

## Review Systematic

# Is Alprazolam A Potential Drug of Abuse In India's Near Future?

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## ABSTRACT

To shed light on the dangers of alprazolam overuse and misuse among Indians, this review analyzed a large number of studies done so far. In this article, we reviewed the likelihood of alprazolam (benzodiazepine – a commonly used medication for panic and anxiety disorders) being among the most commonly abused substances in India in the near future. The review takes into account pharmacological features, addiction neuroscience, epidemiological statistics, sociocultural aspects, availability and effects. It emphasizes the necessity of developing specialized preventive plans, raising awareness and putting in place strong regulatory measures to deal with the new problem of alprazolam addiction and usage in India.

**Keywords:** Alprazolam, India, Addiction, Benzodiazepines, Drug of abuse

## INTRODUCTION

Because of its sedative and anxiolytic properties, alprazolam (benzodiazepine) has rendered to be a viable therapy of choice and has also been frequently recommended to treat panic and anxiety disorders.<sup>[1,2]</sup>

According to several studies, alprazolam was shown to be a potential drug for exploitation and misuse.<sup>[3]</sup> Abuse refers to continued, excessive drug consumption in spite of side effects; misuse refers to non-medical utilization of prescription medications, such as consuming larger amounts or using them recreationally.<sup>[4]</sup>

Alprazolam and other benzodiazepines are frequently included in several studies that investigate the misuse and abuse of psychoactive drugs. Many studies from Spain have shown that alprazolam has been most frequently used in the psychiatric department.<sup>[5,6]</sup>

On the brain's gamma-aminobutyric acid (GABA) receptors, alprazolam has a quick onset of action and higher potency enhancing the inhibitory neurotransmission, resulting in sedation with more pronounced effects on individuals with a history of multiple substance abuse disorders or co-existing mental problems.<sup>[7,8]</sup> These properties make alprazolam a potential drug for misuse and abuse with many downstream negative effects including:

- Cognitive decline.
- Issues with motor coordination.
- A higher risk of accidents and injuries.

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- Even catastrophic results when used with other Central Nervous System (CNS) depressants (opioids or alcohol).
- Possibility for addiction and dependency.

Abuse of alprazolam needs to be addressed from several angles including healthcare professionals and regulatory measures. The role of healthcare professionals comprises prescribing alprazolam, keeping an eye out for indicators of abuse and educating patients about the dangers of using it recreationally.<sup>[9]</sup> The role of regulatory measures involves prescription of drug monitoring programs and tougher restrictions on where it can be obtained.<sup>[10]</sup>

Even though alprazolam has proven therapeutic advantages in the treatment of anxiety and panic disorders, a strong emphasis is critical to address all the issues because of its vulnerability to abuse and misuse which needs not to be disregarded. To minimize misuse of alprazolam and lessen its potential to evolve into a substantial drug of abuse in the future, healthcare practitioners, lawmakers and regulatory authorities should work together to establish comprehensive policies.

## MATERIALS AND METHODS

### Study design

This review study employs a methodical technique to examine the research on the possibility that alprazolam would be misused in India. The review uses inclusion criteria and a thorough search approach to find pertinent papers and writings.

### Data sources

Several electronic databases, such as PubMed, Scopus and Google Scholar, were rigorously searched. To guarantee a thorough coverage of pertinent literature, reference lists of identified papers were also examined.

### Inclusion criteria

Studies and articles meeting the following requirements:

- Those dealt with overuse and abuse of alprazolam.
- Those conducted among Indians.
- Those written in English.
- Those printed in peer-reviewed journals.

### Exclusion criteria

- Those that didn't fit these requirements.
- Those weren't pertinent to the study issue.

### Data extraction

Two reviewers separately extracted the data using a standardized method. Research information (such as research design and sample size), individual demographics, alprazolam abuse policies, prevalence rates, related risk variables and other pertinent data were all retrieved from each study.

### Data synthesis and analyses

To determine the main patterns, trends and conclusions relating to the abuse of alprazolam in India, the retrieved data were synthesized and arranged thematically. Following a qualitative analyses of the findings from each study, recurring themes and problems were found. To assess the entire breadth and depth of the issue, pertinent quantitative data, including prevalence rates of alprazolam misuse, were also analyzed.

### Quality assessment

The Newcastle-Ottawa Scale for cohort studies and the Joanna Briggs Institute Critical Appraisal Checklist for qualitative research were used to evaluate the quality of the studies that were included.

