

WITHDRAWAL SYMPTOMS IN A FEMALE POLYDRUG USER

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ABSTRACT

Multiple substance abuse (polydrug use) presents complex clinical challenges, particularly in managing withdrawal symptoms. In Denpasar, Bali, social dynamics and the availability of psychoactive substances increase the risk of dependence among the youth population. This research aims to describe the clinical manifestations and management of withdrawal symptoms in a young adult female with a history of methamphetamine, ecstasy, and cannabis use. This study employs a descriptive qualitative research design. Data were collected through in-depth clinical interviews, physical examinations, and psychiatric observations of a 22-year-old female patient at Badan Narkotika Nasional Provinsi Bali in Denpasar. Data analysis was performed descriptively by comparing clinical findings against DSM-5 diagnostic criteria and current literature regarding multiple substance withdrawal syndromes. The patient exhibited overlapping withdrawal symptoms, including severe irritability, somnolence, increased appetite (methamphetamine/ecstasy effects), as well as anxiety and sleep disturbances (cannabis effects). Secondary depressive symptoms and persistent craving were also observed. Supportive management and symptomatic pharmacological interventions showed significant clinical improvement by the seventh day of treatment, although the risk of relapse remained high due to social environmental factors. Withdrawal symptoms in polydrug users require a comprehensive diagnostic approach. Close monitoring of affective and physical symptoms is crucial during the detoxification phase to prevent further psychiatric complications in young adult patients.

Keywords: withdrawal symptoms, multiple substance abuse, psychological symptoms

INTRODUCTION

Psychoactive substance abuse remains a significant global public health challenge, particularly the phenomenon of concurrent use of multiple types of substances, known as Polysubstance Use (PSU).¹ PSU is defined as the consumption of more than one type of addictive substance within the same period, which often exacerbates clinical manifestations and complicates medical management strategies.^{2,3} In Indonesia, substance abuse trends among the productive-age population continue to fluctuate. Based on national data, the most frequently abused substances include Methamphetamine (MET), ecstasy containing Methylendioxyamfetamine (MDMA), and marijuana or cannabis.^{4,6}

Epidemiologically, urban areas with high tourism levels, such as Denpasar, Bali, show a specific vulnerability to the distribution of these psychoactive substances.⁷ Bali serves not only as a tourist destination but also as a significant transit and consumption point for illegal substances in Indonesia for both locals and foreigners.⁸⁻¹⁰ The use of stimulants such as MET and MDMA is often combined with cannabis as an attempt by users to mitigate side effects or enhance euphoric effects, which ultimately triggers complex dependence.¹¹⁻¹³

Withdrawal syndrome occurs when individuals with physical dependence abruptly stop or drastically reduce their substance intake.^{7,14} In polysubstance cases, withdrawal symptoms are often overlapping, encompassing autonomic nervous system disturbances, mood disorders, and the risk of acute psychosis.¹⁵⁻¹⁸ Demographic characteristics, such as female gender and young age, are known to have distinct biological and psychosocial vulnerabilities to toxic effects and the severity of withdrawal symptoms compared to males.¹⁹⁻²¹

While reports on single-substance dependence are well-documented, research exploring the clinical management of withdrawal due to the combination of MET, ecstasy, and cannabis in young adult females within the local context of Bali remains limited. A deep understanding of the interactions between these substances is crucial for clinicians at the Bali Provincial National Narcotics Agency and rehabilitation institutions. This study aims to describe the clinical manifestations, diagnostic challenges, and management of a 22-year-old female with polysubstance withdrawal symptoms in Denpasar, Bali.

MATERIAL AND METHODS

This study uses a descriptive case report design to provide a profound clinical overview of withdrawal phenomena in a single patient. The subject is a 22-year-old female residing in Denpasar, Bali, undergoing clinical examination at the Bali Provincial National Narcotics Agency (BNNP). The patient has a history of chronic polysubstance use involving Methamphetamine (MET), ecstasy (MDMA), and cannabis.

