



SOCIOECONOMIC EFFECTS OF METHAMPHETAMINE ON ADDICTS OF DIFFERENT AGES: A CROSS-SECTIONAL STUDY IN PESHAWAR

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ABSTRACT

Introduction: This cross-sectional study addresses the significant impact of methamphetamine (ice) on the socioeconomic conditions of drug users in Khyber Pakhtunkhwa, Pakistan. It draws attention to a concerning global trend highlighted in the World Medication Report (2021), which indicates a rise in methamphetamine use, particularly in Asia, where a significant portion of users resides.

Objectives: The objectives of the study are:

Identify the age at which methamphetamine misuse is more common.

Discuss socioeconomic factors associated with the development of methamphetamine misuse.

Methodology: "A 6-month cross-sectional study (April-Sept 2024) in Peshawar, KPK, investigated the impact of methamphetamine misuse among males. The study, conducted at two rehabilitation centers, included males aged 10-63 with methamphetamine misuse disorder, excluding those with serious comorbidities."

Results: A survey of 115 male patients from two drug rehabilitation centers found that young adults (66.1%) and singles (56.5%) were predominant. The study revealed a positive attitude towards treatment ($p=0.011$) and a trend towards tolerance development and cessation of ICE use ($p=0.056$).

Conclusion: "Methamphetamine misuse is common among young adults, causing social isolation, economic hardship, and financial struggles. This study highlights the need for further research with a more diverse sample to better understand the socioeconomic impacts of methamphetamine addiction."

Keywords: Methamphetamine, Addiction, Interpersonal relationships, financial difficulties, Unemployment, Socioeconomic status

INTRODUCTION

Methamphetamine is a potent synthetic stimulant that acts on the brain's dopamine, noradrenaline, and serotonin neurotransmitters(1). Methamphetamine has been labeled as "America's most dangerous drug" and has received significant public health attention. Methamphetamine deaths are highest in the Western United States compared to the Eastern United States and affect all age groups,

with shifting paradigms of younger populations being affected. Approximately 24 million people use methamphetamine worldwide. (2). Methamphetamine use has sky rocketed among individuals in East and South Asian nations in recent years(1). Dependence is a serious worldwide public health problem associated with major medical, psychiatric, cognitive, socioeconomic and legal consequences.(3).Amphetamine is the parent substance from which methamphetamine was produced in 1893. As of now, there is no pharmacological treatment with laid out proficiency for the treatment of this habit-forming problem, and no drugs demonstrated to be compelling in treating this problem. Methamphetamine also known under the street names of “speed”, “ice”, “crystal”, “glass” “meth” or “kryptonite.”(4).

Methamphetamine influences the thoughtful and parasympathetic sensory system that controls the GI. After a solitary portion, methamphetamine stays in the human body for very nearly seven days. The half-life for methamphetamine is 9-24 hours. The impacts are found in the mesenteric vessels inside the stomach that can prompt intense existential ischemia. Other medical issues initiated by methamphetamine abuse incorporate vasoconstriction, entrail ischemia, stomach squeezing, stoppage, and tissue drying out.(5). ICE provides euphoric, exhilarating, and awake feelings in addicts. It is available in several forms and purities, such as tablets, powder, bases, crystals, and ice. The client puts the ice white powder into the bulb, the wire has been removed from the bulb, warmed with a lighter, and afterward smoked the exhaust. When infused or smoked, it makes an underlying rush that endures a couple of moments yet is very enjoyable. Like other psychoactive medications, long haul utilization of Ice can prompt resistance, which requires an expansion in ice to get a similar degree of fulfillment. (1).

