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Factors Associated With High Dose Benzodiazepines Use in Long-Term Users With Depressive and/or Anxiety Disorders

Yu-Ting Chen, PhD, RN

Chang Gung University School of Nursing College of Medicine, Tao-Yuan, Taiwan

Purpose:

Patients suffered from Depressive or Anxiety disorders are at high risk for Benzodiazepines (BZDs) long term use and overdose. Daily dose of BZDs consumption is concerned for criteria of appropriate BZDs use and have been recommended not to exceed. It is found that high dose of BZDs was associated with more adverse physical condition and cognitive function in terms of prolonged reaction time for long term users. The purpose of this study is to examine factors associated with high dose of BZDs use among BZDs long term users with Depression or Anxiety diagnoses.

Methods:

We have conducted a cross-sectional study from outpatient department of two hospitals, including one medical center and one psychiatric hospital. Patients who suffered from Depressive or Anxiety disorders and have taken BZDs daily for more than 3 months were recruited. The types and dosage of prescribed BZDs were collected. The defined daily dose (DDD) was used as a unit to measure patients' consumption of BZDs, and dose were summed up when more than one type were used. Other measured data include physical diseases, anxiety and depression state, insomnia state and sleeping quality, pattern of healthy life activity, social-related factors such as perceived stress and social support, risk awareness of BZDs use in terms of the necessity versus the concerns of using BZDs, and severity of BZDs dependence. Hierarchical logistic regression was applied to determine factors associated with high dose of BZDs use (daily dose >1 DDD).

Results:

A total of 332 patients were agreed and recruited, with 33% of men and almost 67% women. Up to 40 % of the participants were aged 60 and older, and about 36% were employed. Most of them (88%) lived with families, and 68% lived with their spouses. More than half (59%) of the participants exercised regularly in the past 2 weeks. About 77% patients received antidepressants treatment. More than one third of the patients were comorbid with chronic diseases. Results of the PSQI showed 93% of the patients suffered from bad sleep quality; 36% failed to fall asleep within 30 minutes (sleep latency), over 75% patients slept less than 7 hours in average at night and more than 62% experienced midnight or early morning wake up 3 times or more per week. The average score of BAI and BDI were 8.41 and 9.54, 60% and almost 72% and 60% of the patients were in minimal anxiety and depression state separately. The average length of BZDs use was 7.1 years, and up to 89% use BZDs more than 6 months. About one third of patients used BZDs more than 1 DDD daily. Clonazepam was the most commonly prescribed BZDs (38.9%). Results from univariate analysis showed patients characteristics significantly related to BZDs daily dose more than 1 DDD were aged less than 60 years old (OR=0.57, 95%CI=0.34-0.92), not regularly exercised (OR=0.58, 95%CI=0.36-0.92), felt needs more than concerned of BZDs use (OR=0.47, 95%CI=0.29-0.80), more suffered from insomnia(OR=1.05, 95%CI=1.01-1.09), higher level of anxiety (OR=1.04, 95%CI=1.02-1.07), higher level of depression (OR=1.04, 95%CI=1.02-1.06), perceived more stress (OR=1.09, 95%CI=1.03-1.15), higher dependence on BZDs use (OR=1.14, 95%CI=1.05-1.25), and took more BZDs than prescribed (OR=1.92, 95%CI=1.40-2.62). Multiple logistic regression was performed by selecting significant variables ($P<.05$) from univariate analysis. Results showed that patients who felt more need than concern of BZDs use (AOR=0.44, 95% CI=0.25-0.77) and took BZDs more than prescribed (AOR=1.59, 95% CI=1.14-2.24) were independently associated with BZDs use >1 DDD. Higher level of depression were nearly associated with BZDs use > 1 DDD (AOR=1.03, 95% CI=1-1.06).

