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**Investigating the Physical Effects of Drug Abuse on the Human Body****Usman Tariq Ranjha**

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Abstract

Methamphetamine addiction has become a growing public health crisis in Pakistan, particularly among individuals aged 15 to 35. This study explores the causes, consequences and challenges of methamphetamine use through the personal narratives of nine participants. Addiction often stems from socioeconomic vulnerabilities, such as poverty, unemployment and academic pressure, with methamphetamine offering temporary relief but exacting a devastating toll on physical health, mental well-being and social relationships. Participants reported severe weight loss, cardiovascular strain and dental decay, alongside feelings of isolation, shame and diminished self-worth. Using a qualitative approach, the research highlights how peer influence, economic hardship and psychological escapism drive methamphetamine use. Despite the profound impact on their lives, participants expressed a shared desire for recovery, underscoring the importance of accessible healthcare, psychological support and economic empowerment. The study also emphasizes the need for preventive education and community reintegration to break the cycle of addiction. This research calls for a compassionate, multidimensional response that addresses not only the symptoms of addiction but also its root causes. Investing in comprehensive rehabilitation programs and systemic interventions can empower individuals to reclaim their lives, rebuild their relationships and contribute to a healthier, more resilient society.

Key Words: Drug Abuse, addiction, Physical Effects, Methamphetamine**1. INTRODUCTION:**

Drug abuse has become one of the most alarming social issues of modern times, affecting individuals, families and entire communities. Among the various substances causing widespread harm, methamphetamine—commonly known as "ICE" or "crystal meth"—stands out as one of the most dangerous. This highly addictive stimulant not only deteriorates physical health but also severely impacts mental well-being, leading users into a cycle of addiction that is difficult to escape (Thompson et al., 2004; Newman et al., 2021). The appeal of methamphetamine lies in its ability to produce an intense and long-lasting high, making it particularly attractive to individuals seeking an escape from life's pressures. However, the same properties that make it desirable also make it one of the most destructive drugs, often leading

to severe physical deterioration, psychological instability and social alienation (Brecht et al., 2008).

In recent years, Pakistan has witnessed a concerning rise in methamphetamine use, particularly among young people between the ages of 15 and 35. Economic hardships, unemployment, academic pressure and social isolation contribute significantly to this growing crisis. The drug is relatively cheap and easily accessible, making it a preferred choice for individuals looking to enhance performance, cope with stress or experience temporary euphoria (Ahmad et al., 2020). However, the long-term consequences of methamphetamine addiction far outweigh its short-lived pleasures. Users often suffer from chronic weight loss, cardiovascular diseases, neurological impairments, aggression and paranoia, leading to irreversible physical and mental damage.

Methamphetamine addiction does not affect the user alone—it has devastating consequences for families and communities as well (Sommers, Baskin, & Baskin-Sommers, 2006). Parents and loved ones watch helplessly as addicts struggle to maintain relationships, perform academically or secure stable employment. Beyond the personal toll, the rise in addiction is linked to increased crime rates, higher healthcare costs and an overall burden on social institutions. University students, in particular, are vulnerable to methamphetamine abuse as they seek ways to manage academic stress and maintain high productivity levels. However, instead of providing a solution, the drug leads them down a destructive path of dependency and self-destruction (Konnoth, 2019; Sanvisens et al., 2021).

Despite the rising prevalence of methamphetamine use in Pakistan, research on its long-term health consequences remains limited. Understanding why individuals turn to this substance, how it affects their bodies and minds and what social factors contribute to its growing popularity is crucial for addressing this crisis (Perera, Steinbeck, & Shackel, 2013). This study aims to explore the long-term physical health outcomes of methamphetamine addiction, shedding light on its impact on users and society as a whole. By raising awareness and examining the broader implications of this epidemic, this research seeks to provide valuable insights for policymakers, healthcare professionals and rehabilitation experts working to combat drug abuse in Pakistan.

