Comparing Types of Medications Prescribed and Type of Insurance Regarding Catatonia Diagnosis

Anshul Raman, Allison Green, Bianca Ituarte, Siddharth Balaji, and Nikki Seraji
Tyler Allison, M.D., Jeremy Provance, M.S., and Suman Sahil, B. Eng.

UMKC HEALTH SCIENCES DISTRICT

UMKC School of Medicine

Introduction

- Catatonia is a “disorder of motility” that may present with multiple other diseases with a variety of signs and symptoms including motor difficulties and mood disorders among others.[1] It generally has a good prognosis but may be “severe or life-threatening.”[2]
- Benzodiazepines are the treatment of choice with a variety of specific ones being used.
- “Survival advantage” is greater in patients with private insurance compared to patients with public insurance.[3]

Objectives

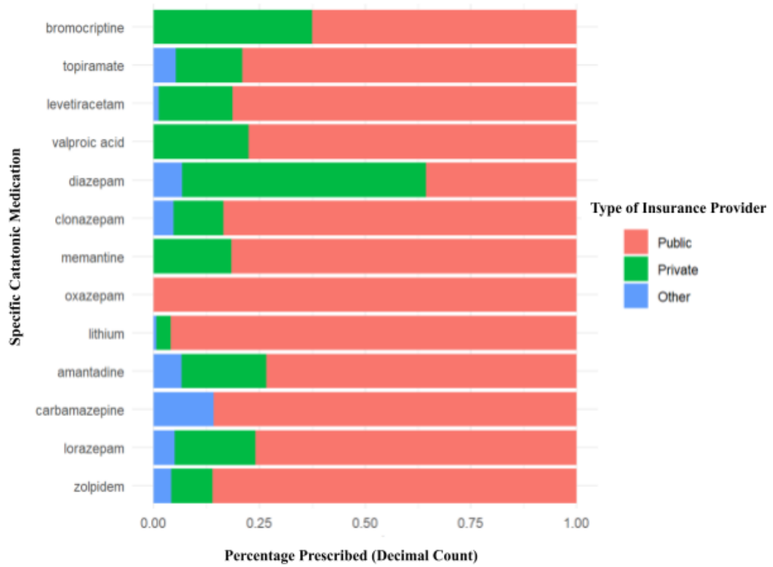
- In this experiment we explore the connection between a patient’s insurance type and drug that they are prescribed. We subcategorized insurances into private, public, and other insurance status.

Methodology

- De-identified data obtained from Cerner Health Facts
  - Inpatient, emergency, and observation admission level data
- Population: 1000 randomly selected patients, ages 5-90, with a catatonia diagnosis.
- Comparison: Specific benzodiazepine drugs prescribed in patients[2] and their insurance status- public, private, or other.
- Outcome: Whether patients with a certain insurance status are preferentially prescribed one benzodiazepine compared to patients with a different insurance status.
  - Analyzed remaining data with R software and Chi-squared test for significance between medication prescribed for catatonia and insurance type.

Results

Specific Catatonic Medication and the Relative Percentage Prescribed within Insurance Provider Types (Chart 1a)



- From Chart 1a, the total number of prescriptions for each drug and the distribution of insurance type seems to vary.
- All the other drugs except Diazepam were more prescribed in public insurance providers’ patients than in private.
- Chi-squared analysis showed there is a statistically significant difference between the type of insurance and the drug the insurance prefers to treat catatonia patients (Chi-squared = 119.6, p<0.0001).

Results

Total Number of Prescriptions within each Insurance Type & Drug Number Distribution within each Insurance Type (Chart 1b)

	Public	Private	Other
n (total # of prescriptions)	2690	642	163
Specific Drug (%)			
Zolpidem	80 (3.0%)	9 (1.4%)	4 (2.5%)
Lorazepam	2121 (78.8%)	533 (83.0%)	140 (85.9%)
Carbamazepine	12 (0.4%)	0 (0.0%)	2 (1.2%)
Amantadine	11 (0.4%)	3 (0.5%)	1 (0.6%)
Lithium	140 (5.2%)	5 (0.8%)	1 (0.6%)
Oxazepam	1 (0.0%)	0 (0.0%)	0 (0.0%)
Memantine	31 (1.2%)	7 (1.1%)	0 (0.0%)
Clonazepam	157 (5.8%)	22 (3.4%)	9 (5.5%)
Diazepam	21 (0.8%)	34 (5.3%)	4 (2.5%)
Valproic Acid	31 (1.2%)	9 (1.4%)	0 (0.0%)
Levetiracetam	65 (2.4%)	14 (2.2%)	1 (0.6%)
Topiramate	15 (0.6%)	3 (0.5%)	1 (0.6%)
Bromocriptine	5 (0.2%)	3 (0.5%)	0 (0.0%)

- For all three types of insurance, Lorazepam was the largest proportion of all drug prescriptions. (Chart 1b)

Summary/Conclusion

- Our data supports a statistically significant difference between the type of insurance and medication given in our set of patients
- It should be noted this cannot be applied to patients not included in the original survey, as the sample set was too small and some medications had less than 20 times dispensed.
- We recommend further investigation with a larger set of patients over the course of years to further pursue this question.

References

1. Connor KO. Catatonia: A Clinician's Guide to Diagnosis and Treatment. *The Journal of ECT*.2005;21(3):190-191. doi:10.1097/01.yct.0000172222.37420.1c.
2. Sienaert, Pascal, et al. “A Clinical Review of the Treatment of Catatonia.” *Frontiers in Psychiatry*, Frontiers Media S.A., 9 Dec. 2014, www.ncbi.nlm.nih.gov/pmc/articles/PMC4260674/.
3. Mishra SK. Physicians' Attitudes About Prescribing and Knowledge of the Costs of Common Medications. *Archives of Internal Medicine*. 2001;161(10):1352-1353. doi:10.1001/archinte.161.10.1352.
4. Rosebush, Patricia I, and Michael F Mazurek. “Catatonia and its treatment.” *Schizophrenia bulletin* vol. 36,2 (2010): 239-42. doi:10.1093/schbul/sbp141