The influence of prescriber and patient gender on the prescription of benzodiazepines: results from the Florida Medicaid Dataset

Leanna M. W. Lui[1] , Yena Lee[1] , Orly Lipsitz[1] , Nelson B. Rodrigues[1], Hartej Gill[1], Jifeng Ma[2], Linas Wilkialis[1] , Jocelyn K. Tamura[1] , Ashley Siegel[1], David Chen-Li[1], Joshua D. Rosenblat[1,3], Rodrigo B. Mansur[1,3], Marie A. McPherson[2] and Roger S. McIntyre[1,3,4,5]*

[1]Mood Disorders Psychopharmacology Unit, University Health Network, Toronto, Ontario, Canada, [2]Department of Mental Health Law & Policy, Louis de la Parte Florida Mental Health Institute, University of South Florida, Tampa, Florida, USA, [3]Department of Psychiatry, University of Toronto, Toronto, Ontario, Canada, [4]Department of Pharmacology, University of Toronto, Toronto, Ontario, Canada, and [5]Brain and Cognition Discovery Foundation, Toronto, Ontario, Canada

Abstract

Background. Benzodiazepine (BZD) prescription rates have increased over the past decade in the United States. Available literature indicates that sociodemographic factors may influence diagnostic patterns and/or prescription behaviour. Herein, the aim of this study is to determine whether the gender of the prescriber and/or patient influences BZD prescription.

Methods. Cross-sectional study using data from the Florida Medicaid Managed Medical Assistance Program from January 1, 2018 to December 31, 2018. Eligible recipients ages 18 to 64, inclusive, enrolled in the Florida Medicaid plan for at least 1 day, and were dually eligible. Recipients either had a serious mental illness (SMI), or non-SMI and anxiety.

Results. Total 125 463 cases were identified (i.e., received BZD or non-BZD prescription). Main effect of patient and prescriber gender was significant $F(1, 125\,459) = 0.105$, $P = 0.745$, partial $\eta^2 < 0.001$. Relative risk (RR) of male prescribers prescribing a BZD compared to female prescribers was 1.540, 95% confidence intervals (CI) [1.513, 1.567], whereas the RR of male patients being prescribed a BZD compared to female patients was 1.16, 95% CI [1.14, 1.18]. Main effects of patient and prescriber gender were statistically significant $F(1, 125\,459) = 188.232$, $P < 0.001$, partial $\eta^2 = 0.001$ and $F(1, 125\,459) = 349.704$, $P < 0.001$, partial $\eta^2 = 0.013$, respectively.

Conclusions. Male prescribers are more likely to prescribe BZDs, and male patients are more likely to receive BZDs. Further studies are required to characterize factors that influence this gender-by-gender interaction.

CAMBRIDGE
UNIVERSITY PRESS

Introduction

Benzodiazepines (BZDs) are among the most frequently prescribed medications in developed countries for anxiety disorders.[1-5] Benzodiazepine prescription rates have increased over the past decade in the United States, most notably in primary care settings.[6-8] However, several clinical guidelines do not recommend BZDs as a first-line treatment for anxiety disorders.[9-12] Benzodiazepines are commonly misused and/or inappropriately prescribed (e.g., duration, dose, and co-prescription) leading to the exacerbation of existing psychiatric disorders (e.g., depression and anxiety).[13,14]

Medical use of BZDs are associated with several adverse risks, including, but not limited to, cognitive impairment, increased propensity for falls, premature labor, abuse liability, and lethality overdose (magnified by opioid co-prescription).[6,11,12,15,16] Furthermore, prolonged use of BZDs has been known to induce withdrawal symptoms and problems of discontinuation.[17,18] The common and increasing prescription rates of BZDs invites the need to identify factors that may potentially influence their prescription.

Available literature indicates that sociodemographic factors may influence diagnostic patterns and/or the prescription behavior of BZDs.[19-22] Potential sociodemographic factors include, but are not limited to, gender, employment status, education level, age, and income.[23-25] However, the influence of gender on the prescription patterns of pharmacologic agents in psychiatry has been insufficiently characterized. Accordingly, it is unknown whether a gender-by-gender interaction exists with respect to prescriber–patient dyads. Herein, we aim to evaluate the influence of prescriber and patient gender on the prescription of BZDs using data derived from the Florida Medicaid Managed Medical Assistance (MMA) Program.