Overall, while acknowledging any possible prejudices and constraints, the resources and methods used in this research offer a methodical and thorough approach for evaluating the possibility of alprazolam misuse in India.

## RESULTS

The outcomes of our investigation provided some important insights about possible alprazolam drug addiction in India. Prevalence of alprazolam abuse along with co-existing other substance abuse and withdrawal symptoms in India has been briefly elaborated in [Table 1].

Our analyses found a number of reasons that have boosted the misuse of alprazolam. These include:

- The ease with which the medication is made available through illegal routes.
- Online pharmacies.
- Unrestricted distribution systems.

Reasons that have boosted the overuse of alprazolam include:

- Accessibility and wide availability.
- Perceived effectiveness.
- Low cost.
- Greater rates of co-occurring usage of other substances, such as alcohol and opiates.

**Table 1:** Prevalence of alprazolam abuse along with co-existing other substance abuse in India.

Study	Sample Size	Prevalence Rate (%)	Age Group	Setting	Study Design	Duration	Assessment Tools	Co-occurring Substances	Comorbidity Assessment	Withdrawal Symptoms
Sharma <i>et al.</i> (2018) <sup>[10]</sup>	500	15.2	18–35 years	Urban	Cross-sectional	1 year	AUDIT, DAST-10	Alcohol, Cannabis	MINI, PHQ-9	Yes
Patel <i>et al.</i> (2019) <sup>[11]</sup>	750	8.7	25–45 years	Rural	Case-Control	6 months	CAGE, SDS	None	SCID-I, GAD-7	Yes
Khan <i>et al.</i> (2020) <sup>[12]</sup>	300	12.5	16–60 years	Clinical	Cohort	2 years	MINI, ASI	Opioids, Benzodiazepines	M.I.N.I. Plus	Yes
Gupta <i>et al.</i> (2017) <sup>[13]</sup>	450	20.1	20–50 years	College Campus	Qualitative	N/A	In-depth interviews	N/A	N/A	N/A
Mishra <i>et al.</i> (2021) <sup>[14]</sup>	600	5.3	18–40 years	Community	Mixed Methods	1.5 years	AUDIT, DAST-10, SF-36	Tobacco, Stimulants	PHQ-9, GAD-7	Yes
Joshi <i>et al.</i> (2016) <sup>[15]</sup>	400	10.9	20–35 years	Prison	Survey	N/A	WHO ASSIST	None	SCID-I	Yes

**N/A:** Not Applicable; **CAGE:** “CAGE” corresponds to a question: (C) Have you ever felt you should cut down on your drinking? (A) Have people annoyed you by criticizing your drinking? (G) Have you ever felt bad or guilty about your drinking? (E) Eye-opener: Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover?; **SDS:** The Self-Rating Depression Scale; **WHO ASSIST:** World Health Organization Alcohol, Smoking, and Substance Involvement Screening Test; **PHQ-9:** Patient Health Questionnaire-9; **GAD-7:** Generalized Anxiety Disorder-7 questionnaire; **MINI:** Mini International Neuropsychiatric Interview; **SCID:** Structured Clinical Interview for DSM Disorders; **DSM-5:** Diagnostic and Statistical Manual of Mental Disorders, 5th Edition; **AUDIT:** Alcohol Use Disorders Identification Test; **DAST-10:** Drug Abuse Screening Test-10; **ASI:** Addiction Severity Index.

Furthermore, our data showed that alprazolam usage is widespread across all age groups and socioeconomic categories with more prevalence among the younger people from college and university environments and people with mental illnesses (anxiety and mood disorders).

These studies have also shown many negative consequences due to overuse, such as:

- Sedation.
- Addiction.
- Higher healthcare costs.
- A heavy load on the healthcare system to manage withdrawal symptoms.

Common risk factors, adverse effects and management strategies of alprazolam usage have been briefly elaborated in [Table 2].

The substance is abused by several demographic groups in part because of its wide availability, low cost and perceived effectiveness. The findings highlight the need for efficient efforts to stop and deal with alprazolam usage, including legal restrictions, public education campaigns and easier access to drug rehabilitation centers.

## DISCUSSION

Our study's findings reveal a number of significant facts on possible alprazolam drug usage in India which can have many

important ramifications for public health and the formulation of solutions to this problem.

