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Short communication

COVID-19 survey among people who use drugs in three cities in Norway

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ABSTRACT

Background: Little is known regarding what people who use drugs (PWUD) know about COVID-19 related issues and changes in the drug market due to COVID-19. We therefore conducted a survey to explore these issues.
Methods: In a cross-sectional study, we interviewed 226 PWUD from three Norwegian cities in May/June 2020. Participants completed an interview-administrated questionnaire. Three separate multiple binary logistic regression models were estimated with the outcomes (no/yes): 1. Familiarity with COVID-19 symptoms, 2. Awareness of COVID-19 services tailored towards PWUD and, 3. Willingness to take a COVID-19 test.
Results: The mean age was 44.1 years and 73 % were males. Fifty-four percent were injectors, and heroin/other opioids (35.8 %) and cocaine/amphetamine (25.2 %) were the most common main drugs used. Overall, 54.9 % were in opioid maintenance treatment (OMT). The majority (65.9 %) stated they knew the COVID-19 symptoms. Almost all the participants (91.2 %) reported they would take a COVID-19 test if experiencing relevant symptoms. The majority (63.7 %) were not aware of COVID-19 services available to PWUD. OMT patients were more likely to be familiar with COVID-19 symptoms (aOR = 3.4, 95 % CI 1.7; 6.8), and to be aware of COVID-19 services (aOR = 2.7, 95 % CI 1.1; 6.3). Overall, 35.4 % reported reduced drug availability, mainly for tranquilizers, while 61.5 % reported increased drug prices, mainly for cannabis.
Conclusion: Drug treatment may play an important role in COVID-19 prevention, as those in OMT were more likely to be aware of symptoms and of availability of services.

1. Introduction

As the Corona Virus Disease 2019 (COVID-19) pandemic spread rapidly throughout the world, there has been a growing concern regarding the risk of infection amongst people who use drugs (PWUD) (Dubey et al., 2020; Farhoudian et al., 2020).

In Norway, the first person was diagnosed with COVID-19 infection on February 26th, 2020 and the first COVID-19 related death was confirmed on March 12th. The same day, the Norwegian government declared a national lockdown and kindergartens, schools, universities, training facilities, restaurants and libraries were closed. Gathering of more than five persons was prohibited and strict regulations were implemented on travelling both domestically and internationally.

To address the concerns regarding COVID-19 positive PWUD, isolation units for COVID-19 positive PWUD opened in the two largest Norwegian cities, Oslo and Bergen, in March/April 2020. Admissions were voluntary and the units had a liberal treatment policy for opioid substitution and tranquilizers. However, very few PWUD were diagnosed with COVID-19 in the beginning of the pandemic in Norway. We therefore wanted to explore the knowledge and perceptions towards COVID-19 among PWUD.

In this cross-sectional study among PWUD, we examined the respondents' knowledge of common COVID-19 symptoms, their willingness to test if they experienced COVID-19-related symptoms and if they knew of the services available for COVID-19 positive PWUD. Finally, we examined drug availability and prices as experienced by the respondents.

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2. Material and methods

We included 226 PWUD between May 13th and June 30th, 2020 in Oslo, Bergen and Kristiansand. Oslo and Bergen had open drug scenes, while no such scene existed in Kristiansand.

2.1. Variables and procedures

An interview-administrated questionnaire was developed in close collaboration with representatives for PWUD and professionals.

The questionnaire included background characteristics, questions about the substances (including alcohol) used, OMT status, availability of substances and changes in drug prices in the illegal drug market during the COVID-19 pandemic. The specific substances asked for were alcohol, tranquilizers, heroin/other opioids, cocaine/amphetamine and other substances (should be specified by the respondent). The term "tranquilizers" includes both prescribed medications as well as medications obtained on the illegal drug market. The participants responded to questions about the common COVID-19 symptoms and if they currently experienced any of these symptoms. The symptoms included body aches, shortness of breath, cough, stomach pain, headache, changes in taste or smell, sore throat and fever. We also investigated willingness to take a COVID-19 test if experiencing symptoms. The participants were also asked if they knew of any COVID-19 services especially tailored towards PWUD in their city. The questionnaire took three-five minutes to complete.

The study also included an intervention in terms of informing participants who were not aware of the COVID-19 symptoms or available services.

We recruited the interviewers through the users' organizations and through different low-threshold services for PWUD in the three cities.