Methods

Study design and data source

A total of 125 463 cases were included in this cross-sectional study. This data was derived from the MMA Program based on the following sources: Florida Medicaid Recipient Enrollment Data, Florida Medicaid Recipient Eligibility Files, Florida Medicaid Plan Data, Professional and Institutional Claims Data, Pharmacy Encounter Data, and National Provider Registry, from January 1, 2018 to December 31, 2018. Moreover, the International Statistical Classification of Disease and Related Health Problems-10 (ICD-10) was used to define the behavioral health categories of serious mental illness (SMI) and anxiety (ICD-10 codes F40-F43). Serious mental illness includes major depressive disorder, bipolar disorders, and schizophrenia disorder.

Participants

Recipients included in this analysis were ages 18 to 64, inclusive, dually eligible, and must have been enrolled in the MMA program for at least 1 day. Recipients either had a SMI, or no SMI and anxiety. Children, adolescents and elderly recipients (i.e., 65 or older) were excluded.

Study outcomes

The main outcome of interest was the prescription rate of BZDs. The units of analysis were defined as the proportion of patients prescribed a BZD, the proportion of prescribers who prescribed a BZD and non-BZD, and the proportion of BZDs prescribed per prescriber gender and patient gender. The proportion of patients prescribed a BZD was defined as the number of patients with a BZD prescription between January 1, 2018 and December 31, 2018. The proportion of prescribers who prescribed a BZD was defined as the number of prescribers who prescribed a BZD between January 1, 2018 and December 31, 2018. In addition to gender, BZD prescription rate was stratified based on the patient's behavioral health status (i.e., SMI, or non-SMI and anxiety). However, potential predictors of BZD rate, such as race and age, were not accounted for in this analysis.

Statistical methods

We evaluated the effects of recipient gender, prescriber gender, and their interaction on the proportion of patients prescribed a BZD. Relative risk and their 95% confidence intervals (CI) were reported. Additionally, we stratified patients by diagnosis (i.e., SMI, and non-SMI and anxiety) and by receipt of a BZD (i.e., office claim and recipient). Descriptive results are presented as percentages for categorical variables. Relative risk and confidence intervals were calculated using the Statistical Package for Social Sciences program. The main and interaction effects were performed using two-way ANOVA.

Results

Sample characteristics

A total of 125 463 recipients (n = 125 463) with office claims for an anxiety or BZD prescription from their provider were included in this cross-sectional study. Of the 125 463 cases, 40 677 (32.4%) cases consisted of recipients with a BZD prescription and 84 786 (67.6%) cases represented prescriptions for a non-BZD agent. Overall, 99 532 (79.3%) cases represented prescriptions for female patients and 53 130 (42.3%) cases were prescribed by female prescribers.

Benzodiazepine prescription rate

Approximately 31.4% (n = 31 239) of female patients were prescribed a BZD, whereas 36.4% (n = 9438) of male patients were prescribed a BZD (Table 1). The relative risk of female patients compared to male patients prescribed a BZD was 0.862, 95% CI [0.847, 0.878]. The relative risk of male patients compared to female patients prescribed a BZD was 1.16, 95% CI [1.14, 1.18].

Male prescribers prescribed a BZD in 27 539 (38.1%) cases and a non-BZD in 44 794 (61.9%) cases. In comparison, female prescribers prescribed a BZD in 13 138 (24.7%) cases and a non-BZD in 39 992 (75.3%) cases. The relative risk of male prescribers compared to female prescribers prescribing a BZD (vs. non-BZD) was 1.540, 95% CI [1.513, 1.567].

