange programs and opioid substitution treatment were always available with the recommendation to provide clients with drug use paraphernalia and take-home methadone for longer period than usually. Most of the clients were happy to be quarantined and to be able to visit a substitution treatment site once a week instead of daily visits (Eurasian Harm Reduction Association, 2020). Also the police were informed that higher doses of methadone were made available for the substitution treatment clients during the COVID-19 restrictions period. Take-home naloxone provision and individual counselling continued via mobile harm reduction services, outreach work, and treatment centers. Clients of drug services were contacted via mobile or online platforms to mitigate the difficulties in providing face-to-face care. Mobile harm reduction and outreach services helped to compensate for the lack of contact although there was feedback from some service providers that clients missed the face-to-face interaction and everyday routine to visit the services. As Estonia did not have a personal drug treatment register in 2019 (the new personal register became operational in February 2020), it is difficult to provide accurate data on how COVID-19 affected the drug treatment demand. Based on the information from drug treatment centers, the demand for drug treatment had not significantly increased. At the beginning of the

pandemic, there were some signs that the demand for opioid substitution treatment had increased, but as the drug market quickly stabilized, demand for treatment remained unchanged. Also, the mini web survey confirmed that neither the intention to seek professional support nor the use of remote professional support had increased during the first months of the pandemic. However, the respondents whose intentions to seek professional support had increased used online or remote professional support services (Kütt, 2020).

The main challenges in the first months of the pandemic were staff shortages due to a sickness and quarantine of the staff as well as helping more vulnerable and marginalized clients to access essential hygiene-related services. Also, challenges linked to the use of remote technology (phone and video) and problems with enrolling new clients were observed. Harm reduction and drug treatment services were supplied with the personal protective equipment (masks, gloves, etc.) for the staff. The personal protective equipment was purchased centrally by the government.

In 2019 and 2020, harm reduction services saw stable numbers of regular clients (around 3,500). Approximately 1.5 million syringes were distributed to PWID via the harm reduction services in 2020. In 2020, the support services and drug use paraphernalia were used to a lesser extent compared to 2019, which was caused by movement restrictions and a fear of personal contact due to the COVID-19 pandemic (Table 1). Also based on the results of the mini web survey, harm reduction services (drop-in centers and outreach services) and pharmacies remained popular places among PWID to obtain syringes. Access to clean drug use paraphernalia remained the same for most of the PWID in this study as it had been before the COVID-19 pandemic (Kütt, 2020).

Apart from maintaining the existing harm reduction and treatment services, new services were developed during the COVID-19 pandemic. A new substitution treatment and harm reduction center started operating. Support services for problematic drug users and cooperation with pharmacies expanded. In May 2020, new mental health counselling service was opened for users and their loved ones, in both an in-person format and by using different communication channels (Facebook, messenger, and phone). Also, aftercare service provided psychological support to the users and their loved ones at the beginning of the pandemic.

Based on the HIV prevalence study among PWID (Salekešin et al., 2021), more than half of the PWID (59%) considered COVID-19 to be very dangerous or rather dangerous, and 9% to be not dangerous

Table 1. Statistics on the use of harm reduction services, 2018–2020

	2018	2019	2020
Total number of service users (with a client code)	3,738	3,474	3,523
Number of times the service is used annually	92,562	92,297	77,189
Number of consultations with harm reduction workers	42,232	44,992	38,335
Number of consultations with social workers	8,463	9,420	8,486
Number of psychological consultations	1,669	5,587	2,410
Health-related counselling	5,398	5,288	4,505
Number of syringes	1,680,531	1,629,477	1,529,814

Source: National Institute for Health Development, 2021a.

at all. Based on research results, only few PWID had SARS-CoV-2 antibodies in spring 2020 (Salekešin et al., 2021). Starting from summer 2021, COVID-19 vaccines were made widely available for PWUD via mobile harm reduction services and drug treatment services. These vaccination opportunities were used by many PWUD.

### 3.3. Drug overdose deaths

For over a decade up to 2017, Estonia had the highest overdose mortality in Europe. The use of illicitly manufactured fentanyl was a major contributor to Estonia's overdose death epidemic. Since 2018 overdose deaths have been relatively low and remained stable (Abel-Ollo, 2022). In 2020, there were 31 cases of overdose deaths (110 cases in 2017). The reason for the decline is associated with the successful police work which led to the dismantling of many criminal networks related to the illicit fentanyl market in

Estonia, wider scale take-home naloxone distribution (Fig. 3), and other harm reduction programs. As harm reduction services (including take-home naloxone provision) were constantly available, and a shortage of fentanyl on the Estonian drug market continued, the COVID-19 pandemic had not had a significant impact on drug overdose mortality.