The socio-political and economic instability in Pakistan further exacerbates the methamphetamine crisis. Rising inflation, job insecurity and an overall sense of hopelessness drive many individuals, particularly the youth, toward substance abuse as a form of escapism. Methamphetamine, due to its stimulant properties and accessibility, has emerged as a preferred drug among those struggling to cope with these societal pressures. However, its chronic use leads to devastating health consequences, with some cases resulting in fatality. The urgent need for awareness, prevention and rehabilitation programs cannot be overstated.

Given the severity of the issue, this study seeks to answer a critical question: **What are the long-term physical health outcomes of methamphetamine addiction?** Addressing this question is essential in developing effective strategies to curb methamphetamine abuse, protect vulnerable populations and mitigate its far-reaching impact on society. By exploring the physiological and psychological consequences of prolonged stimulant use, this research aims to contribute to a better understanding of the methamphetamine crisis and inform efforts to combat its spread in Pakistan.

2. REVIEW OF THE LITERATURE

Methamphetamine addiction is a global public health crisis, yet its manifestations and consequences vary across cultural, economic and societal contexts. Research on stimulant addiction has highlighted methamphetamine's severe physical, psychological and social

impacts (Anghel, Nițescu, Tiron, Guțu, & Baconi, 2023). While methamphetamine use is a concern worldwide, its effects in South Asia, particularly in Pakistan, pose unique challenges due to economic instability, easy drug availability and limited healthcare resources. This literature review explores the existing research on methamphetamine addiction, focusing on its cognitive and behavioral effects, physical health consequences and socio-economic impact while highlighting gaps in literature that this study aims to address.

Psychological and Behavioral Effects of Methamphetamine

Methamphetamine's impact on mental health is profound, affecting cognitive function, emotional stability and behavior. Initially, users experience euphoria and increased energy, but chronic use leads to severe psychological disturbances, including cognitive impairments, psychosis and mood disorders.

Studies indicate that methamphetamine use impairs memory, attention and decision-making, with these cognitive deficits persisting even after prolonged abstinence (Thompson et al., 2004). Chronic users struggle with executive functioning, reducing their ability to make rational decisions, which exacerbates their addiction. Methamphetamine-induced psychosis is another well-documented phenomenon, characterized by paranoia, hallucinations and delusions. Bramness et al. (2012) found that long-term users are more likely to exhibit aggressive and violent behavior, often resulting in self-harm or harm to others. Additionally, methamphetamine disrupts the brain's reward system, making it difficult for individuals to experience pleasure without the drug. This leads to increased rates of depression, anxiety and emotional instability, reinforcing dependency (Salo et al., 2013; Rommel et al., 2015).

Physical Health Consequences of Methamphetamine Use

Methamphetamine has a devastating impact on the human body, leading to chronic health conditions and increased mortality risks. Long-term users suffer from significant weight loss, cardiovascular strain and neurological damage, which severely impair their quality of life (Perera, Steinbeck, & Shackel, 2013).

One of the most common effects of methamphetamine is severe weight loss and malnutrition. Research by Glasner-Edwards and Mooney (2014) found that methamphetamine users exhibit reduced body mass index (BMI) and deficiencies in essential nutrients, which compromise immune function and overall health. Another well-known consequence of methamphetamine use is severe dental decay, commonly referred to as "meth mouth." Shetty et al. (2019) attribute this condition to a combination of dry mouth, poor oral hygiene and excessive consumption of sugary foods during drug binges. Cardiovascular complications are another serious concern, as methamphetamine use increases the risk of hypertension, heart arrhythmias and strokes. Neurotoxicity is also a major issue, with methamphetamine causing damage to dopamine and serotonin receptors in the brain, leading to cognitive impairments and an increased risk of neurodegenerative diseases such as Parkinson's (Volkow et al., 2020; Edinoff et al., 2022).

Social and Economic Consequences of Methamphetamine Addiction

The effects of methamphetamine addiction extend beyond the individual, impacting families, communities and national economies. Studies show that addiction strains relationships, imposes financial burdens and contributes to increased crime rates (Sommers, Baskin, & Baskin-Sommers, 2006).