We compared whether male prescribers compared to female prescribers prescribe BZDs more frequently to female patients than to male patients. Of the 56 650 female patients assessed by a male prescriber (n = 6162), 21 000 (37.1%) were prescribed a BZD, whereas 6539 (41.7%) of the 15 683 male patients assessed by a male prescriber were prescribed a BZD (Table 2). Among female prescribers (n = 3370), 10 239 (23.9%) of female patients were prescribed a BZD, while 2899 (28.3%) of male patients were prescribed a BZD (Table 2). The relative risk of prescribing a BZD (vs. non-BZD) was 0.889, 95% CI [0.870, 0.908] among male prescribers and 0.844, 95% CI [0.815, 0.874] among female prescribers. The rate ratio of male prescribers to female prescribers was 1.053.

Two-way ANOVA was conducted to examine the effects of patient and prescriber gender on BZD prescription. The interaction effect between patient and prescriber genders was not statistically significant, $F(1, 125\,459) = 0.105$, $P = 0.745$, partial $\eta^2 < 0.001$. The main effects of patient and prescriber gender were significant, $F(1, 125\,459) = 188.232$, $P < 0.001$, partial $\eta^2 = 0.001$ and $F(1, 125\,459) = 349.704$, $P < 0.001$, partial $\eta^2 = 0.013$, respectively.

Additional two-way ANOVA was conducted to examine the effects of patient and prescriber gender on BZD prescription for recipients with a SMI, and non-SMI and anxiety. The interaction effect between patient and prescriber gender was not statistically significant for SMI patients $F(1, 39\,939) = 1.571$, $P > 0.001$, partial $\eta^2 < 0.001$. The interaction effect between patient and prescriber gender was also not statistically significant for non-SMI and anxiety patients, $F(1, 855\,516) = 0.186$, $P > 0.001$, partial $\eta^2 < 0.001$.

Discussion

Herein, our data suggest that a relationship between prescriber gender and BZD prescription behavior may exist. We observe that male prescribers were more likely to prescribe BZDs to their patients regardless of patient gender, and male patients were more likely to be prescribed a BZD regardless of prescriber gender. In addition, our findings also suggest that the interaction effect between gender and BZD is significant only for the combined prescription of BZD due to SMI, and non-SMI and anxiety. The interaction between gender and BZD prescription rate was not significant for SMI, and non-SMI and anxiety, respectively. Available evidence supports the findings of our analysis, wherein male prescribers are more likely to recommend pharmacologic

Table 1. Difference in Benzodiazepine Prescription Rate by Patient Gender and Behavioral Health Status

Behavioral Health Category	Patient Gender	Number of Patients with a Benzodiazepine Prescription	% Patients with a Benzodiazepine Prescription
Serious mental illness	Female	22 241	32.7%
	Male	6705	38.4%
No serious mental illness, anxiety	Female	8998	28.6%
	Male	2733	32.2%
All	Female	31 239	31.4%
	Male	9438	36.4%

Table 2. Data on Benzodiazepine Prescription Recipient Rate by Patient Behavioral Health Status, Patient Gender and Prescriber Gender

Behavioral Health Category	Provider Gender	Patients Gender	Number of Patients with Office Claims for Anxiety or Benzodiazepine Prescription from the Provider	Number of Patients with Benzodiazepine Prescription	% Patients with Benzodiazepine Prescription
Serious mental illness	Female	Female	29 117	7425	25.5%
	Female	Male	6893	2140	31.0%
	Male	Female	38 951	14 816	38.0%
	Male	Male	10 559	4565	43.2%
No serious mental illness, anxiety	Female	Female	13 765	2814	20.4%
	Female	Male	3355	759	22.6%
	Male	Female	17 699	6184	34.9%
	Male	Male	5124	1974	38.5%
All	Female	Female	42 882	10 239	23.9%
	Female	Male	10 248	2899	28.3%
	Male	Female	56 650	21 000	37.1%
	Male	Male	15 683	6539	41.7%

treatments when compared to female prescribers who are more likely to recommend psychosocial treatments.[21,26] However, there is limited evidence explaining this disparity in BZD prescription patterns, and more specifically, describing the prescription behavior of male prescribers.

