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**IMPACT OF ACUTE COVID-19 INFECTION ON BEHAVIORAL PATTERNS IN PATIENTS RECEIVING OPIATE AGONIS TREATMENT WITH METHADONE**

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**COVID-19 ინფექციის გავლენა მეთადონით ჩანაცვლებით თერაპიაზე მყოფი პაციენტების ქცევით მოდელებზე**

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**რეზიუმე**

ჩვენი კვლევა აფასებს COVID -19 პანდემიის გავლენას მეთადონით ჩანაცვლებითი თერაპიის პრაქტიკაზე. ჩატარდა ჯარედინ-სექციური გამოკითხვა მეთადონის ჩანაცვლებითი თერაპიის პროგრამაში მყოფ 120 პაციენტთან, რათა შეფასებულიყო დემოგრაფიული მაჩვენებლები, COVID-19-ით ინფიცირების ისტორია, საზოგადოებრივი ჯანდაცვის წესების დაცვის დონე, ემოციური კეთილდღეობა და სხვადასხვა ფსიქოაქტიური ნივთიერებების მოხმარების დინამიკა.

კვლევაში მონაწილე პაციენტების ნახევარზე მეტს დაუდასტურდა COVID-19 ლაბორატორიულად, მესამედს კი დასჭირდა გადაუდებელი სამედიცინო დახმარება. პანდემიის პერიოდში მეთადონის დოზის ზრდა დაფიქსირდა პაციენტთა 29.17%-ში, ასევე მნიშვნელოვნად მოიმატა ალკოჰოლისა და სედატივების მოხმარებამ. პაციენტებისთვის მეთადონის სახლში მისაღები დოზების გაცემამ, რომელიც მიზნად ისახავდა მკურნალობის უწყესებობის უზრუნველყოფასა და ინფექციის გავრცელების შემცირებას, ზოგ შემთხვევაში გამოიწვია არამიზნობრივი გამოყენება - ფიქსირდებოდა როგორც ინექციური გზით მიღება, ასევე დოზების გაზიარება და გაცვლა სხვა არალეგალურ ნივთიერებებზე.

კვლევა ხაზს უსვამს ინდივიდზე მორგებული მიღვომის საჭიროებას და მიუთითებს, რომ საზოგადოებრივი ჯანდაცვის კრიზისის პირობებში მეთადონის თერაპიის უსაფრთხოება და ეფექტურიანი განხორციელებისთვის აუცილებელია პაციენტთა გაძლიერებული მონიტორინგი, ცნობიერების ამაღლება და ბალანსირებული რეგულაციები, რომლებიც უზრუნველყოფს როგორც ხელმისაწვდომობას, ასევე უსაფრთხოებას.

**Introduction.** The COVID-19 pandemic has brought changes to healthcare delivery worldwide, creating challenges as well as opportunities for the treatment of opioid use disorder (OUD). Methadone maintenance treatment (MMT) has been a cornerstone of OUD management for decades, but pandemic-influenced policy adaptations - e.g., implementing take-home dosing - while improving accessibility, also raised concerns about patient safety, adherence and substance use patterns [13,7].

The dangers of OUD are complex in the context of COVID-19. Chronic opioid usage impairs respiratory function, and in conjunction with COVID-19, may result in poorer outcomes. In addition, pandemic-related generalized psychological distress has likely worsened substance use behavior [15,2]. While temporary flexibility in methadone regulations was designed to promote continuity of care, it also evokes concerns about dose misuse and higher usage of other psychoactive drugs.

This study was designed to provide insight into how changes in treatment models impacted the experiences and behavioral patterns of patients receiving MMT during pandemics.

**Methods.** A cross-sectional survey was conducted among patients enrolled in an MMT program in Tbilisi. The questionnaire gathered data on the following key areas:

- Demographics: Age, marital status, and other relevant characteristics.
- COVID-19 history: Laboratory-confirmed infection, testing after exposure or symptoms, emergency service use, and vaccination status.
- Public health compliance: Adherence to curfews, mask mandates, social distancing, and isolation protocols.
- Emotional well-being: Self-reported mental health status before and during the pandemic.
- Methadone dosing: Changes in daily dose (increase, decrease, or no change).
- Other Substance use behaviors: Frequency of alcohol, marijuana, illegal opioid, stimulant, hallucinogen, and sedative use before and during the pandemic.
- Take-home dose management: Patient-reported instances of dose sharing, misuse, or exchanges for illicit substances.

Descriptive statistics were used to analyze survey data, and ethical approval was obtained from the institutional review board.

**Results.** Among the 120 survey participants (age range: 27–70 years; mean age: 47.37 years), 57.5% were married, and 42.5% were single. Laboratory-confirmed COVID-19 was reported by 55.0% of respondents, with 67.5% having undergone testing due to symptoms or exposure. COVID-19-related complications required emergency services in 31.67% of patients, and 67.5% reported being vaccinated.

**Impact on emotional well-being and treatment adherence:**

- Before the pandemic, 79.17% of participants rated their emotional health as "good" and 16.66% as "very good."
- During the pandemic, 27.5% reported a decline in emotional well-being, while 70% noted no change.
- Methadone dosing increased in 29.17% of patients, decreased in 7.5%, and remained unchanged in 63.33%.

**Changes in substance use behaviors:**

- Excessive daily alcohol consumption increased from 0 to 10 patients.
- Daily sedative use rose from 2 to 8 patients, representing a 300% increase.
- Daily marijuana use remained stable at 5 patients, while other substance use patterns showed minimal variations.