Methamphetamine addiction often leads to conflict and estrangement within families. Brecht et al. (2008) found that users frequently experience breakdowns in communication and trust with loved ones, leading to social isolation and stigma. On a larger scale, methamphetamine addiction places a substantial economic burden on society (Abdullahi &

Sarmast, 2019). Users often struggle with unemployment, financial instability and legal troubles. Moreover, healthcare systems bear the costs of treating addiction-related illnesses, while law enforcement agencies allocate significant resources to combat drug-related crimes. Methamphetamine addiction also disrupts communities, contributing to rising crime rates, including theft, violence and drug trafficking. A report by the United Nations Office on Drugs and Crime (UNODC, 2022) highlights that communities with high rates of methamphetamine addiction often experience decreased social cohesion, making it harder to implement effective interventions.

Methamphetamine: A Synthetic Crisis

Unlike cocaine, which is derived from natural sources, methamphetamine is entirely synthetic, produced in illegal laboratories using easily accessible chemicals. This synthetic nature makes methamphetamine both more potent and more affordable, increasing its widespread use (Antai-Otong, 2006).

Globally, methamphetamine is one of the most commonly used synthetic drugs. UNODC (2022) reports that methamphetamine production and consumption have increased significantly in North America and Southeast Asia. In the United States, the drug has been linked to rising overdose deaths, often in combination with opioids like fentanyl (Volkow et al., 2020). In Southeast Asia, methamphetamine trafficking has surged, with Thailand and the Philippines struggling with high addiction rates due to the drug's purity and low cost (Bunting et al., 2021). These trends highlight the adaptability of methamphetamine markets and the difficulty in controlling its production and distribution.

Methamphetamine Addiction in Pakistan

While Pakistan has historically struggled with opioid addiction, methamphetamine use has risen significantly in recent years. Economic instability, academic pressure and the drug's availability through organized trafficking networks contribute to this trend.

The Anti-Narcotics Force (ANF, 2021) reports that methamphetamine is now the second most commonly used drug among urban youth in Pakistan, surpassing traditional substances like heroin. University students, in particular, are vulnerable, as they often turn to methamphetamine to enhance academic performance or cope with stress. Similarly, laborers in physically demanding industries use the drug to endure long working hours and fatigue (Ahmad et al., 2020). This rising prevalence underscores the urgent need for targeted interventions to curb methamphetamine addiction in Pakistan.

Gaps in the Literature

While existing studies provide valuable insights into methamphetamine addiction, significant gaps remain, particularly in the context of South Asia. Most research has focused on the psychological effects of addiction, with limited attention given to its physical health consequences, particularly in resource-limited settings like Pakistan. Furthermore, there is a lack of qualitative studies capturing the lived experiences of methamphetamine users, including their struggles, resilience and pathways to recovery.

By addressing these gaps, this study aims to provide a more comprehensive understanding of methamphetamine addiction in Pakistan. Investigating the physical, psychological and social consequences of methamphetamine use will contribute to evidence-based interventions and inform policies that can help mitigate this growing crisis.

3. METHODOLOGY

This qualitative study explores the lived experiences of methamphetamine users through content analysis and in-depth interviews. The research prioritizes understanding the

emotional, physical and social dimensions of addiction, providing insights to inform future interventions.

Participants aged 15 to 35, recruited from rehabilitation centers, hospitals and harm-reduction clinics, represent various stages of addiction and recovery. This diverse selection captures the influence of socioeconomic, cultural and geographic factors on substance use.

Data collection involves private, semi-structured interviews, focusing on three key areas: initiation into methamphetamine use, its impact on health and daily life and experiences with recovery. This approach ensures meaningful data collection while humanizing participants' struggles and resilience.

The study employs snowball and purposive sampling. Snowball sampling enables access to hard-to-reach populations by using referrals, fostering trust among participants. Purposive sampling ensures the inclusion of individuals with relevant experiences, enhancing the study's depth and focus.

Data analysis follows a thematic content analysis approach. Interview transcripts are coded to identify patterns and themes related to addiction, health consequences and recovery. Special attention is given to social support systems, economic conditions and personal motivations influencing substance use.

Ethical considerations include informed consent, confidentiality and emotional support for participants. All personal data is anonymized and participants are provided with counseling resources if needed. This methodology ensures a balanced, human-centered approach to understanding methamphetamine addiction and informing intervention strategies.