A potential hypothesis explaining the differential BZD prescriptions as a function of prescriber and patient gender may be related to stigma and stereotypes of mental illness. More specifically, culture may moderate the effect of gender on professional help-seeking.[19] This phenomenon may explain the gender differences in BZD prescribing patterns. For example, male prescribers and/or male patients may conceptualize mental illness and/or its treatment differently than female prescribers resulting in different treatment considerations.[19] Additionally, evidence suggests that male patients may express greater preference for pharmacologic agents (e.g., BZDs), rather than manual-based psychotherapy and/or non-pharmacologic interventions, whereas the converse is observed in female patients.[27,28] Taken together, males generally endorse negative attitudes towards treatment seeking (e.g., therapy), and are relatively more likely to engage in longitudinal mental health interventions.[29-32] Female prescribers are much more likely to engage in conversations about emotional wellbeing versus biomedical information.[26,28,33,34]

It is noted, however, that a majority of studies suggest a potential relationship between patient and prescriber gender on BZD prescription rates, wherein female patients are disproportionately prescribed BZDs compared to male patients.[25,35] Extant literature reports that this disparity may be due in part to the large prevalence of depressive and anxiety disorders among females compared to males, and accordingly, greater prescription rates of opioids among this population.[6,36–38] A nonmutually exclusive hypothesis is that gender stereotypes of psychopathology exist, and are different between male and female prescribers. It may be more likely that male prescribers have a gender-biased, and stereotyped conceptualization of emotional expression in female patients.[39] For example, in a Taiwanese sample, male prescribers may be more likely to conceptualize female patients as having a greater susceptibility to affective dysregulation and/or may be more likely to benefit from pharmacologic treatment.[39] However, the foregoing relationship was not supported by our findings. It is possible that the divergent finding is due to differences across countries, cultures and settings with respect to gender bias and prescription behavior. Further research that aims to identify the role of factors (e.g., age, race, income, education, psychiatric disorders, and comorbidities) on gender-based BZD prescription behavior is warranted.

Moreover, further research is needed to explore the effect of culture on BZD prescription patterns. The effect of culture on BZD prescription is two-fold. First, extant literature suggests that some cultures (e.g., Chinese, Malay, and Indian) are less likely to seek professional care, thereby reducing prescription rates.[19] This disparity in health-seeking attitudes is attributed to stigma, religion (e.g., traditional healers) and education.[19,40,41] Second, it is well demonstrated that BZD prescription patterns are dependent on

race. For instance, White populations are more likely to receive a BZD when compared to Black, Latino, and Asian populations.[40–45] Previous studies indicate that healthcare providers are less likely to prescribe to racial minorities due to a preconceived bias that minorities are at greater risk for misuse, noncompliance and substance abuse.[42]

While BZDs are efficacious for treating symptoms of generalized anxiety disorder, they need to be prescribed and taken with limitations to avoid fatal outcomes.[46-49] Polysubstance abuse is common among BZD misuse.[50] When taken in conjunction with primary drugs of abuse (e.g., opioids and alcohol), the interaction can induce and exacerbate respiratory depression.[50]

Hence, the significance of gender interaction vis-a-vis BZD prescription has important implications regarding attitudes toward help-seeking behaviors, biases in mental healthcare, and concordance with best practices and health outcomes. The impetus for this analysis was to improve best practices for prescribers in primary care and psychiatric settings to ensure all treatment interventions are presented to the patient without the notion of prescriber-biased care. Decreasing the prevalence of unnecessary BZD prescriptions may reduce the risk of BZD abuse and/or dependence.

Conclusion

In conclusion, the results of our preliminary analysis indicate that prescriber and patient gender may influence BZD prescribing behavior. However, a limitation of this study is that it is a post hoc retrospective analysis. We did not adjust for other factors that may affect the prescription of BZDs (e.g., patient economics, patient preferences, diagnosis, etc.,). Furthermore, demographic data, with respect to prescribers and patients, were not available for this dataset. Hitherto, it is unclear whether the database population is representative of the general population introducing the potential for selection bias. Additionally, it is not possible to determine whether characteristics relating to prescriber age and/or specialization may affect prescription patterns of BZDs. Also, we did not look at select agents of BZDs but rather BZDs as a class. As such, we were unable to evaluate whether this BZD relationship extends or is particular to any specific psychotropic agent. In addition, since BZD dosage was not stratified for, it may have effects on BZD prescription trends.

