



Journal of Geography, Politics and Society

2022, 12(1), 17–27

<https://doi.org/10.26881/jpgs.2022.1.04>



THE COVID-19 IMPACT ON THE ILLEGAL RETAIL DRUGS MARKET IN LATVIA AND DRUG USE PATTERNS

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Citation

Zile-Veisberga A., 2022, The COVID-19 impact on the illegal retail drugs market in Latvia and drug use patterns, *Journal of Geography, Politics and Society*, 12(1), 17–27.

Abstract

The purpose of the study is to explore how the COVID-19 situation has affected the illegal retail market and drug use patterns. Three research questions were formulated: 1) What has been the COVID-19 impact on the retail illegal drugs market? 2) How has the pandemic impacted drug use patterns? 3) Are there trends that presumably would have an impact after COVID-19? The mixed method with an explanatory sequential design was used in the analysis. At the first stage of the analysis all available quantitative data such as routine administrative data and data from regular surveys were analysed and triangulated. The results of quantitative analysis were supplemented by qualitative data, such as reports. The analysis does not suggest changes on the retail market, except for some increase in cannabis cultivation during the first wave in 2020 and a slight decrease in MDMA prevalence on the market in 2021. Drug use patterns are similar to those before the pandemic, with some exceptions that might indicate more cannabis and MDMA use among frequent users.

Key words

COVID-19, retail drugs market, drug use patterns, cannabis, MDMA, Latvia.

Received: 31 January 2022

Accepted: 18 March 2022

Published: 27 May 2022

1. Introduction

The outbreak of COVID-19 pandemic in early 2020 brought several significant changes in our daily lives. Going beyond the disease or death itself, the restriction shock, at a certain level, paralysed and left an impact on our societies, public and mental health, economics, and many other areas.

Drug use patterns is one of the areas that has brought attention to researchers. Clearly, lockdowns with closure of recreational facilities, mandatory stay

at home and limitation of movement urged us to understand how all these changes might affect drug use patterns, what consequences are to be expected and what kind of impact it would leave on the drug using populations. This would then allow societies and governments to prepare for the post-COVID-19 situation.

Similarly to other countries all over the world, up to 2022, Latvia experienced COVID-19 pandemic with four waves. The severity of restrictions had changed from very mild during summer to very

restrictive during fall and winter times. The recreational settings have been closed for two years and drug use has been moved to private or hidden settings, such as nature or illegal events. At this point, it is not very clear if changes in drug use patterns have been drivers to some considerable and underreported trends in drug use patterns or the illegal market.

In order to better understand the possible implication for the situation after COVID-19, this study aims to explore if and how the pandemic has affected the retail drugs market and drug use patterns. More in-depth analysis of these two areas will help to understand what has changed and what should be expected in the future. To do so, three research questions were formulated: 1) What has been the COVID-19 impact on the retail illegal drugs market? 2) How has the pandemic impacted drug use patterns? 3) Are there trends that presumably would have an impact after COVID-19?

2. Literature review

At an early stage of the pandemic, the leading observatories began to monitor the situation at the European level and worldwide. The United Nations Office on Drugs and Crime (UNODC) collected data on the illegal market, changes in drug use patterns, treatment, drug related death, etc. The summary of all findings is available within the annual World Drug Report 2021 in Booklet 5 (UNODC, 2021). Available data allows concluding that illegal drugs markets and organised crime have remained resilient by quickly adapting to the situation of the pandemic, with some minor exceptions, such as some difficulties in trafficking drugs that are traditionally trafficked by land routes and an increased use of waterway routes and contactless methods. Moreover, more large-scale cases were identified, which could indicate recovery from some disruptions. At the same time, no measurable trends were observed on the illegal market. As regards drug use patterns, cocaine and MDMA typically used at recreational settings experience some decrease, while cannabis and use of benzodiazepines showed signs of an increase. Moreover, also psychedelics showed some slight increase (UNODC, 2021). These results indeed could support the assumption that recreational use experienced a downfall, while other drugs such as cannabis for relaxation or use of benzodiazepines to reduce anxiety could experience an increase.