4. RESULTS AND DISCUSSIONS

Methamphetamine addiction severely impacts physical health, mental well-being and social relationships. Rooted in economic struggles, social pressures and emotional distress, it often begins as an escape but quickly leads to dependency and isolation. These experiences highlight the urgent need for compassionate rehabilitation and systemic interventions to address its root causes.

4.1 Demographic Data of Methamphetamine Users

The nine participants in this study represent a diverse cross-section of methamphetamine users in Pakistan, encompassing a range of ages, socioeconomic backgrounds and life circumstances. The table below summarizes their demographic details:

Demographic Data				
Sr. No.	Gender	Age	Employment Status	Marital Status
1	M	35	Employed	Married
2	M	22	Unemployed	Unmarried
3	M	21	Unemployed	Unmarried
4	M	28	Unemployed	Unmarried
5	M	30	Employed	Married
6	M	19	Unemployed	Unmarried

7	M	20	Unemployed	Unmarried
8	M	24	Unemployed	Unmarried
9	M	16	Unemployed	Unmarried

Table 4.1: Participant Demographics

The participants' ages range from 16 to 35, with most being unemployed and unmarried. These demographic characteristics reveal critical vulnerabilities, such as economic instability and social isolation, which often serve as catalysts for methamphetamine use. The youngest participant, a 16-year-old street child, represents one of the most marginalized groups, while the oldest participant, a 35-year-old married laborer, reflects the struggles of balancing familial responsibilities with addiction.

4.2 Economic Hardship as a Catalyst

Economic hardship emerged as a recurring theme in the participants' narratives, illustrating how financial struggles create fertile ground for addiction. Methamphetamine was often viewed as a coping mechanism—a way to endure hunger, escape stress or sustain grueling labor.

4.2.1 Survival on the Streets

Participant 9, a 16-year-old street child, spoke with raw honesty about his battle for survival:

"I didn't have a home or food. Someone gave me meth, saying it would help me survive the hunger. At first, it felt like I found a solution. But now I see it only made my life worse."

For him, methamphetamine was not a recreational choice but a tool to endure the harsh realities of street life. Initially, the drug numbed his hunger and gave him a sense of temporary relief. However, over time, it weakened his

body and deepened his vulnerabilities, leaving him more isolated and desperate.

4.2.2 The Illusion of Productivity

Participant 5, a 30-year-old married laborer, shared how methamphetamine initially seemed like a way to cope with the physical demands of his job:

"The work was exhausting and meth gave me the energy to keep going. But over time, I became dependent. My health got worse and I couldn't work as much. My boss started noticing and I lost my job."

For employed individuals, the drug's stimulant properties provided a deceptive sense of productivity. However, the long-term effects—chronic fatigue, weight loss and declining health—undermined their ability to work, trapping them in a vicious cycle of dependency and economic instability.

4.2.3 Escaping the Weight of Unemployment

Unemployment was another significant factor driving methamphetamine use.

Participant 2, a 22-year-old struggling to find work, described his descent into addiction:

"When you're jobless, everything feels like it's falling apart. A friend offered me meth, saying it would make me feel better. It did for a while, but soon, I needed it just to get through the day."

Methamphetamine offered temporary relief from the stress and despair of unemployment but ultimately deepened his sense of failure and dependency.

The economic burden of sustaining addiction compounded his struggles, pushing him further into poverty.

4.3 Peer Influence and Social Pressure

For many participants, methamphetamine use began in social contexts, driven by peer influence and a desire for acceptance.

4.3.1 The Gateway of Social Experimentation

Participant 3, a 21-year-old unemployed individual, recounted how he was introduced to methamphetamine at a party:

"I was at a party and everyone was doing it. They said it would make me feel amazing, so I tried it. At first, it was just for fun, but then I started craving it all the time."

What began as a moment of curiosity quickly escalated into dependency? The normalization of drug use within his social circle masked its dangers, leaving him unprepared for the consequences.

