Editorial

Mental & addictive disorders - Even more important during & after the COVID-19 pandemic

The upcoming World Mental Health Day\(^1\) is a good opportunity to take stock on where we stand with regard to mental and addictive disorders in 2021. The latest global epidemiological assessment of mental and addictive disorders was published for 2019. In that year, the Global Burden of Disease estimated that these disorders comprised about 6.3 per cent of all disability-adjusted life years globally (6.6% for women and 6.0% for men) and 0.5 per cent of all deaths (0.2% for women and 0.8% for men)\(^2\). These numbers represent more than 160 million life-years lost due to premature death and disability in 2019, and almost 300,000 deaths. Mental and addictive disorders have had a similar impact for decades, with similar characteristics: these are far more disabling than being lethal. Disability affects women proportionally more than men for mental disorders, men are affected more than women by substance use disorders and both mental and addictive disorders are more prevalent in high-income regions\(^3\). The impact on mortality is an underestimate, as people affected by mental and addictive disorders, on an average, die prematurely, although with other causes of death listed on their death certificates\(^4\).

The mental and addictive disorders were important before the SARS-CoV-2 or COVID-19 pandemic. The pandemic, however, may have significantly increased the importance of these disorders. Causally, the pandemic may have increased incidence of both mental and affective disorders, and these disorders may have fed into the pandemic. Here we deal with both the causal directions separately.

First, the overwhelming majority of the general population surveys and reviews indicate an increase in stress, and symptoms of anxiety, depression and substance use disorders during the pandemic\(^5,6\). The burden of manifest disorders was more difficult to judge, especially since the healthcare facilities and service utilization were impacted by the pandemic. Potential patients feared accessing services, and healthcare facilities were often closed at least partially, or personnel were shifted around to deal with the COVID-19 pandemic. Thus, while most of the models expect an increase in the burden of mental and addictive disorders in the future, following the COVID-19 pandemic\(^7,8\). The exact extent of this increased burden and its consequences on health care are not clear. In addition to symptoms of the more common mental and substance use disorders, such as depression and other mood disorders, anxiety and alcohol use disorders, evidence suggested that post-traumatic stress symptoms were common among people exposed to the trauma resulting from infectious disease outbreak\(^9\). Moreover, the increase of stress and mental and substance use disorder symptoms will likely not only affect the general population but also healthcare workers\(^6,7,10\).

It should be noted that the increase in substance use disorders or in substance poisonings does not necessarily mean that the use has increased as well. There are good indications that globally at least alcohol use and illicit drug use decreased due to lower availability\(^11-13\). With a few exceptions (such as the United Kingdom or North America for alcohol use), the reduction in use has been corroborated by the sales statistics. However, while sales overall went down, certain segments of the population increased their consumption, and a systematic review indicated that people who were drinking heavily before the pandemic increased their drinking during the pandemic, thus contributing to the expected increase in disorders\(^8\).

As for the impact of mental and addictive disorders on COVID-19 infections, several large studies in the US\(^14,15\) and a systematic review\(^16\) have indicated that these kinds of disorders are highly associated with...
COVID-19 infections, both with incidence and course, including fatal outcomes. Stress and impact on the immune system are likely causal pathways for this association\textsuperscript{17,18}.

Overall, the evidence points clearly towards an increased burden of mental and substance use disorders during and after the COVID-19 pandemic. We need to prepare our healthcare systems to cope with these phenomena for the coming years\textsuperscript{19,20}. Despite the optimism of the World Health Organization (WHO)\textsuperscript{1}, we have an uphill battle ahead us. While universal health coverage, including mental and substance use disorders, is a necessity for economic and ethical reasons\textsuperscript{21}, the current situation is far from having achieved this goal\textsuperscript{22}. Let us hope that the WHO special initiative for mental health (2019-2023): Universal health coverage for mental health\textsuperscript{23}, will bring us at least a few steps closer.

Conflicts of Interest: None.

**Jürgen Rehm\textsuperscript{1,2,3,4,5,6,7,8}**

\textsuperscript{1}Institute for Mental Health Policy Research, \textsuperscript{2}Campbell Family Mental Health Research Institute, Centre for Addiction & Mental Health, \textsuperscript{3}Epidemiology Division, Dalla Lana School of Public Health, \textsuperscript{4}Department of Psychiatry, Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada, \textsuperscript{5}Institute of Clinical Psychology & Psychotherapy, Faculty of Psychology, Technische Universität Dresden, Dresden, \textsuperscript{6}Department of Psychiatry & Psychotherapy, Center for Interdisciplinary Addiction Research (ZIS), University Medical Center Hamburg-Eppendorf (UKE), Hamburg, Germany, \textsuperscript{7}Department of International Health Projects, Institute for Leadership and Health Management, I.M. Sechenov First Moscow State Medical University (Sechenov University), Moscow, Russian Federation & \textsuperscript{8}Program on Substance Abuse, Public Health Agency of Catalonia, Barcelona, Spain

jtrehm@gmail.com

Received October 5, 2021

**References**

1. World Health Organization. *World mental health day 2021: Mental health care for all: Let’s make it a reality*. Available from: https://www.who.int/campaigns/world-mental-health-day/2021, accessed on October 4, 2021.

2. Global Burden of Disease Collaborative Network. *Global burden of disease study 2019 (GBD 2019) results*. Available from: http://ghdx.healthdata.org/ghd-results-tool, accessed on September 16, 2021.

