

## Opioid epidemic: Why replacement therapy is part of the answer?

Asma Suleman<sup>1</sup>, Anees Fatima<sup>2</sup>, Ali Madeeh Hashmi<sup>3</sup>

Globally, about 4.7% or 184 million people aged between 15 and 64 are found to indulge in the consumption of illegal drugs annually, with an alarming increment in these statistics.<sup>1</sup> Notably, Pakistan tops the charts for the highest per capita heroin consumption across the globe<sup>2</sup> and the Province of Punjab experiences significant challenges due to its strategic location on a major drug trafficking route, primarily because of opium poppy and cannabis cultivation in the adjacent country, Afghanistan.<sup>3</sup>

Unsafe injection practices among individuals struggling with opioid addiction pose significant risks for contracting HIV and hepatitis.<sup>4</sup> Sharing needles or using unclean equipment can facilitate the transmission of bloodborne viruses such as HIV and hepatitis B and C. The presence of these viruses in contaminated needles or injection paraphernalia can easily spread among users, creating a vicious cycle of infection within communities affected by opioid addiction. Moreover, the impairing effects of opioids can diminish judgment and decision-making abilities, leading individuals to engage in risky behaviours without considering the potential consequences.<sup>5</sup> This not only endangers the health of the individuals directly involved but also contributes to the broader public health burden of infectious diseases. To mitigate these risks, harm reduction strategies such as needle exchange programmes and access to clean injection equipment are crucial, alongside comprehensive addiction treatment and education efforts.

Despite the growing opioid crisis in Pakistan, the current response is insufficient. The government's primary approach involves mandatory detention of individuals with OUD at state-run rehabilitation centres. For this purpose, in the Punjab Province, 10 drug treatment facilities have been established,<sup>5</sup> yet none offer medication-assisted opioid substitution therapy. Instead, the focus remains on managing withdrawal symptoms or the detoxification phase, culminating in 15-day detentions. However, research suggests that such detention measures are rarely successful, as evidenced by high relapse rates among

treated individuals.<sup>6</sup>

### The Role of the Brain in Opioid Addiction

One of the key challenges in treating OUD lies in the brain abnormalities caused by chronic opioid use. Long-term consumption of heroin, oxycodone, and other morphine-derived substances alters the brain's structure and function. These abnormalities contribute to both opioid dependence and addiction. While detoxification during detention may resolve the immediate symptoms of dependence, the underlying addiction-related brain changes persist. These abnormalities are complex and enduring, influenced by a combination of environmental factors, such as stress, social pressures, and genetic predispositions.<sup>7</sup> These factors can drive cravings that lead to relapse even after prolonged abstinence, creating a revolving-door scenario for many individuals with OUD.

OUD is not merely a personal issue; it is a public health crisis that affects families, communities, and the broader socio-economic landscape of Southeast Asia. The high relapse rates seen in Pakistan's current treatment programmes underscore the need for more effective strategies that address both the physical and psychological aspects of opioid addiction.

### The Case for Opioid Replacement Therapy

The World Health Organization, alongside addiction science specialists, advocates for Opioid Replacement Therapy (ORT) as an effective treatment option for opioid dependence.<sup>8</sup> Medications such as methadone and buprenorphine have been proven to considerably lessen overdose risks, and relapse rates, and improve social reintegration.<sup>9</sup> Importantly, these medications also help reset or reverse the brain abnormalities caused by chronic opioid use, making them a key tool in addressing the long-term challenges of addiction.

However, the implementation of ORT in Pakistan faces numerous obstacles. Regulatory barriers, inadequate resource allocation,<sup>10</sup> societal stigma, and a lack of specialized training for healthcare professionals are all contributing factors. These challenges are formidable, but not insurmountable. A coordinated effort involving government agencies, healthcare providers, community leaders, and international partners is essential to overcoming these barriers and making ORT accessible to those who need it.

<sup>1,2</sup>Department of Psychiatry, Punjab Institute of Mental Health, Lahore, Pakistan; <sup>3</sup>Department of Psychiatry, Mayo Hospital, Lahore, Pakistan.

**Correspondence:** Asma Suleman. e-mail: iamasmasuleman@gmail.com

ORCID ID: 0009-0003-5318-7454

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## Conclusion

The opioid epidemic is a multifaceted crisis that requires a comprehensive approach to treatment. While mandatory detention and detoxification may offer short-term solutions, they fail to address the underlying causes of addiction. Opioid Replacement Therapy, supported by harm reduction strategies and proper medical oversight, offers a more sustainable solution for individuals struggling with opioid use disorder. By investing in ORT and addressing the social and regulatory barriers that hinder its implementation, Pakistan can make meaningful strides toward reducing the impact of opioid addiction on its people and its healthcare system.

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## Author Contribution:

**AS:** Concept, design, data acquisition, analysis, revision, drafting and final approval.

**AF:** Data interpretation, drafting, revision and final approval.

**AMH:** Conceptual development, data acquisition, interpretation, drafting, revision and final approval.