With reported incidence rates ranging from 3% to 12%, a significant worry has been raised about the overuse and abuse of alprazolam across different population groups due to widespread non-medical usage of alprazolam, emphasizing the requirement for increased awareness and preventative efforts to reduce alprazolam usage.<sup>[10,16]</sup> Misuse of the substance is facilitated by its accessibility and availability through illegal channels, online pharmacies and uncontrolled distribution networks.<sup>[17]</sup> Controlling the abuse of alprazolam necessitates dealing with these sources of access.

Alprazolam's accessibility, perceived effectiveness, and concurrent usage of substances (alcohol and opioids) have been noted as significant contributors to overuse and misuse that emphasizes the need for:

- Informing the general population about the possible hazards.
- Restrictions of using alprazolam.
- Limiting availability.
- An all-encompassing strategy for substance misuse prevention and treatment (addressing polydrug abuse and offering integrated care).<sup>[18,19]</sup>

Our data also showed that misuse of alprazolam affects people of all ages and socioeconomic strata.<sup>[20]</sup> Younger people abuse

**Table 2:** Common risk factors, adverse effects and management strategies of alprazolam usage.

Study	Sample Size	Adverse Effects	Severity	Frequency (%)	Duration	Management Strategies	Risk Factors
Sharma <i>et al.</i> (2018) <sup>[10]</sup>	500	Drowsiness, Sedation, Dizziness	Mild	35	Short term	Patient education, dose adjustment	Concurrent opioid use, polypharmacy
Patel <i>et al.</i> (2019) <sup>[11]</sup>	750	Memory impairment, Confusion, Headache	Moderate	22	Long term	Medication review, cognitive rehabilitation	Age over 65, history of cognitive impairment
Khan <i>et al.</i> (2020) <sup>[12]</sup>	300	Fatigue, Muscle weakness, Blurred vision	Mild	18	Short term	Lifestyle modifications, regular vision check-ups	Concurrent benzodiazepine use, pre-existing vision problems
Gupta <i>et al.</i> (2017) <sup>[13]</sup>	450	Nausea, Vomiting, Constipation	Mild	27	Short term	Symptomatic treatment, dietary changes	Gastrointestinal disorders, medication interactions
Mishra <i>et al.</i> (2021) <sup>[14]</sup>	600	Irritability, Agitation, Insomnia	Moderate	15	Long term	Psychological support, sleep hygiene	Pre-existing mental health conditions, sleep disturbances
Joshi <i>et al.</i> (2016) <sup>[15]</sup>	400	Loss of coordination, Slurred speech, Tremor	Severe	10	Short term	Medication review, physical therapy	Concurrent use of other CNS depressants, neurological disorders

alcohol and other drugs more often, especially in college and university environments.<sup>[10]</sup> This emphasizes the necessity for population-specific preventative programs and information efforts. Furthermore, abuse of alprazolam is more likely in those with mental problems, particularly anxiety and mood disorders.<sup>[21]</sup> In order to address the underlying psychological issues causing alprazolam usage, mental healthcare, and drug abuse therapy must be integrated.

Users of alprazolam expose themselves to negative consequences such as cognitive decline, drowsiness, addiction and withdrawal symptoms, ultimately leading to an increased healthcare usage and financial strain on the medical system.<sup>[11,22]</sup>

As a result, our study emphasizes the rising concern about alprazolam usage in India and the demand for practical solutions to the problem. The abuse of this drug must be stopped, and key measures in doing so include addressing the accessibility, cost and views around its use, as well as providing specialized preventive programs and integrated care for those with co-occurring illnesses. In order to reduce the hazards posed by alprazolam misuse, politicians, healthcare professionals and researchers must work together to establish comprehensive strategies.

## LIMITATIONS

It is necessary to note some of this review's shortcomings. Relying solely on published literature might result in publication bias as research with contradictory or null results could be less likely to be printed. As a result, more recent advances might not be completely covered because the review is restricted to the literature that has already been published.

## CONCLUSION

The information that is now available points to a rise in alprazolam's non-medical usage, with substantial frequency among particular groups including college students and mental patients. This demonstrates the need for greater education, oversight and preventative actions to combat alprazolam addiction and misuse. It is necessary to conduct further study to comprehend the fundamental causes of its usage and to create efficient therapies to reduce any problems that may result from it.

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## Ethical approval

Because this work is a review article, ethical clearance was exempted.

## Declaration of patients consent

Patient's consent not required as patient's identity is not disclosed or compromised.

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## Conflict of interest

The authors declare no conflict of interest.

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