A number of reports prepared by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) also highlighted that the organised crime and drugs market remained resilient to the COVID-19

restriction, but some retail or street markets were disrupted during lockdowns as some local shortages were experienced. In addition, an increase in the role of digital means in purchasing and delivering substances was observed (EMCDDA, 2020a, 2020b, 2021b; EMCDDA & Europol, 2020). As regards drug use patterns, the use of recreational drugs, such as MDMA and cocaine, were reported with a slight decrease, while at-home used drugs, such as cannabis and benzodiazepines, became more prevalent. It was also observed that the use of recreational drugs experienced a rebound when restrictions were lifted (EMCDDA, 2020a, 2021a, 2021b, 2021c).

Beside regular reports provided by observatories, a number of studies have been carried out. A. Roberts et al. (2021) have published a systematic review on alcohol and other substance use during the COVID-19 pandemic. Authors concluded that, despite mixed results, an increase in alcohol use was observed in many studies, while in the case of other substances it was impossible to identify any trend.

Comparative wastewaters analysis in European cities during early lockdowns in 2020 (Been et al., 2021) showed some marked decreases in consumption of some substance in some locations, while in other cities such a decrease was not observed. Authors conclude that any prediction of COVID-19 impact on drug use is difficult; cases are heterogeneous and depend on many factors. A study in Israel (Bonny-Noach et al., 2021) found an increase in alcohol and cannabis use, while significant trends in the use of other substances were not observed. A. Bendau et al. (2022) concluded that COVID-19 has a major impact on party drugs, and an MDMA decrease can be observed, while the use of GHB/GBL was on an increase. Changes in the illegal retail market were not observed. Moreover, the results showed that motivation for drug use changed from a desire to feel high and euphoric before the pandemic to coping with boredom during the pandemic.

In contrast to widely researched drug use patterns, studies of the retail drugs market and COVID-19 are less represented. Based on the results of annual surveys in Australia between 2016 and 2020, O. Price et al. (2022) concluded that respondents did not notice any changes in the illegal market, while the self-reported use of MDMA decreased due to the lack of opportunities for use.

Published studies on drug use and COVID-19 in Latvia are scarce and cover the period of 2020, and studies covering 2021 were not identified. A study on alcohol use showed no significant impact on the use of alcohol during the first waves of the pandemic in Latvia (Rancāns, Martinsone, 2021). Also, the Mini European Web Survey in 2020 did not show any

considerable changes in the drug use patterns, except for a slight increase in cannabis use among regular users. In addition, any changes in the organisation or drug purchasing patterns were not observed (Zīle-Veisberga, 2020).

3. Methodology

The mixed method with an explanatory sequential design was used in the analysis. At the first stage of the analysis all available quantitative data were compared and put in triangulation, or in practical terms, data were added to special templates with a list of indicators or other types of data for each substance group. Based on the results of triangulation, general trends and unclear points were identified and later explained or elaborated by available qualitative data, such as reports.

To identify possible impact of COVID-19 on the retail drugs market and drug use patterns, data were compared between 2018 and 2021, that is before and during the pandemic. By doing so, it was possible to identify those trends that were there already before the pandemic and those that were accelerated or were totally new.

The analysis was also carried out by substance groups – cannabis, MDMA, amphetamines, cocaine, benzodiazepines, opioids, and hallucinogens. New psychoactive substances were not analysed separately, but integrated with other substance groups, because already before the pandemic, these substances did not have a separate segment on the illegal market.

The illegal retail market was analysed with available police data on these indicators: number of seizures, weighted purity, retail prices and production/cultivation data. For this domain, it is important to add that routine administrative data was used and this type of data must be interpreted with caution.¹ To define the retail level threshold, substances were defined by taking into account the amount of substance in grams when price starts decreasing: for cannabis – 20 g, amphetamines – 20 g, cocaine – 10 g, MDMA – 50 tablets, opioids – 1 g, 50 tablets, benzodiazepines – 50 tablets, LSD – 10 blotters. In the retail drugs market analysis, only seizure data below thresholds were included in the sample.

To explore possible changes on the organisation of purchasing and delivering, a secondary data analysis was carried out of the Mini European Web

Survey on Drugs COVID-19 in 2020 - Mini EWSD on COVID-19 (EMCDDA, 2021e); the European Web Survey on Drugs that was carried out in Latvia in 2017 – EWSD 2017 (EMCDDA, 2021e); and the European Web Survey on Drugs carried out in 2021 – EWSD 2021 (EMCDDA, 2021d).

