

# Consequences of Benzodiazepine-Induced Neurological Dysfunction: A Survey

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## INTRODUCTION

- Protracted withdrawal symptoms after benzodiazepine (BZ) discontinuation occur in 15-44% of long-term users<sup>1</sup>
- Ashton (n=50) noted symptoms lasting over a year after BZ discontinuation<sup>2</sup>
- While the literature is sparse, there are thousands of accounts online reporting prolonged, distressing symptoms after BZ discontinuation<sup>3</sup>
- A large survey of BZ users described induced and sometimes de novo symptoms, many lasting over one year and accompanied by adverse life consequences<sup>4,5</sup>
- The term benzodiazepine-induced neurological dysfunction (BIND) describes these functionally limiting symptoms that are the consequence of neuroadaptation and/or neurotoxicity from BZ exposure<sup>6</sup>
- **Objective:** to describe and quantify the life consequences associated with prolonged symptoms in BIND patients



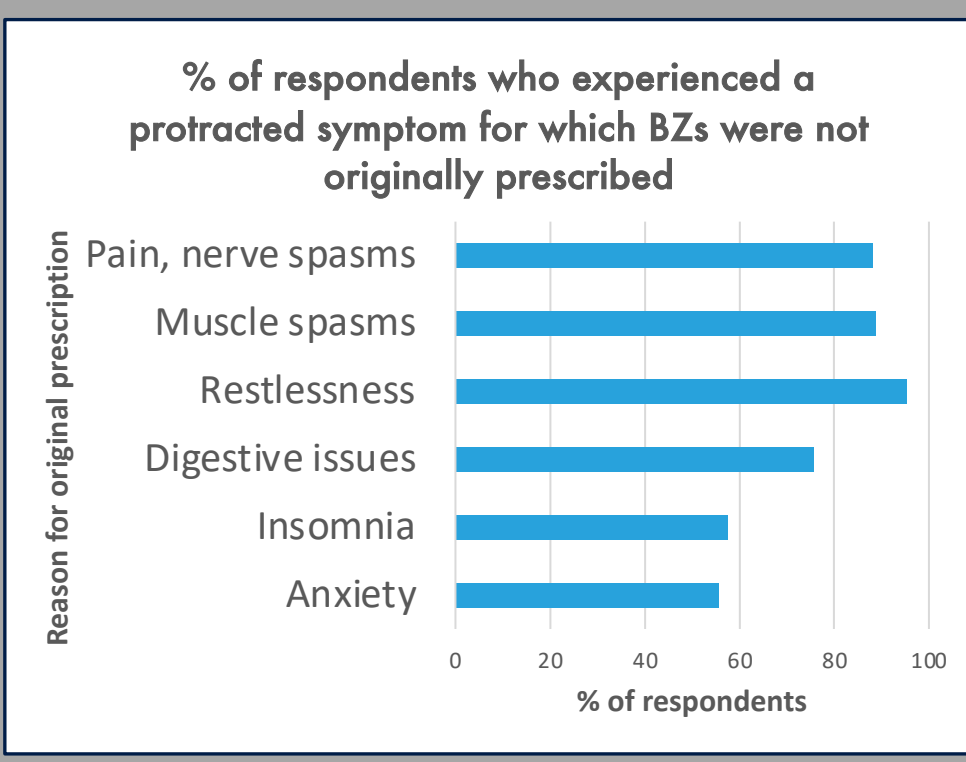
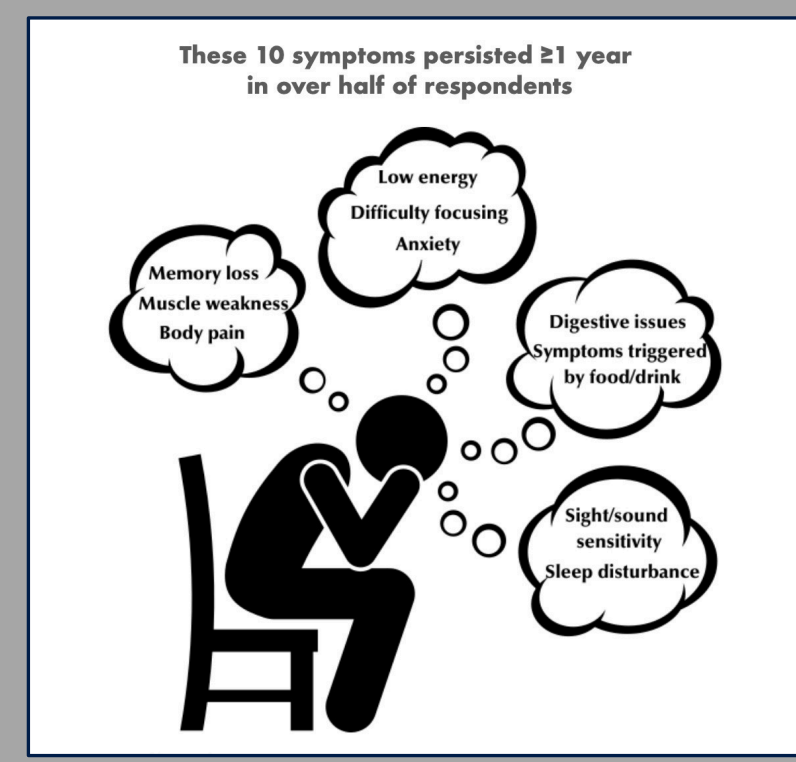
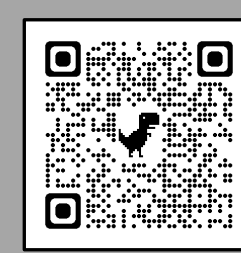
## METHODS

