

Self-reported Tianeptine Experiences: A Mixed-Methods Study of Reddit Users



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BACKGROUND

Tianeptine is an atypical tricyclic antidepressant. Although not approved for use in the US, it is widely available for purchase from unregulated markets such as gas stations, smoke shops, and the internet. At high doses tianeptine is a mu opioid receptor agonist, and is informally called 'gas station heroin'. Anonymous online forums such as Reddit may offer insight into the use patterns and experiences of this emerging drug of misuse.

METHODS AND SAMPLE

- All Reddit data from 2005 to December 2023 collected using the pushshift.io application programming interface (API).
- Relevant non-standard or street names for tianeptine were identified by:
 - manually searching the Internet
 - reviewing posts that mentioned tianeptine to discover additional references to the substance
 - using a word2vec model to identify expressions, including multi-word expressions, that are semantically similar to tianeptine, and manually selected relevant ones
 - Our final list consisted of the following terms: tianeptine, neptune's fix, neptune's elixir, zaza red, pegasus red, tianaa, pegasus, zaza, td red, gas station heroin, gas station dope.
- We re-ran our search using these identified keywords and selected a random sample for manual review. We qualitatively evaluated the sample of posts to identify common themes surrounding tianeptine use.

RESULTS

18,941 Reddit posts were identified between 2005-2023. Tianeptine and relevant keyword mentions increased sharply over the last two years (2021: 527 posts; 2022: 1,555 posts; 2023: 2,358 posts). 5 common themes are described below. 28% of posts (n=14) commented on kratom in addition to tianeptine. Three posts discussed access to tianeptine in the setting of state-level bans, and one post discussed suspected adulteration of a tianeptine product.

| Theme (n, %) | Example |
|---|--|
| Tianeptine dependence (n=12, 24%) | And then I tried tianeptine. Out of all the things that I've ever tried, tia was the one that absolutely took me out. The rush was insane. All my problems and worries: gone in ten minutes. That was it. And a few family emergencies and hardships later, of course I became a daily user. As my expenses skyrocketed, it was only the reduced overhead during COVID quarantine that kept me from total destitution. And then, when my tolerance rose higher and higher, I added back kratom in, so I could stay afloat. My tolerance was so absurd, that I was taking almost 3 grams of pure tianeptine sodium + a tablespoon of kratom in one sitting. I was starting to get weird side effects, like consistent twitching. |
| Withdrawal symptoms and management (n=11, 22%) | "I experienced severe withdrawals: Cold-sweats all day, diarrhea, confusion, near-panic, and extreme nausea and head pain. I felt like I wanted to die" |
| Tianeptine use and opioid use disorder (n=10, 20%) | "So I'm supposed to be on Suboxone for opioid use disorder. I stopped taking my subs like 3 or 4 weeks ago and had a huge tianeptine binge...well anyways I haven't taken tia for like 30hrs...to deal with the WD symptoms I've been taking kratom extracts...Would I be able to start taking my suboxone again...?" |
| Substances coingested (n=7, 14%) | I ran out of opiates so I decided to give tianeptine a try. I added some Lyrica, 4mg Clonazepam and 2mg ativan but the MVP here is the robitussin right there. DXM potentiates opiates really hard it seems 🤔. And it looks like some fire red lean. It's a MUST when you do opiates you get x2 the effects |
| Use for pain and depression (n=6, 12%) | From the 'Gastritis' subreddit: "When PPI and antidepressant is just not doing it, what are your go to drugs that help you take the edge off? I usually take tianeptine for those occasions" |

CONCLUSIONS

Reddit posts regarding tianeptine and related keywords increased sharply over the past two years. Thematic analysis highlighted the risk of dependence on tianeptine and its use as a management strategy for OUD, depression, and pain. Mentions of Kratom alongside tianeptine suggest overlap in the populations using both of these unregulated substances. Overall, this study highlights tianeptine as a drug of public health concern.

DIVERSITY, HEALTH EQUITY, AND INCLUSIVITY

People who use drugs experience often experience stigma in the healthcare system, and this extends to the medical literature. The anonymous site Reddit has therefore become a popular hub for discussion and sharing of information. By analyzing the contents of such posts, this study helps to elevate such voices and experiences while maintaining anonymity. Ultimately, we hope these efforts lead to improvement in such individuals' medical care and treatment outcomes. Additionally, our submission represents a diverse collaboration between addiction medicine and medical toxicology trained physicians, and biomedical informatics specialists and software engineers across several institutions.

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