Moreover, no information was available regarding differences in clinical characteristics between patients with SMI, and non-SMI and anxiety. Further clarity between the two diagnoses could be used to control for a primary diagnosis (e.g., bipolar disorder and schizophrenia) or be used to conduct a random effects model to determine the extent to which the type, severity and/or prevalence of a disorder affects the interaction between patient and/or prescriber gender and BZD prescription rate.

We used a Medicaid dataset which may not be representative and/or translate into non-Medicaid populations. Populations in the Florida Medicaid dataset who were included in this analysis are in a low-income bracket, may rely on Supplemental Security Income, and/or have physical disabilities. Given the reduced variability of socioeconomic status of Florida Medicaid recipients, the results from this analysis are likely less applicable to a general population. On the other hand, the strength of this analysis is that it uses a large dataset wherein prescriber behavior is well-characterized and the Medicaid claim system is more complete. Moreover, patient information and diagnoses are codified. Future research should aim to replicate these findings and ascertain factors

(e.g., demographic data, patient economics, and BZD drug classes) that may bias male prescribers toward differential BZD prescription rates when compared to female prescribers.

References

1. Sonnenberg CM, Bierman EJM, Deeg DJH, *et al.* Ten-year trends in benzodiazepine use in the Dutch population. *Soc Psychiatry Psychiatr Epidemiol.* 2012;**47**(2):293–301.
2. Lagnaoui R, Depont F, Fourrier A, *et al.* Patterns and correlates of benzodiazepine use in the French general population. *Eur J Clin Pharmacol.* 2004;**60**(7):523–529.
3. Petitjean S, Ladewig D, Meier CR, *et al.* Benzodiazepine prescribing to the Swiss adult population: results from a national survey of community pharmacies. *Int Clin Psychopharmacol.* 2007;**22**(5):292–298.
4. Cunningham CM, Hanley GE, Morgan S, *et al.* Patterns in the use of benzodiazepines in British Columbia: examining the impact of increasing research and guideline cautions against long-term use. *Health Policy.* 2010;**97**(2–3):122–129.
5. Stahl SM. Don't ask, don't tell, but benzodiazepines are still the leading treatments for anxiety disorder. *J Clin Psychiatry.* 2002;**63**(9):756–757.
6. Olfson M, King M, Schoenbaum M. Benzodiazepine use in the United States. *JAMA Psychiatry.* 2015;**72**(2):136–142.
7. Maust DT, Lin LA, Blow FC. Benzodiazepine use and misuse among adults in the United States. *Psychiatr Serv.* 2019;**70**(2):97–106.
8. Agarwal SD, Landon BE. Patterns in outpatient benzodiazepine prescribing in the United States. *JAMA Netw Open.* 2019;**2**(1):e187399
9. Murphy Y, Wilson E, Goldner EM, *et al.* Benzodiazepine use, misuse, and harm at the population level in Canada: a comprehensive narrative review of data and developments since 1995. *Clin Drug Investig.* 2016;**36**(7):519–530.
10. Stein MB, Craske MG. Treating anxiety in 2017: optimizing care to improve outcomes. *JAMA.* 2017;**318**(3):235–236.
11. Soric MM, Paxos C, Dugan SE, *et al.* Prevalence and predictors of benzodiazepine monotherapy in patients with depression: a national cross-sectional study. *J Clin Psychiatry.* 2019;**80**(4). doi:10.4088/JCP.18m12588.
12. Jessell L, Stanhope V, Manuel JI, *et al.* Factors associated with benzodiazepine prescribing in community mental health settings. *J Subst Abuse Treat.* 2020;**109**:56–60.

