



Primal Prevention of Drug Abuse: An Emerging but Unrecognized Public Health Issue

Nouzar Nakhaee^{1*}

¹Neuroscience Research Center, Institute of Neuropharmacology, Kerman University of Medical Sciences, Kerman, Iran

*Corresponding Author: Nouzar Nakhaee, Email: nakhaeen@gmail.com

Citation: Nakhaee N. Primal prevention of drug abuse: an emerging but unrecognized public health issue. *Addict Health*. 2025;17:1653. doi:10.34172/ahj.1653

Received: January 7, 2025, **Accepted:** April 14, 2025, **ePublished:** April 21, 2025

To Editor,

The theme of World Health Day 2025 is “Healthy Beginnings, Hopeful Futures”. It reminds us that the early days of life, both before and after birth, play a fundamental role in ensuring public health. Drug abuse (DA) continues to be a major global public health concern that has devastating impacts on individuals, families, communities, and countries. While rehabilitation and treatment methods have improved, prevention remains the cornerstone of any effective strategy to control DA.¹ Three categories are widely acknowledged in the field of DA when it comes to prevention. Primary prevention targets individuals who are at risk of starting drug use (i.e., modification of risk factors), secondary prevention involves early diagnosis and prompt treatment of DA (i.e., screening), and tertiary prevention focuses on individuals experiencing substance use disorder or suffering from its consequences (i.e., treatment and rehabilitation).² Primordial prevention, which was introduced approximately half a century ago as a health promotion concept, focuses on preventing the emergence and development of risk factors for disease, rather than addressing existing risk factors (i.e., primary prevention) or diseases (secondary and tertiary prevention).³ In the context of DA, the aim is to address the root causes of DA, such as the social, environmental, political, and cultural determinants that predispose individuals or communities to substance use.³ It refers to strategies aimed at preventing the emergence or development of risk factors for diseases, one of the main focuses of which is on the “first 1000 days” from conception to a child’s second birthday.³

The first 1000 days of life are the most crucial period of growth and development in everyone’s life. During this time, the foundations for physical, cognitive, emotional, and social well-being are built.⁴ To guarantee the best

possible brain development at this stage of development, a safe environment, stimulation, and proper nutrition are all crucial. Problems in this period, such as prenatal stress, disrupted microbiome, impaired maternal bonding, maternal deprivation, and adverse childhood experiences, may be related to one’s future drug abuse.⁴ Although the first 1000 days are critical for brain development and numerous studies have explored the connection between challenges during this period and substance use in youth and adulthood, there remains a lack of preventive recommendations customized for this period.⁴

The term “*primal health*”, first coined by French obstetrician Michel Odent in 1986, refers to the health and well-being of an individual during the “primal period,” which he defines as the time from conception through the first year after birth. This perspective is grounded in the idea that experiences during this critical developmental window—such as the mother’s stress levels during pregnancy, the mode of delivery (e.g., natural birth vs. cesarean section), and early bonding between mother and child—can profoundly influence physical and mental health outcomes later in life.⁵ Primal is defined as “first in time and first in importance”.⁶ “Primal prevention” is a relatively new concept in the field of public health and preventive medicine, which owes its emergence to the advances in molecular biology and epigenetics.⁷ It focuses on promoting health by addressing the earliest stages of life, starting even before conception. Primal prevention of DA is a transformative approach, which highlights the role of primordial prevention in the first 1000 days of life. The goal is to create optimal conditions for the physical, emotional, and social development of the fetus and child in the early years after birth, thereby reducing the risk of DA later in life. Primal prevention is based on the belief that “caregiver behavior may be the biggest risk factor” for disease onset and development, and “seeks to capitalize on



the more sensitive early childhood period, in which it is thought interventions may be most effective.”⁸ So, primal prevention of DA can include measures such as:

- Ensuring that future parents -especially mothers- are free from harmful environmental, nutritional, or lifestyle factors, including prenatal stress.⁴
- Prioritizes nurturing environments, responsive caregiving and bonding during the early years.⁹
- Acknowledges that early environmental factors can influence both gene expression and microbiome, affecting long-term mental health.¹⁰
- Mitigating adverse experiences (e.g., neglect, abuse, poverty) in early childhood⁴.
- Health promotion for parents and to be parents (e.g., awareness programs, promotion of healthy diet, overcoming adversities, and legislation).

Conclusion

In conclusion, addressing DA as a global health threat requires a paradigm shift in how we view DA etiology and allocate resources. Primal prevention emphasizes the idea that investing in health during the “primal” period—from conception to the early years of life—can have profound and lasting impacts on the prevention of DA. However, its potential remains unrecognized due to insufficient awareness, policy focus, and resource allocation. Public health stakeholders must prioritize and invest in this neglected yet critical area to fill the know-do gap in the healthcare system. The focus must extend beyond primary, secondary, and tertiary prevention of DA to shape a world where risk factors of DA are minimized from early life and even before conception.

Competing Interests

None.

Ethical Approval

Not applicable.

Funding

None.

References

1. Nelson J, Bundoc-Baronia R, Comiskey G, McGovern TF. Facing addiction in America: the surgeon general's report on alcohol, drugs, and health: a commentary. *Alcohol Treat Q*. 2017;35(4):445-54. doi: [10.1080/07347324.2017.1361763](https://doi.org/10.1080/07347324.2017.1361763).
2. Latimore AD, Salisbury-Afshar E, Duff N, Freiling E, Kellett B, Sullenger RD, et al. Primary, secondary, and tertiary prevention of substance use disorders through socioecological strategies. *NAM Perspect*. 2023;2023:10.31478/202309b. doi: [10.31478/202309b](https://doi.org/10.31478/202309b).
3. Hussain M. Primordial prevention: the missing link in neurological care. *J Family Med Prim Care*. 2021;10(1):31-4. doi: [10.4103/jfmpc.jfmpc_1806_20](https://doi.org/10.4103/jfmpc.jfmpc_1806_20).
4. Mirzaei S, Oroomiei N, Nakhaee N. The first 1000 days of life and the risk of future drug consumption. *Int J High Risk Behav Addict*. 2022;11(2):e123294. doi: [10.5812/ijhrba-123294](https://doi.org/10.5812/ijhrba-123294).
5. Odent M. Primal health: history of a concept. *Midwifery Today Int Midwife*. 2007;81:11, 62.
6. Odent M. Antisocial behaviours from a primal health research perspective. *Midwifery Today Int Midwife*. 2007;81:12-5, 62-3.
7. Bencze Z. Study on preventive healthcare. *Am J Prev Med Public Health*. 2022;8(1):213.
8. Boston J, Gill D. *Social Investment: A New Zealand Policy Experiment*. Bridget Williams Books; 2017.
9. Delavari F, Sheibani V, Esmaeili-Mahani S, Nakhaee N. Maternal separation and the risk of drug abuse in later life. *Addict Health*. 2016;8(2):107-14.
10. Alam R, Abdolmaleky HM, Zhou JR. Microbiome, inflammation, epigenetic alterations, and mental diseases. *Am J Med Genet B Neuropsychiatr Genet*. 2017;174(6):651-60. doi: [10.1002/ajmg.b.32567](https://doi.org/10.1002/ajmg.b.32567).