A study found that the widespread availability of methamphetamine, facilitated by border trade and local dealers, poses a significant challenge to curbing its use. Ice use is rapidly spreading, particularly among young people and influential figures, including government officials. Its use has become trendy in social settings, and notably, many users come from respected and educated families. Ice often fuels other substance use, leading to social and financial ruin. Users can become aggressive, causing conflicts with loved ones, and struggle with racing thoughts. To cope, some may turn to sleeping pills for relief and to calm their minds. Our study found that peer pressure played a significant role in initiating ice use. Additionally, many participants had prior experience with polydrug use, particularly cannabis and alcohol, before transitioning to crystal meth. Despite knowing the serious health risks and social consequences, young people in the study still engaged in risky behaviors related to meth use. The lack of public awareness campaigns, such as TV ads featuring the negative experiences of users, has contributed to the problem. Additionally, parental neglect and insufficient oversight, combined with local police being uninformed about new drugs, have exacerbated the issue.(6).Ice use can lead to unemployment due to impaired cognitive function, reduced motivation, and increased absenteeism. Both unemployment and ice use can exacerbate issues like poverty, social isolation, and mental health problems.

The purpose of this cross-sectional study was to investigate the effects investigate and the patterns of ice (crystal meth) use in Peshawar, exploring factors such as initiation, socio-demographic characteristics, financial impact, mental health, and rehabilitation uptake of methamphetamine (ice) on drug users' and the socioeconomic standing in the Pakistani province of Khyber Pakhtunkhwa (PESHAWAR). The World Medication Report (2021), states that just in 2019, across the world, roughly 27million individuals have utilized amphetamine and methamphetamine. This figure looks like 05 percent of grown-up individuals. In 2019, around about a big part of the multitude of clients of amphetamine universally (12.7million) were in Asia (World Medication Report, 2021). The UNODC (2013) delivered a report that in 2013, Pakistan, almost 6.5 million were drug clients while according to UNODC report 2019 this no is rapidly increasing and no clear data on the number of people using drugs is available(7,8) . Khyber Pakhtunkhwa territory was expressed to be generally predominant at 11% of the populace with regards to tranquilize use, and accordingly Sindh at 6.5 percent. In the territory of Baluchistan, very nearly 5% of the populace utilizes drugs while in Punjab territory the figure is around 4.8 percent. The most serious risk going up against

Pakistani society on this matter is the disappointment of the country's organizations entrusted with checking drug use to control the expansion in drug use locally. (3)

Objectives

The objectives of the study are to identify:

- Most common age in which methamphetamine misuse is more common.
- Socioeconomic factors associated with methamphetamine misuse.

METHODOLOGY

This cross-sectional study included male adolescents in Peshawar of the age 10 and above who were identified with “methamphetamine substance use disorder” based on the criteria of Diagnostic and Statistical Manual of Mental Disorders V, an international manual formed by the American Psychiatric Association (appi.org)(9). The sampling technique used was nonprobability convenience sampling and the duration was limited to 6 months starting from April 2024 and ending in September 2024. A sample size of 147 was calculated using Yamane's formula, most commonly used WHO sample size calculating formula which is as following: $n = N/(1+N(e)^2)$.

The variables in this formula are:

n = the sample size

N = the population of the study

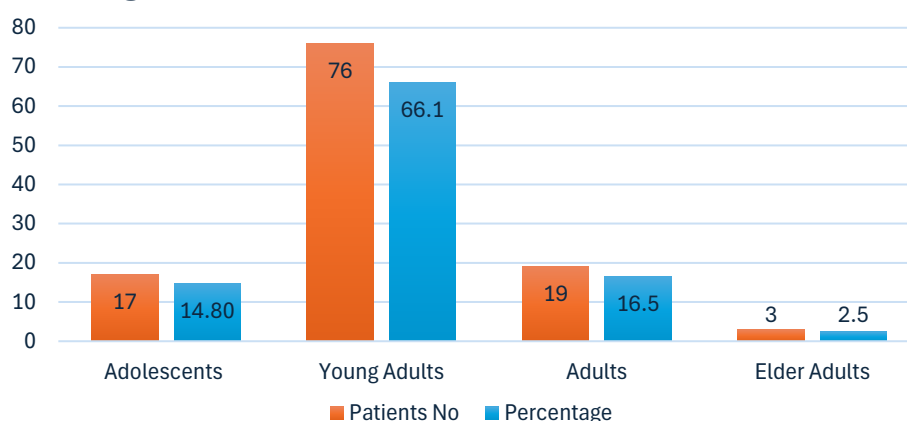
e = the margin error in the calculation

Population size of young males in Peshawar stated as 2198005 according to Pakistan bureau of statistics (pbs.gov.pk/publication/pakistan-demographic-survey-2020) and the margin of error was kept 5%. The study took place in DOST Welfare foundation and Pakistan drug rehabilitation center, Peshawar KPK. The study had no ethical impediments, as approved by the concerned review board before its commencement. The only exclusion criteria followed, was any comorbid physical or mental disorders, known by medical records. The data was collected by visiting the said institutes and using the questionnaire that was designed and piloted as attached (Jan, Khan et al. 2021)(1). The questionnaire comprised of closed ended questions about major socioeconomic factors such as social, occupational and recreational participation, financial management, social stigma etc. The participants were interviewed after a fully informed consent, maintaining anonymity. The consent was completely voluntary and the participants were made aware of their rights to withdraw at any point, if they wished so. The data retrieved was analyzed using statistical package for social sciences (SPSS) and Excel. Frequency and percentages were measured for all variables. Chi-square test was applied to measure the p value.

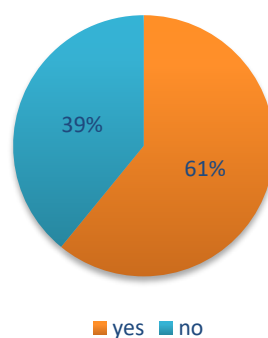
RESULTS

The questionnaire was filled out by 115 patients out of 139 patients of 2 different drugs rehabilitation centers, with 82.73% response rate, achieved in first round. Out of 139 addicts, we were unable to obtain data from the remaining 24 addicts due to lack of consent and unwillingness to answer our questions. All the patients were male. Out of 115 patients, the age distribution is Adolescents (10-18years): 17 (14.8%), young adults(18-25years): 76 (66.1%), adults (26-59 years) :19 (16.5%), elder adults (60years and above): 3 (2.6%). Out of 115 patients 65 (56.5%) were single while 50 (43.5%) were married.

Age Distribution On The Basis Of Addiction



Giving Up Social Activities



Questions	Yes	No
• Were you taking ice in larger amount or for longer time then before?	65.2%	34.8%
• Were you willing to stop using ice when you came for treatment or was forced?	76.6%	23.5%
• Were u spending most of your day getting, using or recovering from the use of ICE?	66.1	33.9
• Did you have cravings or urges for ice?	41.75%	58.3%
• Was your life or home life being affected by this addiction?	66.1%	33.9%
• Did you give up important social, occupational or recreational activities because of ICE use?	60.9%	39.1%
• Did you still use ice again and again, even when it puts you in danger?	67.8%	33.3%
• Did you continue to use, even when you know you have a physical or psychological problems that could have been caused or made worse by ICE?	73%	27%
• Did you need more ice to get the effect you want (tolerance)?	52.2%	47.8%
• Did you develop withdrawal symptoms in its absence?	72.2%	27.8%
• Do you regard the use of ice as a social stigma?	74.85	25.2%
• Do you think people, your relatives do not respect you due to use of ICE?	66.1%	33.9%
• Have your parents/children/brothers complained to you that they have been taunted by people due to your use of ICE?	69.6%	30.4%

• Have you neglected your family because of your use of ICE?	55.7%	44.3%
• Has your family neglected you because of your ICE use?	45.2%	54.8%
• Have you ever engaged in antisocial activities/commit crimes to obtain ICE?	23.5%	76.1%
• Do you participate in any community activities/functions?	42.6%	57.4%
• Have you argued or had a fight with your mother or father?	40.9%	59.1%
• Have you ever had a serious fight in school/college/university or at work?	37.4%	62.6%
• Are you facing economic problems due to use of ice?	48.7%	51.3%
• Are you defaulter due to ICE?	27.8%	72.2%
• Have you sold any property to finance your ice expenses?	26.1%	73.9%
• Have you lost your job due to ICE?	52.2%	47.8%
• Are you unemployed due to ICE addiction?	53.9%	46.1%
• Have you stolen money/jewelry/valuables from your family?	27.05	73%
26. Have you stolen something from a person, shop, car etc?	16.5%	83.5%