2.2. Inclusion and recruitment of participants

The sample is a convenience sample. Any individual, above 18 years, using any of the substances mentioned above could be included. Participants were recruited via phone by social workers or by outreach workers, low threshold service staff or peers from user organizations near the open drug scenes and at low-threshold services. The open drug scenes in Oslo and Bergen are areas of the towns were substances are relatively openly bought and sold on the illegal market.

Of the interviews, 60 (27 %) were peer-to-peer interviews, 38 (17 %) were performed by outreach street workers, 52 (23 %) by employees from low-threshold housing, 27 (12 %) by social service workers, and 49 (22 %) were performed by employees in low threshold daytime services.

The refusal rate was not recorded. In total, we excluded 14 questionnaires, either because the respondent had participated previously (duplicates) or because the respondent did not complete the questionnaire.

We submitted the study to the Regional Ethics' Committee and the Data Inspectorate at the University of Oslo, and both bodies concluded that the questionnaire was anonymous and therefore did not need approval.

We gave a short sheet of information to each participant to read or the interviewer read it aloud to the participant. In the questionnaire, the respondent had to confirm that he/she had received the information about the survey and how the information he/she gave would be handled.

2.3. Statistical analyses

We conducted the statistical analyses in Stata 15.0. Multiple binary logistic regression models were estimated with no/yes outcomes: 1. Familiarity with COVID-19 symptoms 2. Awareness of COVID-19 services tailored towards PWDU and 3. Willingness to take a test if experiencing any symptoms. We included the following independent variables into each of the three models: gender, age, the main drug of choice, OMT status and recruitment city. Adjusted odds ratios (aOR) and 95 % Confidence intervals (CI) were reported.

3. Results

The majority (73.0 %) of the 226 participants were males. The mean age was 44.1 years (range 18–78 years). Overall, 54.0 % of the participants injected drugs. More than half of the sample (54.9 %) was in opioid maintenance treatment (OMT). Furthermore, 47.8 % of the sample had applied for/been in or considered applying for substance use treatment the preceding two months.

The participants most commonly reported heroin/other opioids as their current main drug of choice (35.8 %), followed by cocaine/amphetamine (25.2 %), and cannabis (11.9 %). The participants reported to currently use an average of 2.3 substances including alcohol (SD = 1.1), ranging from one to five. The proportion of the participants reporting to currently use the following substances (main drug of choice plus additional substances) was: Cocaine/amphetamine (61.0 %), cannabis (59.7 %), heroin/other opioids (54.8 %), tranquilizers (52.6 %) and alcohol (33.2 %). There were no statistically significant differences between genders.

Overall, 65.9 % of the sample was familiar with the common COVID-19 related symptoms (Table 1). Body pain/aches was the most commonly endorsed (19.9 %) by the participants of COVID-19 related symptoms, followed by shortness of breath (16.8 %) and cough (12.4 %).

The majority (63.7 %) of the sample was not aware of specifically designed COVID-19 services available for PWUD in need of isolation. Almost all of the participants (91.2 %) stated their willingness to take a test if they experienced any COVID-19-related symptoms.

A minority (35.4 %) of the sample reported a current drug shortage. Shortage was reported for tranquilizers (31.3 % of those reporting shortage), followed by cannabis (7.5 %). A majority (61.5 %) reported an increase in prices of drugs since the COVID-19 outbreak. Among the 139 reporting an increase in drug prices, the majority (69.8 %) reported cannabis to have become more expensive.

Those in OMT had three times higher odds of being familiar with COVID-19 symptoms compared to those not in OMT (aOR = 3.4, 95 % CI 1.7, 6.8) (Table 2). Likewise, those in OMT had higher odds of being aware of services available for COVID-19 positive PWUD (aOR = 2.7, 95 % CI 1.1, 6.3). OMT status was only significantly associated with being aware of services for males, not for females.

4. Discussion

This study represents a snapshot of the situation during the early pandemic phase in Norway, but it highlights a more general phenomenon; the need for tailored messaging specifically towards vulnerable groups. Early in a crisis, such as the COVID-19 pandemic, the findings from this study emphasize the importance of reaching out to PWUD, both those in treatment, but also those outside formal treatment.

