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Erectile Dysfunction in Men Undergoing Methadone Maintenance Treatment (MMT): An Overlooked Clinical Issue

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Dear Editor

Substance abuse is a significant contributor to mental health consequences, disability and premature death, resulting in elevated economic and healthcare costs, decreased productivity, heightened violence, and poor treatment adherence. Over the last 50 years, the prevalence of substance use has undergone significant changes. The occurrence of drug use and the burden of associated diseases vary greatly across different countries. In Iran, the mortality rate from substance use disorders has risen from 2,621 per 100,000 people in 2000 to 2,689 in 2021. This trend underscores the urgency of addressing this issue and implementing pharmacological, counseling, and psychological interventions (1).

Another study showed the primary mortality metric is Years of Life Lost (YLL), rather than a simple death rate. The key figures from March 2022 to March 2024 which the study analyzed were 11,944 drug-related deaths, reported a total of 387,681.5 Years of Life Lost due to illegal drug use in Iran (2).

Today, various treatment approaches have been proposed to address this health problem, with methadone maintenance treatment (MMT) being the most widely used, effectively reducing the negative consequences of opioid addiction and improving overall health outcomes. However, despite its benefits, patients often experience numerous challenges compared to the general population (3).

One of the most frequently and often overlooked complications among men undergoing MMT treatment is erectile dysfunction (ED). The high prevalence of this problem in this population is due to a combination of pharmacological effects and psychosocial challenges associated with opioid addiction. Methadone, as an opioid agonist, has significant effects on the central nervous system and disrupts hormonal regulation. In particular, it suppresses the secretion of gonadotropins and testosterone, leading to hypogonadism, which causes decreased libido and ED (4-5).

In addition to the physiological changes induced, psychological factors, including depression, also play an important role in the severity and development of this problem, which often causes impaired arousal and erectile function. This problem can create a cyclical pattern in which decreased sexual activity also exacerbates depressive symptoms. Anxiety and panic disorders are also associated with worsening erectile

function and can make sexual experiences distressing events (6-7).

Integrating comprehensive care for ED into standard MMT programs presents several barriers, creating a public health emergency management crisis. A major obstacle in overcoming these barriers is clinical prioritization. Currently, treatment primarily focuses on reducing opioid use, preventing relapse, managing withdrawal, and minimizing harms associated with substance abuse. However, it fails to address other significant consequences such as stigma, shame, poverty, economic hardship, and lack of social support. These issues are further complicated by a lack of knowledge among healthcare professionals, making the management of EDs both challenging and costly (8-10). Accordingly, the treatment of ED in men undergoing MMT requires a comprehensive and patient-centered approach, and hormonal evaluation is essential to determine testosterone levels and assess the potential need for hormone replacement therapy (11). Identifying and addressing depression, anxiety, and prior trauma can also improve sexual health outcomes through counseling or therapy. Pharmacological treatments, including phosphodiesterase inhibitors (PDEs), can be prescribed to relieve symptoms and restore function (12). Educating patients about the potential sexual side effects of methadone and encouraging early intervention can also be helpful. Patients should be encouraged to communicate with their healthcare professionals in a comfortable and non-embarrassing manner. Lifestyle modifications, such as engaging in regular physical activity, quitting smoking, and maintaining a balanced diet, can also help enhance overall health and sexual function (13).

2. Conclusion

Addressing and treating ED among men undergoing MMT is important to improve overall quality of life and adherence to treatment. The nature of this condition, which is caused by drug effects, hormonal imbalances, and psychological factors, requires a comprehensive approach in which regular hormonal assessments, psychological support, appropriate pharmacological interventions, and lifestyle modification are recommended for effective management. In addition, patient education and non-shaming communication with healthcare professionals can facilitate early detection and treatment of complications.

3. Declarations

3.1 Acknowledgments

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3.2 Ethical Considerations

None

3.3 Authors' Contributions

Nader Aghakhani: Conceptualization, Supervision, Writing – original draft. Béatrice Marianne Ewalds Kvist: Writing – review & editing. Javid Fereidoni: English editing. Roya Naderi: Conceptualization, Supervision, Writing – review & editing.

3.4 Conflict of Interest

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