Drug use trends and drug use patterns were identified by using data collected before and during the pandemic, such as the European School Survey Project on Alcohol and Other Drugs in 2019 (ESPAD Group, 2020; Sņikere, Trapencieris, 2016a; Žabko, 2020), General Population Survey on smoking, use of alcohol and drugs in 2020 (Putniņa, Brants, 2021; Sņikere, Trapencieris, 2016b), Mini EWSD on COVID-19 in 2020 (Zīle-Veisberga, A., 2020 and secondary data analysis), EWSD 2021 (EMCDDA, 2021d and secondary data analysis), wastewater project results between 2019 and 2021 (EMCDDA, 2022), data on residues from syringes from the ESCAPE project in 2020 and 2021 (Grinberga, 2021).

4. Results

4.1. Cannabis (herbal cannabis)

Herbal cannabis has been the most frequently used substance in the population long before the pandemic (ESPAD Group, 2020; Putniņa, Brants, 2021, Sņikere, Trapencieris, 2016a, 2016b). At the same time, it seems that, at some level, the pandemic has affected the cannabis retail market and patterns of use.

Data on the retail illegal drugs market show a peak in seizures in 2020 and a decrease in 2021. The potency of cannabis is not determined, but some fluctuation was observed in drug prices. For 5 grams it remained €60 and for 20 grams €140, but the price for 1 gram was changing. It was rather stable before the pandemic –€12 according to the police data and €15 according to the secondary data analysis of the EWSD 2017 data. In 2020, according to the police data the price was ranging between €7–20 per gram, but according to EWSD 2021, it remained the same as in 2017 – €15 per gram. Taking into account that the price monitoring by police is rather based on observation, but EWSD 2017 and EWSD 2021 has a sample and precise methodology, scientifically there is a greater possibility that prices actually did not change, and the retail market was stable. At the same time, during the cognitive interviews in late 2020 for the EWSD 2021 and a micro guerrilla research done by the author on drug prices asked to random known users in summer 2020, indeed most people said that they have noticed some changes in prices of cannabis, mostly reporting an increase. But

¹ There are a number of studies that show the limitation of law enforcement data (e.g. Bryman, 2016). These limitations were considered when interpreting results.

these data are not reported or scientifically analysed; therefore, it should be treated as anecdotal evidence of some changes during the first wave.

Another characteristic of the cannabis market was the increasing number of detected cultivation sites. For comparison, in 2019, 46 cultivation sites were detected in total, 61 in 2020 and 39 in 2021. Even though part of them were profit-driven, approximately 2/3 are related to cultivation of 1–3 plants for personal use or social supply. The cultivation peak happened right after the first wave, when countries closed borders and cross-border commuting was heavily affected. This uncertainty could affect the decision to start own cultivation or start cultivation as an opportunity for profit. On the other hand, this was also the time when people were spending more time at home, including in their gardens and greenhouses.

The organisation of purchasing cannabis has not been affected by COVID-19. This has not been observed either by law enforcement or surveys. The data of EWSD 2021 show that personal contact is important in obtaining cannabis; for example, 27% of cannabis module respondents replied that they mostly got cannabis for free. Out of those who purchase cannabis, a vast majority or 72% reported purchasing it from their dealer, 11% found their source

on social platforms, but the use of encrypted sites and the surface Internet is rare – 5% and 2%, respectively. The role of social ties in the cannabis retail market has been explored by K. Bebre (2021). The author concluded that personal contact is essential in selling and purchasing cannabis. Easy availability and the role of personal contact can be reasons why cannabis purchasing on encrypted websites is not common. And it seems that the pandemic has not changed it.

As regards prevalence of use, already before the pandemic an increasing trend was observed. The ESPAD survey carried out in 2019 observed that lifetime prevalence had increased by 9%, if compared to 2015 data (from 17% to 26%). Last year prevalence increased by 10% (from 11% to 21%) and last month's prevalence by 6% (4.2% to 10%) (ESPAD Group, 2020). The General Population Survey that was carried out in 2015 and 2020 also shows an increase in lifetime prevalence by 5% (from 10% to 15%), but no changes in last year or last month prevalence (Putniņa, Brants, 2021; Sņķere, Trapencieris, 2016b).

