



COVID-19 restrictions and increased risk of overdose for street-based people with opioid dependence in South Africa

To the Editor: The placement of street-based people in temporary shelters as part of South Africa (SA)'s lockdown efforts to mitigate the COVID-19 epidemic increases the risk of overdose among people who are dependent on heroin. The number of street-based heroin-dependent people is unknown,^[1] but many of the country's estimated 75 000 people who inject drugs live on the street and inject heroin,^[2] and many more smoke it (known locally as nyaope, whoonga and unga).^[3]

People with opioid dependence develop tolerance after repeated use, and an increased dose is essential to maintain a required effect. Tolerance reverses within several days of abstinence, and the opioid system up-regulates and resensitises to pre-use levels.^[4] Failure to moderate dosing to accommodate reduced tolerance after periods of abstinence is a significant cause of overdose following release from prison or inpatient rehabilitation and after periods of drug supply interruption.^[5] Globally, opioid overdoses are the leading cause of drug-related deaths, inducing respiratory depression and hypoxia that can be fatal.^[6]

Opioid substitution therapy (OST), using methadone or buprenorphine at a correct dose as long-term maintenance, is the gold standard for managing opioid dependence.^[7] OST improves health and reduces overdose mortality. Overdose is also mitigated through community awareness and training, and wide distribution of naloxone.^[8]

Apart from efforts across Pretoria to provide access to OST as maintenance and one shelter in Durban providing methadone as part of managed withdrawal, the majority of the heroin-dependent population who remain in shelters will have an extended, involuntary period of abstinence.

Heroin is a potent physical and psychological analgesic and helps many people to endure the adverse conditions, hopelessness and stigma of living on the street.^[9] Furthermore, there is a strong relationship between heroin dependence and adverse childhood events and trauma.^[10] Without OST as maintenance, most heroin-dependent people are likely to re-initiate heroin use once they return to their communities.^[11]

After the lockdown in SA, the overdose risk will be elevated due to reduced tolerance and the concurrent use of other central nervous system depressants (e.g. alcohol and benzodiazepines).^[12] The trauma of leaving a 'formal' safe shelter and ongoing drug criminalisation further increase overdose vulnerability.^[13] The potential for poisoning from potent synthetic opioids, such as fentanyl and its analogues, in light of the changed drug market is unknown.^[14]

To mitigate the risk of overdose in the time of COVID-19, we recommend:

- That government funds the scaling up and access to OST at all shelters in locations where the capacity for OST initiation exists through partnership with civil society and academic institutions. People initiated onto OST during lockdown should be linked to ongoing maintenance therapy with access to psychosocial services once released.
- That government enables civil society and academic institutions to establish opioid overdose prevention programmes before

the lockdown period ends, that focus on education and skills-based training of people who use opioids. Additionally, increased community-based access to naloxone in health and substance use treatment centres and the provision of naloxone to OST clients, paired with appropriate administration training, is needed.

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1. Michie G, Hoosain S, Macharia M, Weich L. Report on the first government-funded opioid substitution programme for heroin users in the Western Cape Province, South Africa. *S Afr Med J* 2017;107(6):539-542. <https://doi.org/10.7196/SAMJ.2017.v107i6.12140>
2. Scheibe A, Young K, Moses L, et al. Understanding hepatitis B, hepatitis C and HIV among people who inject drugs in South Africa: Findings from a three-city cross-sectional survey. *Harm Reduct J* 2019;16(1):16-28. <https://doi.org/10.1186/s12954-019-0298-2>
3. Khine AA, Mokwena KE, Huma M, Fernandes L. Identifying the composition of street drug nyaope using two different mass spectrometer methods. *Afr J Drug Alcohol Stud* 2015;14(1):49-56. <https://www.ajol.info/index.php/ajdas/article/view/131003> (accessed 14 April 2020).
4. Young JC, Lund JL, Dasgupta N, Jonsson Funk M. Opioid tolerance and clinically recognized opioid poisoning among patients prescribed extended-release long-acting opioids. *Pharmacopeidemiol Drug Saf* 2019;28(1):39-47. <https://doi.org/10.1002/pds.4572>
5. Merrall EL, Karimnia A, Binswanger IA, et al. Meta-analysis of drug-related deaths soon after release from prison. *Addiction* 2010;105(9):1545-1554. <https://doi.org/10.1111/j.1360-0443.2010.02990.x>
6. Hong JS, Moran MT, Eaton LA, Grafton LM. Neurologic, cognitive, and behavioral consequences of opioid overdose: A review. *Curr Phys Med Rehabil Rep* 2019;7:305-313. <https://doi.org/10.1007/s40141-019-00247-2>
7. Kelly E, Hulse G. Fatal and non-fatal opioid overdose in opioid dependent patients treated with methadone, buprenorphine or implant naltrexone. *Int J Drug Policy* 2017;1(46):54-60. <https://doi.org/10.1016/j.drugpo.2017.05.039>
8. World Health Organization. Community Management of Opioid Overdose. Geneva: WHO, 2014. https://www.who.int/substance_abuse/publications/management_opioid_overdose/en/ (accessed 14 April 2020).
9. Cleveland LM, McGlothen-Bell K, Scott LA, Recto P. A life-course theory exploration of opioid-related maternal mortality in the United States. *Addiction* 2020 (epub 12 April 2020). <https://doi.org/10.1111/add.15054>
10. Stein MD, Conti MT, Kenney S, et al. Adverse childhood experience effects on opioid use initiation, injection drug use, and overdose among persons with opioid use disorder. *Drug Alcohol Depend* 2017;179:325-329. <https://doi.org/10.1016/j.drugalcdep.2017.07.007>
11. Joudrey PJ, Khan MR, Wang EA, et al. A conceptual model for understanding post-release opioid-related overdose risk. *Addict Sci Clin Pract* 2019;14(1):14-17. <https://doi.org/10.1186/s13722-019-0145-5>
12. Thylstrup B, Seid AK, Tjagvad C, Hesse M. Incidence and predictors of drug overdoses among a cohort of > 10,000 patients treated for substance use disorder. *Drug Alcohol Depend* 2020;206:107714. <https://doi.org/10.1016/j.drugalcdep.2019.107714>
13. Pear VA, Ponicki WR, Gaidus A, et al. Urban-rural variation in the socioeconomic determinants of opioid overdose. *Drug Alcohol Depend* 2019;195:66-73. <https://doi.org/10.1016/j.drugalcdep.2018.11.024>
14. Palamar JJ, Salome A, Barratt MJ. Drug checking to detect fentanyl and new psychoactive substances. *Curr Opin Psychiatry* 2020 (epub 13 March 2020). <https://doi.org/10.1097/YCO.0000000000000607>

S Afr Med J 2020;110(6):434. <https://doi.org/10.7196/SAMJ.2020.v110i6.14832>