### 3.4. People who inject drugs

Since 2005 Estonia has regularly used cross-sectional respondent-driven sampling studies among PWID in three Estonian cities (Tallinn, Narva and Kohtla-Järve). The studies have aimed to monitor the risky behavior of PWID and the prevalence of infectious diseases. The latest study before the COVID-19 pandemic was conducted in Narva in 2018 and during the pandemic in Kohtla-Järve in 2020. Based on the studies, the average age of PWID and their injecting career had increased from year to year, being

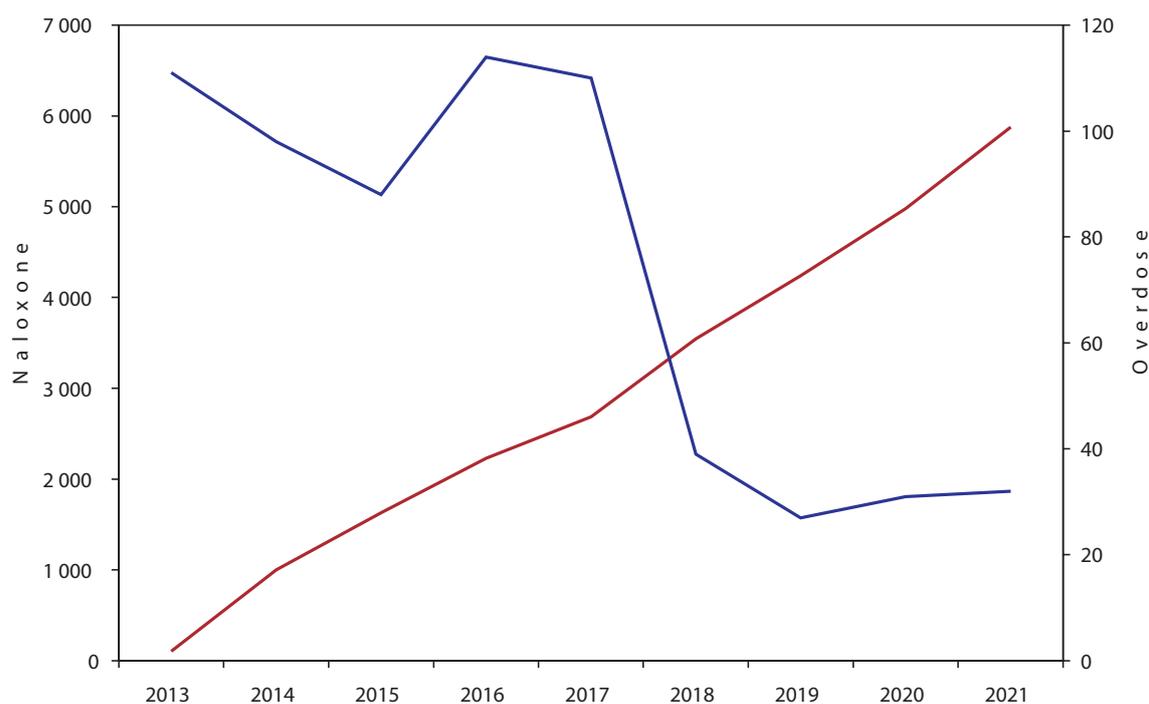


Fig. 3. Naloxone provision in relation to drug overdose deaths in Estonia, 2014–2021.

Source: National Institute for Health Development, 2022.

37 years and 18 years respectively in the 2020 Kohtla-Järve study. The risky behavior of PWID has improved over years. In 2020, only 0.9% of PWID shared syringes previously used by others (3% in Narva in 2018), which also indicates the availability of sterile injecting paraphernalia. Until 2017, the main injecting drug had been either fentanyl or amphetamine, depending on the region (Salekešin, et al., 2019, 2021). In recent years, the availability of fentanyl has decreased, and amphetamine has been the main substance in both Tallinn and the Ida-Viru County. As services for the PWID community were operational during the COVID-19 pandemic, the main development in the target group was the general higher anxiety level in the community as well as possible changes on the drug market and the availability of the drug of choice.