**Concerns surrounding take-home methadone dosing:**

- 18.33% of patients self-administered methadone by injection at home.
- 16.67% shared doses with others.
- 10.83% exchanged doses for illicit drugs.
- Nearly 50% of respondents knew someone who had misused or shared methadone during the pandemic.

**Discussion.** These findings suggest the widespread effect of the pandemic on MMT patients. An increase of methadone dosing among 29.17% of patients could be due to increased anxiety and the requirement for treatment stability [2,9]. The increase in alcohol and sedative use observed in this study aligns with existing research, which shows that substance use often rises during times of prolonged psychological stress and social isolation. [5,11,10]. In light of the risk of overdose and drug interaction injury, these findings are concerning.

The misuse of take-home doses of methadone also raises pressing safety versus access concerns. Home dosing policies, although intended to reduce COVID-19 transmission, have opened the door to misuse potential [12,13]. Policymakers should evaluate the need for improved monitoring systems and patient education campaigns in an attempt to minimize these risks.

Besides pharmacological management, the psychological effect of the pandemic is noted. While emotional status was stable in the majority of patients, nearly 30% indicated a worsening of their emotional well-being, further adding to the need for mental health interventions during public health crises [8,4].

**Conclusion.** The COVID-19 pandemic had a significant impact on the delivery of MMT and the overall well-being of patients. Increases in methadone dosing, rising use of alcohol and sedatives, and reports of take-home dose misuse highlight the need for policies that carefully balance accessibility with patient safety. Based on our findings, the increase in misuse is believed to be a consequence of the generalized approach, rather than the individual. A high vaccination rate may be attributed to frequent interaction with healthcare services and increased awareness by medical personnel.

## References

1. Alexander GC, Stoller KB, Haffajee RL, Saloner B. An epidemic in the midst of a pandemic: opioid overdose crisis in the US. *N Engl J Med*. 2020;382(22):e142.
2. Becker WC, Fiellin DA, Desai R. Methadone maintenance treatment and its role during the COVID-19 pandemic. *JAMA Netw Open*. 2020;3(10):e2021306.
3. Centers for Disease Control and Prevention. Mental health and coping during COVID-19 [Internet]. Atlanta (GA): CDC; 2020 [cited 2025 Feb 16]. Available from: <https://www.cdc.gov/mentalhealth>
4. Degenhardt L, Charlson F, Ferrari A, et al. The global burden of disease attributable to opioid dependence: a systematic analysis of the evidence. *Lancet*. 2014;379(9813):156–169.
5. Dubey S, Biswas P, Ghosh R, et al. Psychosocial impact of COVID-19. *Diabetes Metab Syndr*. 2020;14(5):779–788.
6. Holmes EA, O'Connor RC, Perry VH, et al. Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *Lancet Psychiatry*. 2020;7(6):547–560.
7. Joseph G, Torres-Lockhart K, Stein MR, et al. Impact of the COVID-19 pandemic on treatment of substance use disorders. *J Subst Abuse Treat*. 2021;126:108–115.
8. Marmot M, Allen J, Boyce T, Goldblatt P, Morrison J. Health equity in England: the Marmot Review 10 years on. *BMJ*. 2020;368:m693.
9. Nunes EV, Levin FR. Treatment of opioid use disorder with methadone: a review. *JAMA*. 2020;323(5):438–444.
10. Pierce M, Hope H, Ford T, et al. Mental health before and during the COVID-19 pandemic: a longitudinal probability sample survey of the UK population. *Lancet Psychiatry*. 2020;7(10):883–892.
11. Rehm J, Kilian C, Ferreira-Borges C, et al. Alcohol use in times of the COVID-19: implications for monitoring and policy. *Drug Alcohol Rev*. 2020;39(4):301–304.
12. Saloner B, Parish K, Ward JA, et al. COVID-19 and the drug overdose crisis: a collision of epidemics. *Am J Public Health*. 2021;111(5):821–823.
13. Volkow ND. Collision of the COVID-19 and addiction epidemics. *Ann Intern Med*. 2020;172(1):61–62.
14. Wakeman SE, Barnett ML. Primary care and the opioid overdose crisis. *JAMA*. 2020;324(17):1685–86.
15. Wang Q, Berger NA, Xu R, et al. Changes in substance use among people seeking treatment for opioid use disorder during the COVID-19 pandemic. *Drug Alcohol Depend*. 2021; 221:108–115.

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**SUMMARY**

This study assesses the effect of COVID-19 pandemic on Methadone maintenance therapy. We conducted a cross-sectional survey of 120 patients with MMT to evaluate demographic factors, exposure to COVID-19, compliance with public health measures, emotional well-being, and substance use behaviors.

More than half of the patients had laboratory confirmed COVID-19, nearly a third required emergency medical care. During the pandemic, 29.17% of patients have increased their methadone dose, similarly, alcohol and sedative use significantly rose. Implementation of take-home dosing was introduced to ensure treatment continuity and reduce virus exposure, resulted in misuse in some cases – patients reported injecting, sharing or exchanging methadone for other illicit substances.

The study highlights the importance of tailoring treatment to individual needs rather than applying general policies. It shows that for the safety and effectiveness of MMT during public health crises, there should be improved monitoring, increase awareness and balanced policies that prioritize both access and safety.

**Keywords:** COVID-19, Methadone Maintenance Treatment, Opioid, Substance Use, Home Dosing