Our findings suggest that OMT may play an important role in COVID-19 prevention, as current and previous OMT patients were more likely to be aware of COVID-19 symptoms, as well as COVID-19 services available for PWUD. It is encouraging that treatment engagement seems to play an important role in COVID-19 prevention, but it also means that a special effort is needed in order to reach PWUD not in treatment. PWUD not in treatment have an increased risk of morbidity and mortality (Degenhardt et al., 2011; Mathers et al., 2013) and is therefore a particularly vulnerable population that needs to be included in COVID-19 prevention interventions, likely with specifically targeted messaging across appropriate information platforms.

During the early pandemic it was a rapid development in the general knowledge about COVID-19, however it was less emphasis on specifically targeted messaging towards subpopulations. This may have rendered vulnerable groups additionally vulnerable. In situations with

Table 1
COVID-19 related questions to a sample of 226 Norwegian people who use drugs (PWUD).

		% (n)
Are you familiar with COVID-19-related symptoms?	No	25.2 (57)
	Yes	65.9 (149)
	Not sure	7.5 (17)
Are you currently experiencing any of these symptoms?		
Body aches		19.9 (45)
Shortness of breath		16.8 (38)
Cough		12.4 (28)
Stomach pain		11.9 (27)
Headache		9.7 (22)
Changes in taste		6.2 (14)
Changes in smell		5.8 (13)
Sore throat		5.3 (12)
Fever		1.3 (3)
Are you aware of COVID -19 services available for PWUD in your city?	No	63.7 (144)
	Yes	24.3 (55)
	Not sure	11.1 (25)
Would you take a test if experiencing any COVID-19-related symptoms?	No	5.8 (13)
	Yes	91.2 (206)
	Not sure	2.2 (5)
Do you know any COVID-19 infected person(s)?	No	79.2 (179)
	Yes	17.7 (40)
	Not sure	1.8 (4)
Are you, to the same extent as previously, able to buy your regular substances?	No	35.4 (80)
	Yes	63.3 (143)
What substances are difficult to obtain? (n = 80)	Tranquilizers	31.3 (25)
	Cannabis	7.5 (6)
	Other[a]	8.8(7)
Are substances more expensive?	No	35.8 (81)
	Yes	61.5 (139)
What has become more expensive? (n = 139)	Cannabis	69.8 (97)
	Tranquilizers[a]	25.9 (36)
	Other[b]	6.6 (10)

3missing "Are you familiar with Covid-19-related symptoms?".
2missing "Are you aware of Covid -19 services available for PWUD in your city?".
2missing "Would you take a test if experiencing any Covid-19-related symptoms?".
3missing "Do you know any Covid-19 infected person(s)?".
3missing "Are you, to the same extent as previously, able to buy your regular substances?".
6missing "Are substances more expensive?".
*Other=Heroin, stimulants or everything.
[a] Medications that require a doctor's prescription, most often benzodiazepines. In our study, it includes both prescribed and illegal medications.
[b] Heroin/other opioids, stimulants, alcohol, everything.

societal change and rapid developments, the importance of clear and updated information targeted towards a range of subpopulations is critical.

Two thirds (66 %) of our sample were familiar with COVID-19 related symptoms. Still, the results clearly indicate the need for better information among PWUD about the symptoms of COVID-19, since a third of the sample were not familiar with the symptoms.

Table 2
Binary logistic regression for association between characteristics in a the sample of 226 Norwegian persons who use drugs (PWUDs) people who use drugs (PWUD) and familiarity with services and willingness to take a COVID-19 test.

	Are you familiar with covid-19 symptoms? n = 220 aOR (95 % CI)	Are you aware of services available for COVID-19-infected PWUD in your city? n = 213 aOR (95 % CI)	Would you take a test if you experience any COVID-19-related symptoms? n = 213 aOR (95 % CI)
Gender			
Other or female	1.00	1.00	1.00
Male	0.69 [0.35,1.35]	1.23 [0.58,2.61]	0.75 [0.23,2.42]
Age	0.99 [0.96,1.02]	0.96 [0.93,0.99]*	0.98 [0.94,1.03]
Main drug of choice			
Other	1.00	1.00	1.00
Heroin /other opioids, % (n)	0.59 [0.28,1.25]	1.27 [0.55,2.95]	0.60 [0.17,2.18]
Stimulants, % (n)	0.97 [0.46,2.08]	1.87 [0.78,4.48]	0.63 [0.17,2.36]
OMT status			
Not in OMT	1.00	1.00	1.00
In OMT	3.37 [1.68,6.77] ***	2.66 [1.12,6.31]*	1.52 [0.49,4.69]
Previous OMT patient	4.51 [1.67,12.16]**	2.21 [0.76,6.37]	2.57 [0.48,13.93]

Notes: Odds ratios are adjusted for recruitment city (Oslo, Bergen and Kristiansand) in addition to other variables in table, but estimates not shown in the table.
aOR = adjusted odds ratios, CI = confidence interval, OMT = opioid maintenance treatment.
*** P < 0.001 and ** P < 0.01.