More information on cannabis use patterns during COVID-19 is available from EWSD 2021, where 21% reported less use, 36% no changes, 34% more use and another 9% could not answer that

Table 1. Data on retail drugs market and use of herbal cannabis

	2018	2019	2020	2021	Additional data
Seizures (> 20 g)*	793	871	896	679	
Purity (> 20 g)	No data	No data	No data	No data	
Typical (mode) price per 1 g	€12	€12	€7–20	No data	€15 in EWSD 2017 and EWSD 2021 surveys
Number of cultivation cases	51	46	63	39	
ESPAD (LTP/LYP/LMP)		26%/21%/10%			17%/11%/4.2% (ESPAD 2015)
GPS (LTP/LYP/LMP)			15%/4%/2%		10%/ 4%/ 2% (GPS 2015)
Mini EWSD COVID-19			Less – 13% The same – 62% More – 24% Don't know –1%		
EWSD 2021				Less – 21% The same – 33% More – 30% Don't know – 16%	

* – Explanation: For seizures, the purity amount in brackets indicates the threshold of cases that were included in the sample; LTP – lifetime prevalence; LYP – last year prevalence; LMP – last month prevalence; question in Mini EWSD COVID-19 – Have you changed your use of [substance] as a result of COVID-19 restrictions? Answers were grouped into 4 categories similar to EWSD 2021; the question in the EWSD 2021 – Has the COVID-19 pandemic had any impact on your use of [substance]? Sources: unpublished data of the State Police; Sņķere, Trapencieris, 2016a, 2016b; ESPAD Group, 2020; Putniņa, Brants, 2021; Žabko, 2020; and secondary data analysis of EWSD 2017, Mini EWSD COVID-19, EWSD 2021.

question. It is also important to add that a significant difference was observed in answers between frequent users and those who use less often (Chi square test, $\chi^2 = 136.586$ ($N = 3$), $p < 0.001$). Frequent users more often reported an increase in cannabis use (40%), while only 14% reported a decrease. By contrast, those who had used cannabis in the past 12 months more often reported a decrease in use (35%) and less often an increase – 9%. Similar patterns were also observed from the secondary data analysis of the results of Mini EWSD on COVID-19. Already during the first wave, an increase in use by frequent users was observed, and boredom was the main reported reason for use (Zīle-Veisberga, 2020) (see Table 1).

To summarise the COVID-19 impact on the cannabis retail market and patterns of use, it can be concluded that the market experienced some changes at the beginning of the pandemic, which was mirrored in cultivation and, possibly, in short-term prices, but after some distress, the market in 2021 seemed to be functioning as previously. The patterns of use were mixed, and indeed for some part of population restrictions, a lack of socialisation and cultural possibilities might have led to less frequent use, while for frequent users the use most likely increased.

4.2. MDMA

A few years before the pandemic, the availability of MDMA increased. This was mostly visible in seizure

data in postal shipments that arrived from other countries, mainly the Netherlands. The actual seizures in the country were rather rare. In addition, the results of the ESPAD 2019 survey indicated a slight increase in the MDMA use among school students.

By comparing seizure, price, and purity data before and during the pandemic, no stable trend was observed. The number of seizures in 2018 and 2020 was higher, but less in 2019 and 2021. The price has not changed considerably, in 2018 it was €4–5 per tablet, but in 2020 the monitored range was wider – €3.50 to €15, which could also be related to the size of a tablet. As regards the price, it is important to add that respondents of the EWSD 2021 indicated a price of €10 per 1 tablet. The purity of MDMA has gradually decreased from 41% in 2018 to 34% in 2021. Depending on the size of tablets, on average, one tablet weighed 0.45 grams and contained approximately 160 to 170 mg active substance per tablet (please see Table 2).

MDMA purchasing and delivering has not changed due to COVID-19 according to law enforcement and survey data. The results of EWSD 2021 indicate that 64% usually buy substances by themselves, while 30% mostly get it for free. Those who buy usually buy them from dealers (60%), but other sources are also more prevalent than for cannabis – 15% find sources on social networks, 6.6% on the darkweb (EMCDDA, 2021d and secondary data analysis). This also could support the assumption that COVID-19

Table 2. Data on retail drugs market and use of MDMA tablets

	2018	2019	2020	2021	Additional data
Seizures (> 50 tablets)	284	184	292	145	
Purity (> 50 tablets)	41.5%	38%	38%	34%	
Typical (mode) price per 1 tablet	€4–5	€4	€3.50–15	No data	€10 in EWSD 2017 and EWSD 2021
Number of production sites	0	0	1 processing	0	
ESPAD (LTP)		5%			2.7% (ESPAD 2015)
GPS (LTP/LYP/LMP)			1.9%/0.7%/0.6%		2.4%/0.3%/0.3%GPS 2015
Mini EWSD COVID-19			Less – 20% Same – 64% More – 7% Don't know – 9%		
EWSD 2021				Less - 27% Same – 21% More – 21% Don't know – 21%	
Wastewater (annual trend, week-ends)*	No data	21.95 mg /1000p	54.24 mg /1000p	36.75 mg /1000p	

