Introduction

Benzodiazepines (BZDs) have been widely used to treat insomnia and anxiety, however the risk of adverse health effect caused by long term use is high. Patients suffered from Depressive or Anxiety disorders are at high risk for BZDs long term use and overdose. Our previous study on patients with Depression or Anxiety disorders showed that Outpatients departments showed 94% of these patients took BZDs longer than 6 months. Daily dose of BZD consumption is equally 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.

Objectives

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 Depression 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 lived with families that 68% lived with their parents. More than half of the (93%) 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 disease. Results of the PSQI showed that 59% 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 midlight or early morning waking was 2 hours. The average length of BZDs use was 8.41, 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% BZDs use more than 6 months. About one third of patients used BZDs more than 1 DDD daily. Mienazem 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 more than 60 years old, not regularly exercised, felt needs more than concerned of BZDs use, more suffered from, higher level of anxiety, higher level of depression, perceived more stress, higher dependence on BZDs use, and took more BZDs than prescribed.

Multiple logistic regression was performed by selecting significant variables (P<0.05) from univariate analysis. Results showed that patients who have been taking BZDs longer (AOR=1.06, 95%CI=1.02-1.10), with less risk awareness toward BZDs use (AOR=0.45, 95%CI=0.40-2.62), took BZDs more than prescribed (AOR=1.49, 95% CI=1.05-2.05), and suffered from higher level of depression (AOR=1.04, 95% CI=1.01-1.07) were independently associated with BZDs use >1 DDD.

Conclusion

Gradual dose reduction of BZDs use along with 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 were described two stronger factors that related to higher dose of BZDs use.

Factors associated with high dose Benzodiazepines use in Long-term users with depressive and/or anxiety disorders: a cross-sectional study

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Table 1. Description and Comparison of socio-demographic characteristics between BZDs daily dose more than 1 DDD (n=332) and not (n=332).

Variables | Total (N=332) | BZD Daily Dose >1 DDD | Crude | OR 95% CI
--- | --- | --- | --- | ---
Gender | | | | |
Female | 169(51.2) | 47(27.7) | 0.62 | 0.41-0.96
Male | 163(48.8) | 55(33.3) | | |
Age | | | | |
< 60 y/o | 198(60.0) | 53(32.4) | 0.57 | 0.39-0.82
≥ 60 y/o | 134(40.0) | 47(28.4) | | |
Marital status | | | | |
Not married | 106(31.9) | 34(21.9) | 1.15 | 0.85-1.53
Married | 226(68.1) | 78(48.1) | | |
Education Level | | | | |
Primary or under | 65(19.5) | 18(11.1) | 0.81 | 0.52-1.24
Senior or higher | 261(78.5) | 88(54.4) | | |
Religion | | | | |
No | 236(71.8) | 69(42.9) | 0.47 | 0.30-0.72
Yes | 96(28.2) | 29(17.1) | | |
Living with parents/ spouse/children | | | | |
No | 292(87.9) | 75(46.4) | 0.47 | 0.30-0.72
Yes | 40(12.0) | 15(9.4) | 1.05 | 0.42-2.77
Occupation | | | | |
unemployed | 212(63.6) | 59(36.2) | 0.92 | 0.56-1.51
Employed/employed | 120(36.4) | 37(23.8) | | |
Exercise regularly in the past 2 weeks | | | | |
No | 136(40.9) | 38(23.5) | 0.61 | 0.40-0.94
Yes | 196(59.1) | 78(48.5) | | |
Smoking status | | | | |
Non-smoker | 265(80.3) | 77(47.2) | 0.61 | 0.38-1.00
Smoker | 54(16.9) | 22(13.6) | | |
Currently drinking | | | | |
No | 274(82.3) | 80(49.7) | 0.63 | 0.39-1.03
Yes | 58(17.7) | 37(22.3) | | |
OR=odds ratio, CI=confidence interval. * Reference category.