Conclusion:

Gradual dose reduction of BZDs use along or combined with other psychological intervention have been applied to help patients on discontinuing the use of BZDs. Therefore understanding the factors that motivate patients and barriers in reduction of BZDs use is critical. In our study, poor risk awareness and taking BZDs more than described were two strongest factors that related to higher dose of BZDs use. Previous studies have found that withdrawal symptom was the most difficult situation and resulted in searching for pharmacotherapy from clinics. Our study reveals the phenomenon patients with higher dose of BZDs use were more dependent on it, and patients chose to take BZDs additionally first when they feel need. Providing alternative treatment instead of taking medicine is suggested when patients feel anxious or have problem in maintaining sleep quality. Healthcare providers might need to help patients to aware of their attitude and myths in BZDs use, and understanding the potential harm for high dose use of BZDs. Additional strategy such as establishing regular exercise, stress management and adopting useful coping skill might be helpful for reduction of BZDs dose. We expect the result of this study provide more information for healthcare providers in developing intervention for discontinuation of BZDs use.

Title:

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Keywords:

benzodiazepines, dose and long term use

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Abstract Summary:

We expect the findings draw attendees' attention on the high dose of benzodiazepines (BZDs) use among this population and its risk factors, and providing information for healthcare providers to develop additional strategies for long term users in assisting gradual reduction of BZDs use.

Content Outline:

I. Introduction

- Adverse effect of BZD long term use and overdose
- High prevalence of BZD long term use and Patterns of use in patients with anxiety /depressive disorders
- Recommended criteria of appropriate BZDs use
- Purpose of this study

II. Methods

- Study design: cross-sectional study
- Participants: Patients who suffered from Depressive or Anxiety disorders and have taken BZDs daily for more than 3 months were recruited.
- Place of recruitment: psychiatric outpatient department from a medical Center and a psychiatric hospital
- Measurement:
 - Daily dose of BZDs measured by defined daily dose (DDD)
 - Anxiety and depression state: Beck Anxiety Inventory (BAI) and Beck Depression Inventory (BDI)
 - sleep-related variables: severity of insomnia (Insomnia Severity Index, ISI), sleeping time at night, sleep latency, midnight or early morning wake up
 - Severity of BZD dependence: Severity of Dependence Scale (SDS)
 - Risk awareness / Beliefs about BZD use: Beliefs of Medicine Questionnaire-Specific (BMQs)
 - social-related factors: perceived stress (Perceived Stress Scale, PSS) and social support (Multidimensional Scale of Perceived Social Support, MSPSS)
 - health-related behaviors: exercise, current smoking and drinking state

III. Results

- Distribution of socio-demographic characteristics from 332 participants
- Prevalence of length and high dose of BZD use: The average length of BZDs use was 7.1 years, and up to 89% use BZDs more than 6 months. About one third of patients used BZDs more than 1 DDD daily. Clonazepam was the most commonly prescribed BZDs (38.9%).
- Comparison of BZD daily dose > 1 DDD and <= 1 DDD among different socio-demographic characteristics, health-related, clinical indicators, risk awareness and social-related factors
- The association of severity of BZD dependence, anxiety and depression level with BZD daily dose > 1 DDD by univariate analysis.
- Determinants of Length of BZD use: felt more need than concern of BZDs use and took BZDs more than prescribed were independently associated with BZDs use >1 DDD; higher level of depression were nearly associated with BZDs use > 1 DDD

IV. Conclusion

- Patients with anxiety or depressive disorders is identified as a high risk group of BZD over use.
- Gradual dose reduction of BZDs use along or combined with other psychological intervention have been applied to help patients on discontinuing the use of BZDs. Helping patients to overcome the dependence of BZDs and needs of additional use is critical.
- Providing alternative treatment instead of taking medicine is suggested when patients feel anxious or have problem in maintaining sleep quality.
- Healthcare providers might need to help patients to aware of their attitude and myths in BZDs use, and understanding the potential harm for high dose use of BZDs.
- Additional strategy such as establishing regular exercise, stress management and adopting useful coping skill might be helpful for reduction of BZDs dose.

First Primary Presenting Author

Primary Presenting Author

Yu-Ting Chen, PhD, RN

Chang Gung University School of Nursing College of Medicine

Assistant Professor

Kwei-Shan

Tao-Yuan

Taiwan

Author Summary: Specialty in Psychiatric Nursing, past research work on secondhand tobacco control, current research on Benzodiazepine long term use among patients with anxiety or depressive disorders.