* – For wastewaters, annual trend at weekends were selected for MDMA (EMCDDA, 2022)

Sources: unpublished data of the State Police; Putniņa, Brants, 2021; Sņķere, Trapencieris, 2016a, 2016b; ESPAD Group, 2020; EMCDDA, 2022; Žabko, 2020; and secondary data analysis of EWSD 2017, Mini EWSD on COVID-19, EWSD 2021.

did not bring any considerable changes to the MDMA retail market.

In terms of the prevalence of use, there are mixed results. The ESPAD 2019 showed a slight increase in life-time prevalence from 2.7% in 2015 to 5% in 2019 right before the pandemic (ESPAD Group, 2020), but the General Population Survey basically does not indicate any change when comparing 2015 data and 2020 data (Putniņa, Brants, 2021; Sņikere, Trapenciēris, 2016b).

Wastewater analysis, in comparison between 2019 and 2021, indicates an increase in MDMA presence in 2020, but a decrease in 2021 (EMCDDA, 2022); moreover, the actual collection of samples usually takes place in March, and both in 2020 and 2021 these periods were with strict COVID-19 restrictions. That means that wastewater analysis actually supports law enforcement data that also show an increase in 2020, but then a decrease in 2021.

The results of the EWSD 2021 show some mixed results, because 27% agreed that they used less MDMA due to COVID-19; at the same time, 21% did not observe any changes, and another 21% reported more use, while 32% did not know. Similarly to cannabis use, also in the case of MDMA, there was a difference in replies between frequent and occasional users (Chi square test, $\chi^2=21.452$ (N=3), $p<0.00$). Frequent users more often reported that they used more MDMA during the pandemic – 38% answered that they used more and 20% that they used less. For occasional users, the trend was opposite – 29% answered that they used less, and 13.5% replied that they used more. This could indicate that there are various ways how COVID-19 could affect the retail market and drug use. For some groups, a lack of entertainment opportunities indeed could contribute to less frequent use, while for others it was the opposite, and most likely it could be explained by drug use in private settings.

Overall, it seems that the pandemic did not affect MDMA market in 2020, but in 2021 a decrease was observed. This could be related to more restrictions in 2021 and less opportunities for entertainment, if compared to the situation in 2020. Still, according to EWSD 2021 data, there are groups that were not affected and were reporting even more use or no change, which means that users were affected differently; therefore, the situation is rather heterogeneous than one way for everyone.

4.3. Amphetamines

Amphetamines are used both at recreational settings and by high-risk drug users; therefore, in police data, amphetamines are a well-represented substance group. Users usually do not distinguish

between amphetamine and methamphetamine. If we compare the pre-COVID-19 and COVID-19 situation, it can be observed that amphetamines remain one of most prevalent substances on the illegal market according to seizure data. Before the pandemic, amphetamine was more prevalent on the retail illegal market, but during the pandemic methamphetamine became more prevalent, which might be related to the overall trend in Europe (EMCDDA, 2021b; EMCDDA, 2021d). Drug prices slightly increased in 2019 but have remained stable since then – €15 per 1 gram. At the same time, the retail purity increased for amphetamine from 17% in 2019 to 21% in 2021 but fluctuated for methamphetamine (please see Tables 3 and 4). Therefore, there are no indications that the amphetamines market experiences a shortage or any other difficulties due to COVID-19 (please see Table 3).

As regards drug use prevalence, amphetamines (not distinguished between amphetamine and methamphetamine) are not well represented in the general population. ESPAD data does not show significant changes before the pandemic – in 2015, 2.9% respondents reported lifetime use of amphetamines, while in 2019, 1.8% reported lifetime amphetamine use (ESPAD Group, 2020). Also, the General Population Survey in 2020 did not show any changes compared to the previous round – 1.9% in 2015 and 1.8% in 2020 (Putniņa, Brants, 2021; Sņikere, 2016b).

The analysis of wastewaters supports law enforcement data, showing a decrease in amphetamine and a gradual increase of methamphetamine (EMCDDA, 2022). Of course, this can be related to high-risk drug use patterns that are not visible in samples of the General Population Surveys or the ESPAD. There is a lack of data that makes it difficult to understand how COVID-19 has affected high-risk drug users. The data from the project ESCAPE “Identification of drug residues in used disposable syringes” confirms that methamphetamine (26%) and, to a lesser extent, amphetamine (9%) were present in used syringes (Grinberga, 2021), and this data generally supports the assumption that the position of amphetamines is stable on the market, and COVID-19 has not affected that.