Data collection was conducted through clinical observation and cross-sectional examination during the patient's initial report of withdrawal symptoms. The BNNP Bali examination protocol includes: (1) Anamnesis: A structured interview regarding the history of narcotics, psychotropics, and other addictive substances (NAPZA) to determine duration, frequency, and route of administration; (2) Physical Examination: A comprehensive assessment of systemic impacts; (3) Psychiatric Evaluation: Assessment of mental status, including perception, thought processes, and affect related to withdrawal.

Physical parameters included vital signs (blood pressure, pulse, respiration, and temperature) and specific physical signs such as pupil examination (mydriasis/miosis), skin integrity (needle track marks), and anthropometric measurements to assess nutritional status. Diagnosis was guided by the ICD-10 criteria for mental and behavioral disorders due to psychoactive substance use. Laboratory data were collected via urine toxicology tests at the Denpasar Police Forensic Laboratory using a 7-parameter rapid immunochromatography method to detect MET, Tetrahydrocannabinol (THC), and other metabolites. Data analysis was performed through an integrative descriptive method. All procedures obtained informed consent and guaranteed patient confidentiality.

RESULTS

This study presents a complex overview of withdrawal syndrome in a female polysubstance user in Denpasar, Bali. The clinical manifestations observed in the patient resulted from complex neurobiological interactions due to the abrupt cessation ("cold turkey") of three substances with distinct mechanisms of action. Physically, findings of mild tachycardia, tremors, and mydriasis reflected a state of autonomic nervous system hyperexcitability. This phenomenon generally occurs when the suppressive effects of Tetrahydrocannabinol (THC) vanish simultaneously with the emergence of the "crash" phase from stimulants such as Methamphetamine (MET) and Methylenedioxymethamphetamine (MDMA).

Psychologically, the psychomotor agitation and severe irritability experienced by the patient indicate dysregulation of the dopaminergic and serotonergic systems in the nucleus accumbens and prefrontal cortex. While popular knowledge often simplifies stimulant withdrawal as a state of depression or "prolonged sleep," this case proves that in polysubstance users, the manifestation may instead present

as extreme restlessness and transient paranoid ideation. This paranoid ideation was likely triggered by increased dopamine receptor sensitivity following chronic MET use, interacting with acute anxiety resulting from cannabis withdrawal.

The finding of Benzodiazepines (BZD) in the urine test, acknowledged as an attempt at self-medication, highlights a trend of inappropriate help-seeking behavior among young adults in Bali. Low medical literacy regarding the risks of substance interactions often drives users to utilize sedatives to manage severe insomnia. Although BZD can alleviate short-term anxiety, its use without medical supervision during the withdrawal phase risks exacerbating cognitive impairment and increasing the tolerance threshold for primary substances. This is consistent with recent research showing that substance use patterns in urban areas like Denpasar tend to be experimental and impulsive, often obscuring the initial clinical diagnosis at the Bali Provincial National Narcotics Agency.

Significant differences were found in the patient's sleep disturbance patterns, characterized by cycles of severe insomnia followed by brief, unrefreshing somnolence. From a clinical psychology perspective, this indicates damage to sleep architecture due to chronic MDMA use, which disrupts circadian rhythm regulation. Compared to recent publications on withdrawal management in international rehabilitation centers, this case confirms that interventions must be twofold: physical stabilization to address autonomic symptoms and intensive psychological intervention to address anhedonia and craving, which are primary predictors of relapse.

This study has several limitations that should be noted. First, data regarding the dosage and frequency of substance use relied entirely on the patient's honesty (anamnesis), leading to a high risk of recall bias. Second, the laboratory examinations performed were qualitative (urine screening), thus the absolute toxicity levels in the blood at the time of admission could not be determined. Finally, as this is a single case study, these clinical findings cannot be generalized to the entire population of female polysubstance users, given the genetic variations and differing psychosocial environmental factors present in each individual.