The research highlights that although the patients were aware of the problems and difficulties, they were facing due to ICE use, but a significant difference was only observed in their willingness toward their treatment ($p \leq 0.011$) and their physical tolerance towards ICE ($p \leq 0.056$). All the other questions showed an insignificant association ($p \geq 0.05$)

DISCUSSION

The objective of this study is to look into the socioeconomic effects of a psychostimulant drug called methamphetamine in the Peshawar District of Pakistan. It goes by many different names, most commonly 'ice'. Methamphetamine is one of the most addictive stimulants (10). The families of meth addicts often bear a heavy burden, facing social stigma and loss of respect within their communities simply because of their loved one's struggle. In turn, addicts feel isolated, ashamed and unsure where to turn for help. The findings of the current study, each of them analyzed showed that 66.1% of users thought that people including their own relatives did not respect them and were often viewed as outcasts. Empirical studies conducted by the researcher Elizabeth R Hansen et al., 2021 established that meth users faced societal problems (11). Moreover, according to this study, 60.9% of users had given up important social, occupational, and recreational activities which often led to interpersonal problems. This is correlated by other studies as done by McKetin et al., 2005. These interpersonal problems often caused the methamphetamine user's home life to be affected as reported by another 66.1% of them. Moreover, there may be an association between violence and methamphetamine use (12). According to the current study, 37.4% of users engaged in violent behavior while at work. A significant proportion of meth users partake in antisocial behavior especially when ignored by their family members. Methamphetamine is one of the drugs that is strongly related to severe aggressive behavior; high rate of violence and violent crimes (13).

In addition, the study also showed that 52.2% of meth users developed tolerance to the drug. Methamphetamine users often experience tolerance, requiring increasingly higher doses to attain the same level of psychoactive response. Tolerance is a critical aspect of addiction, contributing to the development of dependence and increasing the risk of adverse effects including psychosis.

Furthermore, meth addicts also experienced withdrawal symptoms in its absence as reported by an overwhelming 72.2% of them. A notable study conducted by the researcher May AC et al., 2020 identified that abstinence from the drug resulted in a return to previous aversive emotional states linked to withdrawal and craving (14).

Meth uses also has a significant financial impact on drug users and their families. Drug users not only suffer from physical, mental and social problems but also suffer from financial constraints (3). The desperation that comes with addiction can be devastating. When meth users cannot get their fix, they end up stealing valuables from their family members and friends (3). Unemployment is rampant due

to meth as reported by 53.9% of users in this study. In addition, 48.7% of users reported that they faced economic problems. Furthermore, 23.5% of them admitted to engaging in criminal activities in order to obtain the drug. This is supported by other studies as conducted by Hobkirk et al., 2016 and by Bagheri et al., 2015. The World Drug Report (2020) by the United Nations on drugs and crime also confirms this activity (15). Moreover, while the findings suggest a link between meth use and economic challenges in Peshawar District, it is important to consider alternative explanations. For instance, economic instability in the district and lack of access to basic social and healthcare services. Social stigma and reporting bias faced especially by women might lead to underreporting of meth use. There is still much to uncover about the intricate relationship between meth use, economic challenges and the unique factors at play in Peshawar.

CONCLUSION

This study has identified multiple factors associated with the initiation of use of Ice or crystal meth in Peshawar and concludes that methamphetamine misuse is more common in young adults. Its addiction also leads to social isolation; addicts tend to withdraw from family and social relationships. They also face economic hardship. Its addiction contributes to significant financial difficulties exacerbating poverty and unemployment.

Limitations of this study include the absence of data confirmation from the attendants of the patients, and the limited pool confined to only men and children due to societal norms in KPK. It would have benefitted even more by the presence of the attendants while collecting the data for cross checking purpose and also including women addicts to the study's sample. However, the study still provides insights into socioeconomic effects of methamphetamine on the addicts. Future research on the same topic should be done in the presence of attendants and women addicts to provide a comprehensive understanding of socioeconomic effects of methamphetamine on the addicts.

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