There is also a lack of data to see if there are any changes in purchasing and organising delivery. With the current knowledge, we can conclude that there are no significant changes in amphetamine use in the general population; on the illegal market there are no indications of shortages or difficulties. Still, it is important to underline that amphetamines are used by high-risk drug users, and the last round of cohort study was carried out in 2020, but data are not yet available.

Table 3. Data on retail drugs market and use of amphetamine

	2018	2019	2020	2021	Other comments
Seizures (> 10 g)	194	278	174	138	
Purity (> 10 g)	17%	17%	21%	21%	
Typical (mode) price per 1 g	€12	€15–20	€15–20	No data	€15 in EWSD 2021
Number of production (processing) sites	0	0	1	0	
ESPAD (LTP)		1.8%			2.9% in 2015 (not divided between amphetamine and methamphetamine)
GPS (LTP/LYP/LMP)			1.8%/0.6%/0.5%		1.9%/0.3%/0.1% (GPS 2015) (not divided between amphetamine and methamphetamine)
Mini EWSD COVID-19			Small sample		
EWSD 2021				Small sample	
Wastewater (annual trend, weekends)	No data	57.43 mg / 1000p	62.57 mg / 1000p	42.95 mg / 1000 p	
Residuals in syringes		–	–	9.5%	

Sources: unpublished data of the State Police; Putniņa, Brants, 2021; Grinberga, 2021; Sņikere, Trapencieris, 2016a, 2016b; ESPAD Group, 2020; EMCDDA, 2022; Žabko, 2020; and secondary data analysis of EWSD 2017, Mini EWSD COVID-19, EWSD 2021.

Table 4. Data on retail drugs market and use of methamphetamine

	2018	2019	2020	2021
Seizures (> 10 g)	284	170	228	275
Purity (> 10 g)	25%	20%	30%	26%
Number of production (processing) sites	0	0	1	0
Mini EWSD COVID-19			Small sample	
EWSD 2021				Small sample
Wastewater (annual trend, weekends)		31.16 mg / 1000 p	85.4 mg / 1000 p	247.61 mg / 1000 p
Residuals in syringes	–	–	–	26%

Sources: unpublished data of the State Police; Grinberga, 2021; EMCDDA, 2022; and secondary data analysis of EWSD 2017, Mini EWSD COVID-19, EWSD 2021.

4.4. Cocaine

In the past couple of years, cocaine has become more available and prevalent in European countries (EMCDDA & Europol, 2019; EMCDDA, 2021b), including Latvia. Overall, the number of seizures and seized quantities increased at the wholesale level, which was not that visible on the retail market. In 2021 a sharp decrease of retail level seizures was observed. The price of cocaine has remained stable at around €90–100 per gram, but the purity on the retail market has gradually decreased from 61% in 2018 to 55% in 2021 (see Table 5).

As regards prevalence of use before the pandemic, the ESPAD results did not indicate any new trends before the pandemic, and use of cocaine among students had not increased since 2015, that

is, lifetime prevalence was 2.3% in 2015 and 1.8% in 2019 (ESPAD Group, 2020). Some data on prevalence during the pandemic indicates an increase. Results of the General Population Survey in 2020 showed that cocaine was the most prevalent substance after cannabis, and 3% of respondents reported cocaine lifetime use (1.5% in 2015) (Putniņa, Brants, 2021; Sņikere, Trapencieris, 2016b). In contrast, the wastewater analysis between 2019 and 2021 indicates a stable increase, but the presence of this substance in wastewaters remains one of the lowest among EU cities (EMCDDA, 2022). Also, in the EWSD 2021 respondents more often replied that they used less cocaine (26%), while 16% replied that they used more, 23% used the same and 30% did not know. Similarly to other substance groups, these results could