To get a better overview of injected drugs, a syringe residue study was conducted in Narva and Tallinn harm reduction centers in 2021 (Abel-Ollo et al., 2021b). In summary, the syringes in Tallinn and Narva predominantly contained amphetamine (60%), followed by  $\alpha$ -PVP (17%), buprenorphine with naloxone (15%), and methamphetamine (14%) (Fig. 4). Buprenorphine and naloxone are known mostly as drugs used in the treatment of opioid dependence, and their injection indicates drug misuse. The study of syringe residues confirmed the low prevalence of fentanyl and its analogues in Estonia in the spring of 2021. Fentanyl was found twice in syringes in Tallinn. Isotonitazene, a synthetic opioid that is considered

to be one of the so-called substitutes for missing fentanyl, was found in 9% of syringes.

### 3.5. Drug supply and drug market

There is an indication that two-thirds of the mini web survey respondents obtained or attempted to obtain illicit drugs during the COVID-19 pandemic. The most widely obtained drug was cannabis (85% of the respondents obtained cannabis during the restrictions). Over half of the respondents did not change the way in which they obtained illicit drugs. The patterns of using drugs, price, purity, and quantity received remained the same as before for most of the respondents (Kütt, 2020).

From the supply reduction side, the COVID-19 pandemic brought some temporary changes to the drug supply field, but mostly it affected the lower-level sellers and individual smugglers. COVID-19 did not hinder drug offenders with good international contacts and allowed criminals to increase the prices of substances by about 10%. COVID-19 had a significant effect on ordering illicit substances via the darknet by regular parcel/post. Among other reasons, the COVID pandemic increased the use of darknet and cryptocurrency in the drug supply field. It is known that the use of IT and modern technology field in organized crime has been a growing problem; the COVID pandemic only gave an extra boost to it.

Cannabis, amphetamine, MDMA, and cocaine continue to be the most prevalent drugs used and traded in Estonia. **Cannabis** seizures, price, and

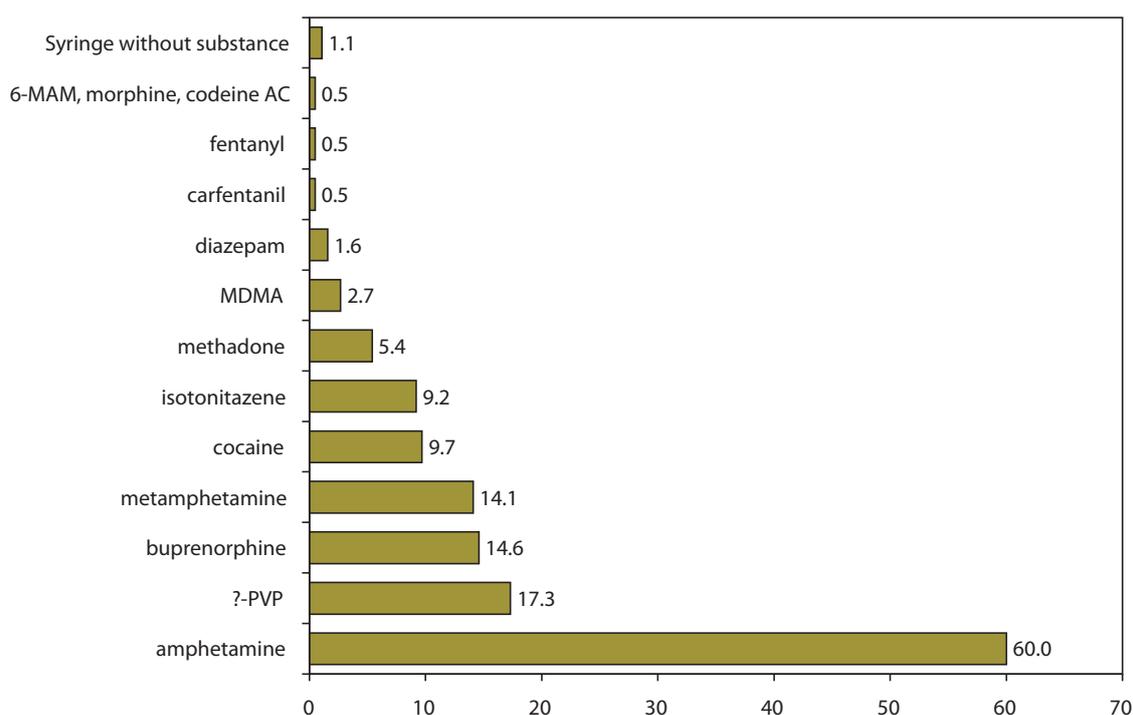


Fig. 4. Proportions of substances found in syringes used in Tallinn and Narva (%), 2021

Source: Syringe residues analysis collected in harm reduction centers in Tallinn and Narva (Abel-Ollo et al., 2021b).

purity have been stable for many years. Based on studies, there is reason to believe that cannabis use increased during the pandemic as a method of coping with mental health pressure caused by COVID-19 (Kütt, 2020). Synthetic cannabinoids have not been very prevalent on the Estonian drug market. Based on data from the Estonian Forensic Science Institute, in 2020, three types of synthetic cannabinoids (5C-APINACA, AB-FUBINACA, JWH-210) were confiscated, with the biggest amount being AB-FUBINACA – 14.6 g. The decreasing trend of NPS seizures has been explained by the generic group-based legislative change that took place in 2016. Most synthetic cannabinoids fall under the already existing substance groups and are automatically controlled.