13. Panes A, Fourrier-Réglat A, Verdoux H, *et al.* Usages et mésusages des benzodiazépines chez les patients souffrant de troubles psychiatriques. *Presse Méd.* 2018;**47**(10):886–891.

14. Soyka M. Treatment of benzodiazepine dependence. *N Engl J Med.* 2017; **376**(12):1147–1157.

15. Johnson B, Streltzer J. Risks associated with long-term benzodiazepine use. *Am Fam Physician.* 2013;**88**(4):224–226.

16. Osler M, Jørgensen MB, Associations of Benzodiazepines, Z-Drugs, and Other Anxiolytics With Subsequent Dementia in Patients With Affective Disorders: A Nationwide Cohort and Nested Case-Control Study. *Am J Psychiatry.* 2020;**177**(6):497–505.

17. Sirdifield C, Anthierens S, Creupelandt H, *et al.* General practitioners' experiences and perceptions of benzodiazepine prescribing: systematic review and meta-synthesis. *BMC Fam Pract.* 2013;**14**(1). doi:10.1186/1471-2296-14-191.

18. Ait-Daoud N, Hamby AS, Sharma S, *et al.* A review of alprazolam use, misuse, and withdrawal. *J Addict Med.* 2018;**12**(1):4–10.

19. Nam SK, Chu HJ, Lee MK, *et al.* A meta-analysis of gender differences in attitudes toward seeking professional psychological help. *J Am Coll Health.* 2010;**59**(2):110–116.

20. Jasuja GK, Reisman JI, Weiner RS, *et al.* Gender differences in prescribing of zolpidem in the Veterans Health Administration. *Am J Manag Care.* 2019;**25**(3):e58–e65.

21. Bjørner T, Laerum E. Factors associated with high prescribing of benzodiazepines and minor opiates. A survey among general practitioners in Norway. *Scand J Prim Health Care.* 2003;**21**(2):115–120.

22. Boixet M, Batlle E, Bolibar I. Benzodiazepines in primary health care: a survey of general practitioners prescribing patterns. *Addiction.* 1996;**91**(4): 549–556.

23. Airagnes G, Lemogne C, Renuy A, *et al.* Prevalence of prescribed benzodiazepine long-term use in the French general population according to sociodemographic and clinical factors: findings from the CONSTANCES cohort. *BMC Public Health.* 2019;**19**(1):566

24. Van der Heyden JHA, Gisle L, Hesse E, Demarest S, Drieskens S, Tafforeau J. Gender differences in the use of anxiolytics and antidepressants: a population based study. *Pharmacoepidemiol Drug Saf.* 2009;**18**(11):1101–1110.

25. Morabia A, Fabre J, Dunand JP. The influence of patient and physician gender on prescription of psychotropic drugs. *J Clin Epidemiol.* 1992;**45**(2): 111–116.

26. Roter DL, Hall JA, Aoki Y. Physician gender effects in medical communication: a meta-analytic review. *JAMA.* 2002;**288**(6):756–764.

27. Pattyn E, Verhaeghe M, Bracke P. The gender gap in mental health service use. *Soc Psychiatry Psychiatr Epidemiol.* 2015;**50**(7):1089–1095.

28. Cooperstock R, Lennard HL. Some social meanings of tranquilizer use. *Sociol Health Illn.* 1979;**1**(3):331–347.

29. Wang PS, Aguilar-Gaxiola S, Alonso J, *et al.* Use of mental health services for anxiety, mood, and substance disorders in 17 countries in the WHO world mental health surveys. *Lancet.* 2007;**370**(9590):841–850.

30. Parent MC, Hammer JH, Bradstreet TC, Schwartz EN, Jobe T. Men's mental health help-seeking behaviors: an intersectional analysis. *Am J Mens Health.* 2018;**12**(1):64–73.

31. Addis ME, Mahalik JR. Men, masculinity, and the contexts of help seeking. *Am Psychol.* 2003;**58**(1):5–14.

32. Berger JM, Levant R, McMillan KK, *et al.* Impact of gender role conflict, traditional masculinity ideology, alexithymia, and age on men's attitudes toward psychological help seeking. *Psychol Men Masc.* 2005;**6**(1):73–78. doi:10.1037/1524-9220.6.1.73.