3. Rehm J, Shield KD. Global burden of disease and the impact of mental and addictive disorders. *Curr Psychiatry Rep* 2019; 21: 10.

4. Charlson FJ, Baxter AJ, Degenhardt V, Whiteford H, Vos T, et al. Excess mortality from mental, neurological, and substance use disorders in the global burden of disease study 2010. In: Patel V, Dua T, Laxminarayan R, Medina-Mora ME, editors. Mental, Neurological, and Substance Use Disorders, Disease Control Priorities. Vol. 4. Washington, DC: The International Bank for Reconstruction and Development/The World Bank; 2016. p. 41-65.

5. Kunzler AM, Röthke N, Günthner L, Stoffers-Winterling J, Tüscher O, Coenen M, et al. Mental burden and its risk and protective factors during the early phase of the SARS-CoV-2 pandemic: Systematic review and meta-analyses. *Global Health* 2021; 17: 34.

6. Salari N, Hosseinian-Far A, Jalali R, Vaisi-Raygani A, Rasoulpoor S, Mohammadi M, et al. Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: A systematic review and meta-analysis. *Global Health* 2020; 16: 57.

7. Krishnamoorthy Y, Nagarajan R, Saya GK, Menon V. Prevalence of psychological morbidities among general population, healthcare workers and COVID-19 patients amidst the COVID-19 pandemic: A systematic review and meta-analysis. *Psychiatry Res* 2020; 293: 113382.

8. Schmidt RA, Genois R, Jin J, Vigo D, Rehm J, Rush B. The early impact of COVID-19 on the incidence, prevalence, and severity of alcohol use and other drugs: A systematic review. *Drug Alcohol Depend* 2021; 228: 109065.

9. Qiu D, Li Y, Li L, He J, Ouyang F, Xiao S. Infectious disease outbreak and post-traumatic stress symptoms: A systematic review and meta-analysis. *Front Psychol* 2021; 12: 668784.

10. Varghese A, George G, Kondaguli SV, Naser AY, Khakha DC, Chatterji R. Decline in the mental health of nurses across the globe during COVID-19: A systematic review and meta-analysis. *J Glob Health* 2021; 11: 05009.

11. Ali F, Russell C, Nafeh F, Rehm J, LeBlanc S, Elton-Marshall T. Changes in substance supply and use characteristics among people who use drugs (PWUD) during the COVID-19 global pandemic: A national qualitative assessment in Canada. *Int J Drug Policy* 2021; 93: 103237.

12. Kilián C, Rehm J, Allebeck P, Braddick F, Gual A, Barták M, et al. Alcohol consumption during the COVID-19 pandemic in Europe: A large-scale cross-sectional study in 21 countries. *Addiction* 2021; 116: 3369-80.

13. Rehm J, Kilián C, Ferreira-Borges C, Jernigan D, Monteiro M, Parry CD, et al. Alcohol use in times of the COVID-19: Implications for monitoring and policy. *Drug Alcohol Rev* 2020; 39: 301-4.

14. Wang Q, Xu R, Volkow ND. Increased risk of COVID-19 infection and mortality in people with mental disorders: Analysis from electronic health records in the United States. *World Psychiatry* 2021; 20: 124-30.
15. Wang QQ, Kaelber DC, Xu R, Volkow ND. COVID-19 risk and outcomes in patients with substance use disorders: Analyses from electronic health records in the United States. Mol Psychiatry 2021; 26: 30-9.

16. Fond G, Nemani K, Etchecopar-Etchart D, Loundou A, Goff DC, Lee SW, et al. Association between mental health disorders and mortality among patients with COVID-19 in 7 countries: A systematic review and meta-analysis. JAMA Psychiatry 2021; 78: 1208-17.

17. Morojele NK, Shenoi SV, Shuper PA, Braithwaite RS, Rehm J. Alcohol use and the risk of communicable diseases. Nutrients 2021; 13: 3317.

18. Schneiderman N, Ironson G, Siegel SD. Stress and health: Psychological, behavioral, and biological determinants. Annu Rev Clin Psychol 2005; 1: 607-28.

19. López-Pelayo H, Aubin HJ, Drummond C, Dom G, Pascual F, Rehm J, et al. “The post-COVID era”: Challenges in the treatment of substance use disorder (SUD) after the pandemic. BMC Med 2020; 18: 241.

20. Moreno C, Wykes T, Galderisi S, Nordentoft M, Crossley N, Jones N, et al. How mental health care should change as a consequence of the COVID-19 pandemic. Lancet Psychiatry 2020; 7: 813-24.

21. Chisholm D, Johansson KA, Raykar N, Megiddo I, Nigam A, Strand KB, et al. Universal health coverage for mental, neurological, and substance use disorders: An extended cost-effectiveness analysis. In: Patel V, Chisholm D, Dua T, et al, editors. Mental, Neurological, and Substance Use Disorders: Disease Control Priorities. 3rd ed. Washington (DC): The International Bank for Reconstruction and Development/The World Bank; 2016. p 237-51.

22. Patel V, Saxena S. Achieving universal health coverage for mental disorders. BMJ 2019; 366: l4516.

23. World Health Organization. The WHO special initiative for mental health (2019-2023): Universal health coverage for mental health. Available from: https://apps.who.int/iris/handle/10665/310981, accessed on October 4, 2021.