



Factors associated with the length of Benzodiazepine hypnotics use among patients with anxiety or depressive disorders: a cross-sectional study

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Introduction

Benzodiazepine (BZD) drugs have been widely used to treat anxiety and insomnia, however the risk of adverse health effect caused by long term use is high. Previous studies have supported the impacts of long-term use on change of cognitive function, memory impairment, risk of fall and traffic accident, and dependence on BZD. In spite of recommendations of limited time for BZD prescription from health department in many countries, problematic use of BZD still remains and needs to be concerned. Patients who suffered from anxiety or depressive disorders were specially the potential population for long term use of BZD. A certain part of these patients kept on using BZD as hypnotics for better sleep when they remitted from depression or anxiety symptom, and resulted in a much longer time use of BZD.

Objectives.

This study is to examine factors associated with length of BZD hypnotics use from multiple dimensions among people with anxiety and/or depressive disorders.

Methods.

A cross-sectional study was conducted from patients who have been prescribed for BZD as hypnotics (including benzodiazepine receptor agonists) only by psychiatrists. The participants were recruited from the psychiatric outpatients department in a medical center. Collected data included Length of time taking BZD, knowledge of and beliefs about BZD use, anxiety and depression state, severity of BZD dependence, sleep-related variables, health-related behaviors, and sociodemographic characteristics.

Results.

- A total of 195 patients were included in this study, with 69% female, 49% aged 60 or more, and almost 90% living with their spouse/children/parents. Nearly 94% patients had been taking BZD more than 6 months, 73% taking for 2 years or longer, and the mean length of BZD use was 5.37 years.
- Over 60% patients slept less than 7 hours in average at night; and almost 60% failed to fall asleep within 30 minutes (sleep latency) and more than half experienced midnight or early morning wake up 3 times or more per week. The average score of BAI and BDI were 7.5 and 9.9, indicates minimal anxiety and depression state.
- Results from univariate analysis showed patients characteristics significantly related to longer time of BZD use were age over than 60 years, with education level of primary school or under, having a job, suffering from sleep latency 30 minutes or longer, less aware of alternative treatment besides BZD, and higher severity of BZD dependence. Other characteristics that increased the time of BZD use with borderline significance includes not living with parents/spouse/children, exercising less, and feeling necessity about BZD.
- Stepwise linear regression analysis with $\alpha=.05$ for both entry level and stay level was performed to select variables that best fit, and all variables with P-value less than .20 were included. Results showed patients who were more aware of the alternative treatment besides BZD, had a job, and exercised 3-7 times per week were less likely to take BZD longer. Patients with higher dependence on BZD, and were comorbid with physical diseases were more likely to take BZD longer.

Conclusion.

The high prevalence of BZD use longer than 6 months (94%) in our study indicates that patients with anxiety or depressive disorders might be identified as a high risk group of BZD long-term use, the prevalence is even higher compared with the prevalence of 60% from previous study. In our study, the anxiety and depression state among these patients were relatively stable, and they took BZD hypnotics only to improve their sleep. Insomnia has been found as one common reason of continuously using BDZ for patients remitted from anxiety or depression.

Our study showed patients who suffered from prolonged sleep latency (≥ 30 minutes) took BZD longer. This finding reveals this specific symptom of insomnia that need to be taken into consideration for adjunctive therapy besides medicine. Our study found the awareness of alternative treatment is negatively correlated with the length of BZD use. Providing non-medical sleep remedies or related information is suggested to decrease patients' dependence on BZD.