4.3.2 Misguided Encouragement

Participant 6, a 19-year-old, described how his friends downplayed the risks of methamphetamine:

"My friends made it seem like meth was no big deal. They said it would help me stay awake and have more fun. Now I wish I had never listened to them."

Peer pressure and misinformation played a pivotal role in shaping his decision to try the drug. As addiction took hold, he realized the profound impact it had on his health and social life.

4.3.3 Isolation Within Addiction

As addiction progressed, participants found themselves increasingly isolated.

Participant 4, a 28-year-old, reflected on how his social world contracted:

"I lost touch with my old friends and family. The only people I saw were other users and we weren't really friends. We just used together."

The transition from social experimentation to social isolation was a common trajectory. Methamphetamine users often became estranged from supportive networks, finding companionship only among others trapped in addiction.

4.4 Psychological Escapism

Methamphetamine served as a coping mechanism for participants grappling with psychological challenges, such as stress, loneliness and feelings of inadequacy.

4.4.1 Coping with Academic Pressure

Participant 8, a 24-year-old university student, described the initial allure of methamphetamine:

"I felt like a failure. I couldn't focus on my studies and everything felt overwhelming. Meth gave me the energy to push through, but it also destroyed my ability to function without it."

The drug's stimulant effects offered him temporary relief from academic stress, but it soon became a crutch that undermined his mental and emotional resilience.

4.4.2 Escaping Marginalization

Participant 4, who faced societal stigma due to a physical disability, recounted how methamphetamine provided a fleeting sense of empowerment:

"People treated me like I didn't matter because of my disability. Meth made me feel like I could do anything, but it was all a lie. Now I'm worse off than before."

For him, the drug was both a refuge and a trap, amplifying his struggles while offering the illusion of control.

4.5 Physical Health Effects of Methamphetamine Use

The physical toll of methamphetamine addiction was a recurring theme in participants' narratives, highlighting the drug's devastating impact on their bodies.

4.5.1 Severe Weight Loss

Participant 9:

"I stopped eating completely. Meth made me feel like I didn't need food, but now I look like a skeleton."

4.5.2 Fatigue and Physical Weakness

Participant 6:

"At first, meth made me feel unstoppable. But after a while, I was always tired. Even small tasks felt impossible."

4.5.3 Digestive Problems

Participant 8:

"I couldn't eat without feeling sick. Even when I wanted to eat, my body wouldn't let me."

4.6 Social Stigma and Isolation

The stigma surrounding methamphetamine use compounded participants' struggles, making it difficult to seek help or rebuild relationships.

Participant 5:

"My wife couldn't take it anymore. She begged me to stop, but I couldn't. Eventually, she left me and now I'm all alone."

4.7 Desire for Rehabilitation

Despite their struggles, participants expressed a shared desire for recovery and emphasized the need for accessible support systems.

Participant 7:

"I don't want to live like this anymore. I want to be someone my family can be proud of."

Participant 9:

"I dream of a life where I don't need meth to survive. I want to work, eat and sleep like everyone else."

Their stories underscore the importance of holistic rehabilitation programs that address physical, psychological and social dimensions of recovery.

5. CONCLUSION

Methamphetamine addiction is a profound societal challenge that extends beyond personal failings, deeply affecting individuals, families, and communities. This study has highlighted the lived experiences of those battling addiction, revealing the economic hardships, emotional struggles, and social pressures that drive substance dependence. Methamphetamine often serves as a temporary escape from these difficulties, yet it exacts a devastating toll on physical health, emotional stability, and social relationships. Participants shared harrowing accounts of malnutrition, cardiovascular issues, and dental decay, alongside the deep psychological and social isolation that addiction fosters.

Despite these challenges, a strong desire for recovery emerged, underscoring the need for compassionate and comprehensive interventions. Effective solutions must address the physical and psychological consequences of addiction, provide economic empowerment through education and employment opportunities, and foster social reintegration through community support. Prevention efforts, including educational campaigns, are crucial to breaking the cycle of addiction. Ultimately, overcoming methamphetamine addiction requires a collective commitment to empathy, support, and systemic change. By investing in recovery-

focused initiatives, we not only aid individuals but also strengthen families and communities, fostering a society where healing and transformation are possible.

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