Table 5. Data on the retail drugs market and use of cocaine

	2018	2019	2020	2021	Other comments
Seizures (> 10 g)	131	80	110	65	
Purity (> 50 g)	62%	62%	53%	56%	
Typical (mode) price per 1 g	€90–130	€90–130	€90–130	€90–100	
Number of production (processing) sites	0	0	0	0	
ESPAD (LTP)		1.8%			2.3% (ESPAD 2015)
GPS (LTP/LYP/LMP)			2.7%/ 1.3%/1.1%		1.5%/0.5%/0.3% (GPS 2015)
Mini EWSD COVID-19			Small sample		
EWSD 2021				Less – 26% Same – 23% More – 16% Don't know – 30%	
Wastewater (annual trend, weekends)	No data	60.74 mg / 1000p	94.79 mg / 1000p	137.89 mg / 1000p	

Sources: unpublished data of the State Police; Putniņa, Brants, 2021; Sņikere, Trapencieris, 2016a, 2016b; ESPAD Group, 2020; EMCDDA, 2022 and secondary data analysis of EWSD 2017, Mini EWSD COVID-19, EWSD 2021.

indicate that there are users that have been affected in different ways.

Overall, to conclude the section on cocaine, it is worth highlighting that the cocaine market in Latvia is rather small; therefore, also data on changes on the market before the pandemic and during the pandemic is too scarce to draw some conclusions. The results are mixed, because law enforcement data does not show an increase, including lower purity of intercepted substances. In addition, the increase in the reported use in the General Population Survey is insignificant. However, results of wastewater analysis show increasing presence of cocaine in Riga since 2019.

4.5. Opioids

This substance group is difficult to analyse due to lack of data on how COVID-19 has affected high-risk drug users. From the point of view of law enforcement data, opioids have always been prevalent mainly because patterns of use and lifestyle can often be encountered by the police. Since the disappearance of heroin in around 2014, the opioids market has become what could be described as scattered and polluted. Buprenorphine is a substance that is widely represented on the retail market, along with new synthetic opioids or mixtures of different medicine opioids and new synthetic opioids. There are some changes within the market, e.g., in 2020 carfentanil was more prevalent, but in 2021 isotonitazene and metonitazene were more prevalent according to residue data from syringes (Grinberga, 2021), but

since the situation changes from year to year, trends related to COVID-19 could not be identified.

As regards the drug use patterns, due to a small sample size it is not possible to tackle the possible impact of the COVID-19 from the survey data. Furthermore, as already mentioned in the section on amphetamines, the data of the last drug user's cohort study in 2020 is not yet available; therefore, a better understanding on how COVID-19 has impacted high-risk drug users will be available in future cohort studies.

4.6. Hallucinogens

Hallucinogens is another substance group that is difficult to tackle. As regards law enforcement data, a considerable increase can be observed in LSD on boarders in shipments entering Latvia, but retail data show few seizure cases in Latvia at the retail level (2019 – 67 retail seizures; 2021 – 28 retail seizures). This could be explained with a way how this substance is used – more often in nature or settings that will not attract law enforcement.

The ESPAD data show a slight, but not a significant increase in prevalence among students right before the pandemic – 3.7% in 2015 and 4.9% in 2019 (ESPAD Group, 2020). Data in the General Population Survey in 2020 show low life-time prevalence in the general population – 1.4% whole population and 3.8% in the age group of 15–34-year-old respondents (Putniņa, Brants, 2021). Due to a scarcity of data, it is not possible to tackle the COVID-19 impact on the retail market. However, due to increased shipments to Latvia, this is the substance that needs

to be monitored further, especially that the respondents of the EWSD 2021 reported LSD more often than cocaine (EMCDDA, 2021d and secondary data analysis).

4.7. Benzodiazepines

Benzodiazepines is one of the substance groups that prevails on the illegal market. As regards use of these substances, pre-COVID-19 trends were related to two user groups. High-risk users consume benzodiazepines, mainly clonazepam together with opioids. Another trendy substance that entered the illegal market before the pandemic was *Xanax*, which was mainly used by some groups of high school students. At the same time, to describe the situation, we have only law enforcement data and some scattered data from surveys.

The law enforcement data does not show any sufficient changes on the retail market except for some increase in 2020 as regards the number of seizures of all benzodiazepines and then a decrease in 2021 (150 seizures in 2018; 155 – 2019; 173 – 2020; 139 – 2021). The high use of tranquillisers and sedatives were reported in the last ESPAD survey right before the pandemic – 22% reported a use of such substances (ESPAD Group, 2020). When combining these results with other reports, most likely this increase was indeed related to the use of *Xanax*, but there is a lack of data to understand how the pandemic might have affected the use of *Xanax*. The results of the General Population Survey show the use of prescribed medication with or without an actual prescription; therefore, these results mostly show legal prescription and more frequent use in the older population (Putniņa, Brants, 2021).