Table 1. Comparison of Length of BZD use between different sociodemographic characteristics and health-related behaviors. (N = 195)

Variables	Distribution of Characteristics		Length of BZD use (years)			
	n	%	M	SE	U/x ² a	P
Total participants	195	100	5.37	0.37		
Gender					5602	.15
Male	61	31.28	4.76	0.58		
Female	134	68.72	5.65	0.47		
Age					10213	.01
< 60 y/o	100	51.28	4.65	0.49		
≥ 60 y/o	95	48.72	6.14	0.56		
Marital status					3331	.37
Married	162	83.08	5.23	0.39		
Other	33	16.92	6.07	1.14		
Education Level					8.77	.01
Primary or under	63	32.31	6.83	0.74		
Junior or Senior high	95	48.72	4.66	0.50		
College or above	37	18.97	4.74	0.74		
Religion					4170	.33
Yes	44	22.56	5.67	0.91		
No	151	77.44	5.29	0.40		
Ling with parents/spouse/children					2328	.06
Yes	175	89.74	5.29	0.40		
No	20	10.26	6.14	0.92		
Occupation					5820	.006
Employer or employed	69	35.38	3.91	0.41		
Unemployed	126	64.62	6.18	0.52		
Exercise in the past 2 weeks					7.52	.06
None	59	30.26	5.77	0.77		
< 3 times /week	33	16.92	5.94	0.92		
3-7 times/week	49	25.13	3.85	0.61		
≥ 7 times	54	27.69	5.99	0.68		
Smoking status					1933	.19
Smoker	22	11.28	4.28	0.84		
Non-smoker	173	88.72	5.51	0.41		
Currently drinking					1866	.12
Yes	22	11.28	4.30	0.91		
No	173	88.72	5.51	0.40		

a U value by Wilcoxon-Mann-Whitney U test for comparison of two variables, and x² value by Kruskal-Wallis test for comparison of three and more variables

Keeping a healthy and productive life style, such as maintaining proper amount of exercise and engaging to work might also be useful for future intervention when patients is suggested to gradually discontinue the use of BZD by their physician. Finally, patients who comorbid with physical diseases took BZD for a longer time reveals the importance of considering their health problem when dealing with their insomnia or providing psychoeducation about BZD long term use. Further study of longitudinal design is suggested to confirm causal relationships.

Table 2. Comparison of Length of BZD use between different psychological and clinical characteristics. (N = 195)

Variables	Distribution of Characteristics		Length of BZD use (years)			
	n	%	M	SE	U/x ² /r ^a	P
Sleeping time(m/ SE)	6.3	0.15			7207	.18
< 7 hours	125	64.10	5.83	0.65		
≥ 7 hours	70	35.90	5.12	0.45		
Sleep latency (30 mins or more) ≥3 times/week					9898	.04
Yes	116	59.49	4.84	0.49		
No	79	40.51	5.95	0.57		
Midnight/early morning wake up ≥3 times/week					7603	.36
Yes	101	51.79	5.27	0.58		
No	94	48.21	5.44	0.49		
Take antidepressants					8552	.21
Yes	111	56.92	5.80	0.62		
No	84	43.08	5.05	0.46		
Comorbid with physical diseases					6346	.16
Yes	61	31.28	4.84	0.38		
No	134	68.72	6.54	0.85		
Level of anxiety (m/SE)	7.46	0.51	----	----	-0.05	0.48
Level of depression (m/SE)	9.90	0.77	----	----	0.01	0.85
Knowledge-adverse effect (m/SE)	2.95	0.15			0.06	.37
Knowledge-precautions (m/SE)	2.23	0.03	----	----	-0.06	.39
Knowledge-alternative treatment (m/SE)	0.58	0.05	----	----	-0.24	.0008
Necessity of BZD use (m/SE)	16.04	0.22	----	----	0.12	.09
Concern about BZD use (m/SE)	16.41	0.26	----	----	-0.07	.30
Severity of BZD dependence	5.58	0.18			0.20	.005

Table 3 Stepwise multiple linear regression analysis of the factors associated to Length of BZD use

Variables	β	SE	P
Knowledge-alternative treatment	-1.74	0.57	0.003
Severity of BZD dependence	0.51	0.14	0.0003
Employment (ref.: unemployed)	-1.74	0.74	0.02
comorbid with physical diseases (ref.: No)	1.66	0.75	0.03
Exercise 3-7 times per week	-1.70	0.79	0.03
Adj R-Sq	15.87%		
F	8.32		
P	<.0001		