Cocaine, amphetamine/methamphetamine, and MDMA seizures have increased over the past years. The hypothesis that the use of recreational drugs would decrease with COVID-19 restrictions was not confirmed in Estonia (Kütt, 2020; Abel-Ollo et al., 2021a).

In 2020, the record amount of **cocaine** was confiscated in Estonia (Table 2). With the decreased price and improved standard of living, cocaine had become more affordable to young people and had lost its “high class” image (Table 3). According to the Estonian Forensic Science Institute, the purity of cocaine has increased steadily since 2015. In 2020, the most common purity of cocaine was 81% (0.6–86). Also, the MDMA tablet purity was on the rise. While in the years of 2016 and 2017 the most common purity of tablet MDMA had increased from 36 mg to 93 mg, in 2020 the most common purity of MDMA had increased to 137 mg (34–243).

Amphetamine purity has been relatively low over the years in Estonia. Although the purity has

increased a little, the most common purity of 17% in 2020 was still low. The bigger amounts of amphetamine/methamphetamine seizures over the years have been related to large-scale seizures. Estonian PWID use both methamphetamine and amphetamine, whereas sometimes the users are not able to tell the difference between methamphetamine and regular amphetamine. **Methamphetamine** seizures increased many times in 2020 (Table 2). Increased concentration of methamphetamine was also found in 2020 wastewater analysis (Abel-Ollo et al., 2021a). According to the police, the increased availability of methamphetamine may also be related to orders placed on the darknet, which became more active during the pandemic. The darknet distinguishes between amphetamine and methamphetamine, and the subscriber is likely to receive the desired substance.

**Fentanyl** shortage continued in 2020. The trend started in 2017 and is not related to the COVID-19 pandemic. Fentanyl was available on a small scale only in the East-Virumaa and Harjumaa counties, other regions were not affected by fentanyl. The shortage caused an increase in the price of fentanyl (Table 3). Fentanyl is mostly smuggled from Latvia. People who use fentanyl compensated for the shortage or low purity of the substance with the use of amphetamines, cathinones (**α-PVP**), and prescription drugs. α-PVP is mainly trafficked from the Russian Federation. Lately, drones have been used to transport drugs across the border. In 2020, the α-PVP availability decreased due to the closure of the borders of the Russian Federation related to the COVID-19 restrictions and closure of some smuggling networks by the Estonian police. While in 2019

Table 2. Amounts and number of seizures of confiscated narcotic substances 2018–2020.

Substance	2018		2019		2020	
	Number of seizures	Amount (kg)	Number of seizures	Amount (kg)	Number of seizures	Amount (kg)
Cannabis resin	48	110.3	46	2.22	39	1.56
Herbal cannabis	707	72.1	807	97.3	727	60.2
Cannabis plant	40	19.5	31	74.7	40	36.3
Heroin	7	0.012	4	0.004	2	1.4
Fentanyl	98	0.7	31	11.097	20	0.16
Cocaine	164	3.6	149	17	139	413.4*
Amphetamine	346	17.3	310	111.2	352	133
Methamphetamine	126	5.1	37	4.04	135	27.1
MDMA	275	8.13	199	33.5	227	70.5
GHB/GBL	68	140.9	63	129.71	104	44.75

\*411 kg is one-time big seizure

Source: Estonian Forensic Science Institute, 2021 (EMCDDA standard table 13: Number and quantity of seizures of illicit drugs).

Table 3. The street-level price of substances 2018–2020 (EUR).

Substance (dose or gram)	2018			2019			2020		
	Min	Max	Mode	Min	Max	Mode	Min	Max	Mode
Cannabis (resin)	10	20	–	10	15	10	12	15	15
Cannabis (herbal)	15	20	–	15	24	20	15	25	20
Fentanyl	15	25	–	20	25	20	20	30	25
Amphetamine	15	20	–	15	25	20	20	25	20
Cocaine	–	–	150	120	180	150	100	150	150
MDMA (tablet)	–	–	15	8	15	10	7	15	10
GHB	–	–	5	–	–	5	5	8	5
LSD	–	–	–	–	–	5	–	–	10
α-PVP	–	–	–	20	25	–	20	25	–

Source: Estonian Police and Border Guard Board, 2021 (EMCDDA standard table 16: Price of illicit substances (in Euros).