5. Discussion

Overall, the analysis was carried out on a basis of regularly available data without additional survey dedicated only to the impact of the pandemic on the retail drugs market or drug use patterns; therefore, there are several limitations that must be considered. Firstly, routine administrative data and wastewater analysis results are the only data that are available on an annual basis. Other data were collected in different years and are not comparable methodology-wise; therefore, it is possible to tackle some indications without in-depth analysis. Secondly, most data collection methodologies were prepared before the pandemic and are not tailored to tackle the impact of the pandemic. On the one hand, this allows us to compare situations before and during the pandemic; on the other hand, some more detailed trends

could be left out. Finally, it must be underlined that now when this analysis was carried out during pandemics when it is still not over, the real impact would only be visible in the long run.

As regards the retail drugs market, the collected data on price, purity, organisation of purchasing and delivering substances does not show any considerable changes, except for some slight fluctuation for cannabis during the first COVID-19 wave and a possible decrease in MDMA prevalence in 2021. It is also necessary to underline that COVID-19 has not changed the means of purchasing and delivering substances. Even though initially it was predicted that the role of darknet would increase, for Latvia it has not been the case.

Cannabis seems to be the substance that has been to some extent influenced by the first COVID-19 restrictions. Since that is the most prevalent substance as regards use, the initial restrictions and uncertainty related to the closure of borders might have boosted domestic production both profit-driven and for personal use. There is some data that could suggest fluctuations in prices during the first wave of the pandemic, which was not observed anymore in 2021 and could indicate that the market was stable. But in the case of cannabis, it is important to add that some data might suggest more use among frequent users similarly as it was observed in other EU countries (EMCDDA, 2021d). At the same time, an increasing trend in the cannabis use was observed already before the pandemic from the routine administrative data and some surveys (e.g., Žabko et al., 2020; ESPAD Group, 2020), which could suggest that COVID-19 accelerated the trend even more, similarly to some other countries (e.g. Bonny-Noach et al., 2021).

MDMA is another substance that was on the increase before the pandemic, but results of how COVID-19 could have affected MDMA mainly indicate a decrease in 2021. According to routine administrative data and wastewater analysis in 2020, MDMA prevalence was still increasing, but in 2021 this prevalence decreased. This could be easily explained with harsher restrictions in 2021, and consequently less entertainment opportunities (similarly to conclusions of Bendau et al., 2022; Price et al., 2021). However, similarly to cannabis frequent users, also MDMA frequent users reported more use due to COVID-19. Therefore, most likely, we can conclude that there is an overall decreasing trend with some exceptions for some groups.

As regards other substance groups, the available data are too scarce to draw a conclusion on how the pandemic has affected the retail market and users. Opioids and amphetamines are substances used

by high-risk users, and available routine data (seizures, purity, price) does not suggest any changes, but a more in-depth study on this group would be necessary. There is also scarce data to understand possible changes in cocaine and hallucinogens use, mainly because this market is small. But more studies are necessary to understand benzodiazepine use, in particular use of *Xanax* among young people, as this might be the area affected by COVID-19.

Finally, as regards possible post-COVID-19 implications, it does not seem that the retail illegal market will have any consequences. Drug use patterns are similar to those before the pandemic, with some exceptions related to more use among frequent users, which must be considered in future health provisions. According to these results, the COVID-19 impact on drug use or the illegal retail market is close to nothing; therefore, there is a question if the situation has not changed and whether there are going to be any implications. At this point it does not seem to be the case, but currently we only have surface short-term observation. Presumably, only in a couple of years would it be possible to see long-term effects, including the overload of the health care system that most likely will have an impact on many people, including drug users.

6. Conclusion

In conclusion, the findings suggest that COVID-19 so far has not left any considerable impact on the illegal market. After some uncertainty during the first wave that had caused more cannabis cultivation, the overall market seems to be stable and operating as before. In addition, the role of the darknet has not increased.

Also, available data suggest that drug use patterns have not changed either, except for some indications that frequent users of cannabis and MDMA might be using more because of the COVID-19 situation. Still, there is a lack of data on high-risk drug use, so currently there is no information on if and how the pandemic has affected this population.

Possible post-COVID-19 implications were not identified, but at the moment of preparing the article, the COVID-19 is still present. Therefore, possible long-term impact of the pandemic could be visible in forthcoming years.

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