Prevalence of Pharmaceutical Anti-Depressant Non-Medical Use in the United States

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Prevalence of Non-Medical Use of Antidepressants is Not Known

Non-medical use (NMU) of psychoactive drugs other than opioids, stimulants, and sedatives/tranquilizers is understudied.

Review of NMU of antidepressants found primarily case reports\(^1\) and novel psychoactive substances are increasingly implicated for abuse\(^2\).

**Study Goal:** Conduct descriptive study of prevalence of NMU of antidepressants in the US general population, describing reasons for NMU. Examine trends across COVID-19 pandemic.
Study Design and Methods
Study Design: Data Source Description

• Survey of Non-Medical Use of Prescription Drugs (NMURx) Program
  • Target population: All adults in the US
  • Sampled from an online commercial panel company
  • Non-probability sampling adjusted using calibration weights (raking)
  • Calibration conducted using both demographic and health characteristics
• Asks about use of multiple prescription drug classes, including antidepressants
  • Asks about detailed reason for use for each drug
• Key measures in survey shown to be valid\(^3\) and reliable\(^4\)
Study Design: Sample Collection

• 120,000 participants collected in semi-annual waves across 2 years (30k per wave)
  • Pre-COVID period: 3rd quarter 2019, 1st quarter 2020
    • Closed 12 March 2020, 5 days before first US lockdown
  • During COVID period: 3rd quarter 2020, 1st quarter 2021
  • ~70-80% participation rate per wave

• Participants weighted per wave using 3 demographics (sex, age, region) and 2 health (smoking, limitation in activity)

• Data cleaning included careless response exclusions
Study Design: Drug Use Questions

• Respondents asked about NMU: “Have you used the prescription antidepressant below in a way not directed by your healthcare provider in the last 12 months?”
  • Citalopram, escitalopram, fluoxetine, sertraline, trazodone
  • Highest antidepressant retail dispensing circa 2019, 3rd quarter

• Respondents are asked follow-up on: “In the last 12 months, what are all the reasons you used [DRUG] in a way not directed by your healthcare provider?”
  • Reasons listed as check-all-that-apply; order randomized

• Use DAST-10 as proxy for problematic drug use
Study Design: Statistical Analysis

• Estimated number of adults and percentages

• 95% confidence intervals bootstrapped by resampling respondents
  • Respondents can return in different calendar years (~10% of antidepressant sample)
  • Adjusts CIs for correlated responses across calendar years
  • Formal statistical tests not conducted at this time; results only descriptive

• Estimates presented by period: Pre-COVID & During COVID
Results and Conclusions
Prevalence of Antidepressant NMU

From 3rd quarter 2020 to 1st quarter 2021...

• Estimated 41M adults used an antidepressant in the last 12 months for any reason (16% national prevalence)
• Among adults who used, 15.7% used non-medically (6.5M adults)

Among adults using non-medically...

• NMU of trazadone alone was the most frequent, though similar to those using sertraline, fluoxetine, or multiple drugs
• NMU of citalopram & escitalopram were smaller and similar
Characteristics of adults who NMU

Compared to adults who use as directed, adults who NMU are more likely to be/have...

- Male
- Younger
- From West vs Midwest
- Hispanic, Asian, or Black
- In substance use treatment
- Problematic drug use markers

Less likely to have...

- Anxiety or Depressive Disorder diagnosis
Expect some seasonal variation, but lack of long-term data makes results only suggestive.

Adults who use as directed was mostly unchanged from prior to pandemic to during the pandemic.

Adults who non-medically used appeared to increase during the pandemic.
Reasons for NMU

- Use to treat anxiety and depression are most common (unsurprisingly)
- Other reasons for use are prevalent (>1M adults), including
  - Treating pain
  - Helping motivation
  - Helping stress
  - Giving energy
- Use to get high is uncommon
  - Consistent with low abuse potential studies
- Use to hurt oneself low
  - Huge increase during pandemic
- More people were using for all reasons during the pandemic
Strengths and Limitations

**Strengths**
- Nationally representative sample
- Validated control for composition bias
- Online data collection not impacted by pandemic restrictions

**Limitations**
- Only top 5 drugs by dispensing collected
  - Bias toward underestimated antidepressant use
- Repeat respondents ignored
  - Bias toward underestimated drug use
- Insufficient prior data to analyze numeric trends across pandemic
  - Results only descriptive/suggestive
Conclusions

• Descriptive study estimated 6.5M US adults non-medically use antidepressants throughout the year

• Characteristics indicate concurrent problematic drug use and unrecognized mental health conditions among adults who NMU

• Increased NMU in pandemic period, but no increase in use as directed, suggests mental health needs going untreated by professionals
  • Nearly doubling use to harm oneself particularly concerning

• Residual pandemic challenges (economic instability, restricted healthcare) could mean NMU continues well beyond the immediate pandemic
References


Thank you!
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RADARS® System
Backup
Coverage

Source: RADARS® System Survey of Non-Medical Use of Prescription Drugs Program
Surveillance period: 2020

Respondents