1.2 kg of α-PVP was seized, in 2020 the amount of α-PVP decreased to 685 g.

As for opioids, **isotonitazene** appeared on the Estonian drug market in 2019 to compensate for the shortage of other opioids. Isotonitazene (street name ISO) is a potent synthetic opioid that, similarly to fentanyl, can cause a high rate of overdose deaths if the use becomes locally more prevalent. There is reason to believe that the small amounts of isotonitazene confiscated over the past years are related to the fact that the substance has been controlled only since January 2020. Before the substance was officially listed as controlled, it had been problematic to define a big amount of isotonitazene and classify a criminal offense. In 2019, 58.2 g of isotonitazene (ISO) was confiscated; in 2020 the situation remained stable (53.8 g). Both substances, ISO and α-PVP, were related to overdose deaths in 2020.

### 3.6. Drug-related crime

In 2020, in a total of 3,701 drug-related misdemeanors (Act on Narcotic Drugs and Psychotropic Substances and Precursors thereof, § 15.1: Unlawful handling of small quantities of narcotic drugs or psychotropic substances) and criminal offenses (Penal Code §§ 183–190) were registered. Compared to the years 2018 and 2019, the number decreased in 2020 (4,505 vs 3,998 vs 3,701). The records of drug-related crime are not sufficiently detailed to give an overview of the background, level, or scale of drug-related crime. Arresting people who use drugs for using them has not been a priority for the law enforcement over the last five years, whereas the focus has been on linking the PWUD with treatment and support services. In 2020, the level of seizures and the number of criminal investigations also decreased because police forces were heavily involved in enforcing restrictions related to the spread of COVID-19. The performance of law enforcement staff was also

affected by illness, self-isolation requirements, and work-from-home orders.

## 4. Discussion

The COVID-19 pandemic has affected countries socially and economically all over the world. The pandemic has influenced all areas of life, either directly or indirectly. Globally, the health system's sustainability and the population's physical and mental health were put under enormous pressure. As illicit drug use is controversial, and reasons and patterns of use greatly vary, it is difficult to describe the overall effect of COVID-19 on illicit drug use. Based on different surveys, we can conclude that some people used illicit drugs (mainly cannabis) during COVID-19 more as a self-help method to reduce stress and anxiety. Some people who use illicit drugs as part of their recreation and social life reduce the use, whereas others continued to use drugs in other settings (e.g. private parties instead of public nightlife). Wastewater studies show that despite restrictions and lack of entertainment options, the use of recreational drugs like stimulants remained the same in 2020, with increased use at weekends. Although there were no large gatherings and parties in the fall of 2020, it would be naïve to assume that young people did not explore the possibilities of organizing leisure time activities and private events.

For the problematic drug users and dependent individuals, drug use was not a matter of choice, and they tried to cope with the changes in the organization of drug services and the drug market in general. Due to social distancing and other restrictions that impacted the work of the health and social services, PWUD quickly became more vulnerable than ever. Estonia managed to keep all the treatment, harm reduction, and support services for PWUD operational/

available within the first weeks of the pandemic although because of fear of contracting COVID-19 and social distancing rules, the use of services slightly decreased in 2020. Estonian drug overdose mortality statistics, surveys among PWID, and data from services providers illustrate that vital services were available and used by the target group during the pandemic. The demand for drug treatment did not significantly increase in March 2020.

The Estonian drug market and availability of illicit drugs mostly depend on other countries and international drug trafficking. The first hope that the COVID-19 travel restrictions and the closure of borders would decrease the availability of drugs was premature. After the first shock on the illicit drug market, the availability of drugs remained the same. Drug supply had started to move onto the darknet and crypto world before; the COVID-19 pandemic just gave an extra boost to that activity. Temporarily, the lower-level sellers felt the effect of COVID-19, but bigger international networks were not affected by restrictions and reacted by increasing prices of illicit drugs.

To conclude, based on the EMCDDA mini web survey, most people did not change their pattern of drug use or channels of acquiring drug supplies. The long-known philosophy remained the same: where there is demand, there is supply. The demand for illicit drugs is driven by the habit or the long-developed need to use illicit drugs, which will not change even when unusual phenomena like a pandemic occur in the world.

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