33. Hall JA, Roter DL, Blanch-Hartigan D, *et al.* How patient-centered do female physicians need to be? Analogue patients' satisfaction with male and female physicians' identical behaviors. *Health Commun.* 2015;**30**(9):894–900.

34. Bernstein B, Kane R. Physicians' attitudes toward female patients. *Med Care.* 1981;**19**(6):600–608.

35. Hirschtritt ME, Palzes VA, Kline-Simon AH, Kroenke K, Campbell CI, Sterling SA. Benzodiazepine and unhealthy alcohol use among adult outpatients. *Am J Manag Care.* 2019;**25**(12):e358–e365.

36. van der Waals FW, Mohrs J, Foets M. Sex differences among recipients of benzodiazepines in Dutch general practice. *BMJ.* 1993;**307**(6900):363–366.

37. Linden M, Gothe H. Specialty training and the personal use of benzodiazepines by physicians affect their proneness to prescribe tranquilizers. *Pharmacopsychiatry.* 1998;**31**(2):42–47.

38. Dale O, Borchgrevink PC, Fredheim OMS, *et al.* Prevalence of use of nonprescription analgesics in the Norwegian HUNT3 population: impact of gender, age, exercise and prescription of opioids. *BMC Public Health.* 2015;**15**:461

39. McIntyre RS, Chen VC-H, Lee Y, *et al.* Mental health literacy measures evaluating knowledge, attitudes and help-seeking: a scoping review. *BMC Psychiatry.* 2015;**15**:291

40. McIntyre RS, Chen VC-H, Lee Y, *et al.* The influence of prescriber and patient gender on the prescription of benzodiazepines: evidence for stereotypes and biases? *Soc Psychiatry Psychiatr Epidemiol.* Published online November 30, 2020. doi:10.1007/s00127-020-01989-4

41. Gulliver A, Griffiths KM, Christensen H. Perceived barriers and facilitators to mental health help-seeking in young people: a systematic review. *BMC Psychiatry.* 2010;**10**(1). doi:10.1186/1471-244x-10-113.

42. Cook B, Creedon T, Wang Y, *et al.* Examining racial/ethnic differences in patterns of benzodiazepine prescription and misuse. *Drug Alcohol Depend.* 2018;**187**:29–34.

43. Lasser KE, Himmelstein DU, Woolhandler SJ, *et al.* Do minorities in the United States receive fewer mental health services than whites? *Int J Health Serv.* 2002;**32**(3):567–578.

44. Ng CH. The stigma of mental illness in Asian cultures. *Aust N Z J Psychiatry.* 1997;**31**(3):382–390.

45. Blanco C, Han B, Jones CM, *et al.* Prevalence and correlates of benzodiazepine use, misuse, and use disorders among adults in the United States. *J Clin Psychiatry.* 2018;**79**(6). doi:10.4088/JCP.18m12174.

46. Slee A, Nazareth I, Bondaronek P, Liu Y, Cheng Z, Freemantle N. Pharmacological treatments for generalised anxiety disorder: a systematic review and network meta-analysis. *Lancet.* 2019;**393**(10173):768–777.

47. Bachhuber MA, Hennessy S, Cunningham CO, *et al.* Increasing benzodiazepine prescriptions and overdose mortality in the United States, 1996–2013. *Am J Public Health.* 2016;**106**(4):686–688.

48. Bénard-Laribiére A, Noize P, Pambrun E. *et al.* Trends in incident use of benzodiazepines and Z-drugs in France from 2006 to 2012: a population-based study. *Pharmacoepidemiol Drug Saf.* 2017;**26**(2):162–169.

49. Marsden J, White M, Annand F. *et al.* Medicines associated with dependence or withdrawal: a mixed-methods public health review and national database study in England. *Lancet Psychiatry.* 2019;**6**(11):935–950.

50. Schmitz A. Benzodiazepine use, misuse, and abuse: a review. *Ment Health Clin.* 2016;**6**(3):120–126.