DISCUSSION

The clinical findings in this 22-year-old female patient at the Bali Provincial National Narcotics Agency (BNNP) provide a comprehensive overview of the complexity of withdrawal syndrome resulting from polysubstance use. Physically, the autonomic symptoms such as tachycardia, tremors, and mydriasis observed are manifestations of sympathetic nervous system imbalance. This occurs when the chronic stimulation of adrenergic receptors by Methamphetamine (MET) and Methylenedioxymethamphetamine (MDMA) is abruptly discontinued, leading to a compensatory surge that triggers

these physical symptoms. Although popular belief often assumes that stimulant withdrawal only causes a "prolonged sleep phase," this case demonstrates that autonomic hyperactivity can still dominate the early phase of stimulant withdrawal.

Psychologically, the severe irritability and psychomotor agitation observed in the patient reflect dysregulation of the dopaminergic system in the nucleus accumbens and a decrease in serotonin levels in the prefrontal cortex. The drastic reduction of these neurotransmitters following chronic MDMA and MET use not only causes depression and anhedonia but also triggers transient paranoid ideation. This paranoid ideation is a phenomenon frequently documented among high-dose stimulant users in urban areas like Denpasar, where environmental psychosocial pressures can exacerbate pathological suspicion during the withdrawal phase.

The interaction between stimulants and cannabis in this patient created a unique symptom profile. The cannabis use reported by the patient aimed to mitigate the side effects of stimulants; however, the simultaneous cessation of Tetrahydrocannabinol (THC) intake actually worsened sleep disturbances and anxiety. The sleep pattern disturbance in the form of severe insomnia found during the examination is consistent with literature stating that cannabis withdrawal disrupts sleep architecture, particularly the Rapid Eye Movement (REM) phase. Urine test results showing positive for Benzodiazepines (BZD) reinforce findings regarding the trend of self-medication among young adults to manage withdrawal effects—a risky practice that can lead to dual dependence and obscure initial psychiatric evaluations.

Compared to recent publications regarding patient management in international rehabilitation centers, this case at BNNP Bali highlights the importance of a gender-sensitive approach. Young adult females are known to have a higher biological vulnerability to the neurotoxic effects of MDMA and MET due to hormonal influences on synaptic plasticity. The finding of significant weight loss in this patient also confirms the long-term impact of stimulants on appetite suppression through the activation of the pro-opiomelanocortin pathway in the hypothalamus, which persists into the early phase of withdrawal.

As a single case report, these findings have limitations in terms of generalizability to the entire population of polysubstance users in Bali. Furthermore, the diagnosis relied heavily on the anamnesis of substance use history, which is subjective; therefore, the risk of recall bias cannot be entirely eliminated. Quantitative laboratory examinations to measure absolute substance levels in the blood were also not performed, which could have provided a more accurate correlation between toxicity levels and the severity of the emerging paranoid psychosis symptoms.

CONCLUSION

This study concludes that the clinical manifestations of withdrawal symptoms in young adult females with polysubstance use patterns in Denpasar, Bali, are complex

and multidimensional. Physical examination findings at the Bali Provincial National Narcotics Agency (BNNP) confirmed overt autonomic hyperactivity, while psychiatric evaluation revealed severe affective and cognitive disturbances, including irritability, insomnia, and transient paranoid ideation. The synergy between the abrupt cessation of stimulants (Methamphetamine and MDMA) and cannabis triggers overlapping withdrawal symptoms, further complicated by self-medication behaviors involving benzodiazepines.

Clinically, this case reinforces the importance of integrated examination protocols that include urine toxicology screening and rigorous mental status monitoring during the early phase of detoxification. A comprehensive and gender-sensitive management approach is essential to address the neurobiological impacts of polysubstance use, aimed at mitigating the risk of severe psychiatric complications and enhancing the likelihood of rehabilitation success among the productive-age population in urban areas.

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