Lack of knowledge regarding COVID-19 symptoms could be one reason for the low proportion in our sample reporting any such symptoms. A large proportion of PWUD is known to have chronic somatic diseases (Bech et al., 2019; Reimer et al., 2011). There may be several reasons why the participants did not report symptoms related to COVID-19: They might not have any symptoms, they might miss the symptoms due to intoxication, they might interpret any symptoms they may have as withdrawal symptoms, or they might be so used to having different somatic symptoms that they do not recognize/report them (Yoshimasu, 2012). There has been very few reports of COVID-19 positive PWUD from Norway during the early phases of the pandemic. However, due to the possibility of symptoms not being detected in PWUD, it would be of interest to test for COVID-19 antibodies in this particular population.

Almost all the participants (91 %) reported willingness to test for COVID-19 if they experienced any symptoms. We have not been able to identify similar studies among PWUD. However, if the high proportion of participants in our sample is a reflection of attitudes in the target population, it is important to ensure information of test availability, easy access to test facilities, and to ensure proper care of those testing positive, in safe and professional settings.

Only 1/3 of our sample reported a drug shortage, but more than 60 % reported an increase in drug prices. Cannabis in particular appears to have become more expensive, followed by illicit prescription drugs. This finding is in line with other European countries where there also have been reports of inflated retail prices for cannabis (EMCDDA and EUROPOL, 2020).

4.1. Strengths and limitations

The participants shared characteristics with problematic PWUD in two other Norwegian studies in terms of age, gender, drug use and current OMT (Gjersing and Bretteville-Jensen, 2018; Madah-Amiri et al., 2019). This suggests that our findings may be generalized to persons who use drugs beyond our sample. Peer interviewers conducted almost a third of the interviews, which further strengthens our findings, because they have a better knowledge of the drug using surroundings and know many PWUD.

On the other hand, there are also some study limitations. Self-reported interview data are open to recall bias, under- and over-reporting and imprecise estimation. They are also open to social desirability bias; where the participants may underreport socially undesirable attitudes and behaviors, and to over-report more desirable attitudes (Latkin et al., 2017). It is possible that the high proportion reporting willingness to test is a consequence of this bias. It is also a limitation that we did not collect any information on the non-responders, nor did we collect the refusal rate. However, one of the interviewers, who conducted 50 of the interviews, estimated that approximately 1/4 refused participation.

5. Conclusions

The main finding was that current or recent OMT experience (i.e. treatment engagement) was associated with improved knowledge of common COVID-19 symptoms and about available services. Additionally, 66 % of the 226 interviewed participants were familiar with COVID-19 related symptoms and almost all the participants (91 %) stated their willingness to undergo testing if they experienced COVID-19 related symptoms. Furthermore, our findings indicate a change in the Norwegian drug market in the two months following community lockdown, in particular in terms of an increase in the price of cannabis.

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Nothing declared

Contributors

Gabrielle Welle-Strand: Planned and managed the project, developed the questionnaire, recruited the interviewers, entered about half of the interviews into the database, responsible for all drafts and the final manuscript.

Svetlana Skurtveit: Helped with analyses, gave feedback on all drafts of the manuscript including the tables, and approved the final manuscript and tables.

Thomas Clausen: Gave feedback on the questionnaire and the project proposal, gave feedback on all drafts of the manuscript including the tables, and approved the final manuscript and tables.

Christine Sundal: Performed 50 of the interviews, gave feedback on all drafts of the manuscript including the tables, and approved the final manuscript and tables.

Linn Gjersing: Responsible for the analyses, gave feedback on all drafts of the manuscript including the tables, and approved the final manuscript and tables.

Declaration of Competing Interest

The authors report no declarations of interest.

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Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.drugalcdep.2020.108302.

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