- Secondary analysis of data from a previously published survey on experiences with BZ use, tapering, and discontinuation<sup>4,5</sup>
- Symptoms and adverse life consequences queried in the survey were generated from the scientific literature and lived experiences from online support communities
- Link to the survey was posted on 16 internet sites related to BZs, general health, and mental health
- Using an SQL Server data model, customized queries were used to obtain correlations among the data
  - Compared conditions for which BZs were prescribed to protracted symptoms reported post-discontinuation
  - Adverse life effects were correlated to protracted symptoms

## RESULTS

- Respondents (n=1207) were taking a full dose (11.3%), tapering (24.4%), or had fully discontinued BZs (63.2%)
- Of all affirmative answers to symptom questions, 76.6% reported duration to be months or ≥1 year
- A majority of respondents (**79.3%**) reported **6-13 life consequences** attributed to BZs (average 8.1 of 16)

Demographics, prescribing indication, and more here:



**Table 1.** Specific life consequences correlated to symptoms attributed to BZ use. A total of 23 symptoms could be selected. For all life consequences, the average duration of symptoms was ≥1 year. In the subpopulation that stated “none of these apply,” on average, symptoms lasted days or weeks

Specific adverse life consequences	Total reporting (% of total)	Average number of symptoms
Significantly affected marriage, other relationships	686 (56.8%)	18.2
Suicidal thoughts or attempted suicide	657 (54.4%)	18.3
Lost a job, fired, became unable to work	585 (46.8%)	18.5
Experienced significant increase in medical costs	494 (40.9%)	18.5
Loss of wages or lower wages in a reduced job capacity	394 (32.6%)	18.4
Lost savings or retirement funds	322 (26.7%)	19.1
Violent thoughts or actual violence against others	284 (23.5%)	19.3
Lost a home	152 (12.6%)	19.2
Lost a business, if business owner	101 (8.4%)	18.4
Lost child custody	31 (2.6%)	20.9
None of these apply	225 (18.6%)	8.06

**Table 2.** Respondents who had completely discontinued BZs for at least 1 year (n=426) rated the severity of 6 general life consequences on a scale of 1-6 (6 being most severe).

General life consequences	Not at all a problem, mild problem, or moderate problem (1,2,3)	Severe, quite severe, or enormous problem (4,5,6)
Fun, recreation, hobbies	70 (16.4%)	356 (83.6%)
Work life	88 (20.7%)	338 (79.3%)
Social interactions, friendships	99 (23.2%)	327 (76.8%)
Ability to take care of home, others	117 (27.5%)	309 (72.5%)
Relationships with spouse, family	133 (31.2%)	293 (68.8%)
Ability to drive or walk	188 (41.4%)	238 (55.9%)

## DISCUSSION

- This analysis shows that enduring symptoms and adverse life consequences emerged de novo with BZ use and discontinuation
- Statistical correlations between specific life consequences and symptoms could not be drawn, but it appears that enduring symptoms played a role in the damaging life consequences experienced by respondents
- Limitations
  - anonymous, self-selected group of respondents
  - no exclusion criteria or control group
- While most BZ users do not develop BIND, given that BZs are so widely prescribed, it is likely that the subset of patients with BIND represents a substantial population
- The risk factors for BIND are not currently known
- Practical, evidence-based, safe, and effective approaches are urgently needed for BZ deprescribing and managing the enduring neurological sequelae of BZ use
- Some patients wrote in comments that they felt healthcare professionals disbelieved their long-lasting symptoms. Perhaps reifying this condition with the term BIND may encourage appropriate treatment, compassion, and future investigations

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