Impact of an ambulatory care pharmacist in psychiatric patient care

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St. Peter's Health

Background

An estimated 50% of Americans are diagnosed with a mental illness or disorder at some point in their lifetime.[1] U.S. adults living with a severe mental illness die on average 25 years earlier than others, largely due to treatable medical conditions.[1] Potential risk factors for such a high mortality include an acute psychotic state of the patient, comorbidities that unfortunately result from treatment using antipsychotics, antidepressants, and mood stabilizers, and the high rate of non-adherence to treatment plans.[2]

Outpatient psychiatric care presents challenges with increasingly complex medication regimens and uncontrolled chronic medical conditions. Pharmacists have potential for impactful roles with the mental health population in an ambulatory care setting because pharmacists are properly trained with the pharmacologic knowledge and unique skill sets ideal for patient education, medication review, and cost-therapy review.[3] Frequently, incorporated on an interdisciplinary team, clinical pharmacists assist with the management of treatment-resistant disease states, promote evidence-based prescribing, and largely focus on patient safety.

Different psychiatric pharmacy practice models are currently used throughout the country. At the Center for Community Health in LA, California, pharmacists may initiate, change, or discontinue medications, obtain laboratory results, obtain medication history, and provide medication education. The patients were referred by primary care physicians, social workers, and psychologists. The service existed as part of the psychiatric pharmacy residency training program, offering service without charge. Both patient and provider satisfaction were shown to be high regarding the psychiatric pharmacist services.[3] The Hennepin County Mental Health Center in Minneapolis, Minnesota established medication therapy management services to patients with severe mental illnesses, particularly those currently in crisis or at risk for loss of mental stability. Psychiatric and non-psychiatric medications were reviewed for efficacy, drug interactions, duplicate therapy, and therapeutic dosing. Treatment plans were developed and communicated with prescribers.[3] A 2007 study of medication management services in Minnesota reported savings achieved by such programs significantly outweighed the costs of implementing the program.[4]

In 2004, the American Diabetes Association and the American Psychiatric Association published recommendations for metabolic monitoring with patients on second-generation antipsychotics (SGAs) due to close association between second-generation antipsychotic medications and obesity, diabetes, dyslipidemia, and cardiovascular disease.[6] Despite these recommendations, studies have shown recommended baseline and follow-up monitoring are still low.[7,8] According to a 1 year retrospective observational study carried out by the University Malaya medical Centre, metabolic monitoring of 405 subjects newly stated on an atypical antipsychotic was optimized in less than 50% of patients as directed by the ADA/APA.[8] The suggested routine monitoring parameters can be seen below in Table 1.

Table 1: Metabolic Monitoring Parameters with SGAs[6]

	Baseline	4 Weeks	8 Weeks	12 Weeks	Quarterly	Annually	Every 5 Years
Personal/Family History	X					X	
Weight (BMI)	X	X	X	X	X		
Waist Circumference	X					X	
Blood Pressure	X			X		X	
Fasting Plasma Glucose or Hemoglobin A1c	X			X		X	
Fasting Lipid Profile	X			X			X

Purpose

- To evaluate the impact of an ambulatory care pharmacist with psychiatric patient care.

Objectives

- **Primary Objective**: Evaluate the adherence of metabolic monitoring parameters associated with second-generation antipsychotic medications.
- **Secondary Objectives**:
  1. Assess the impact of an ambulatory care pharmacist with optimizing medication therapy in psychiatric patient care.
  2. Evaluate the cardiovascular risk factors associated with atypical antipsychotic medications.
  3. Evaluate provider satisfaction related to psychiatric related medication interventions.

Inclusion Criteria:

- Patients ≥ 18 years old
- Patients diagnosed with a mental illness or disorder
- Patients who have at least 3 medications of which has at least 1 medication is classified as a(n):
  Antipsychotic/ Antidepressant/ Mood stabilizer/ Benzodiazepine
- Patients with a primary care provider within the St. Peter's Medical Group – Helena, MT

Exclusion Criteria:

- Patients diagnosed with a substance abuse disorder excluding those with a tobacco use disorder
- Patients diagnosed with a alcohol abuse disorder
- Patients managed by a primary care provider outside the St. Peter's Medical Group

Methods

Phase 1: Project Development → **Phase 2**: Retrospective Data → **Phase 3**: Project Implementation → **Phase 4:** Analyze Data

Phase 1: Project Development

- Research background
- Draft project proposal
- Prepare implementation tools and proposed workflow
- Gain appropriate access for data collection
- Set up referral process
- Achieve provider approval and educate providers

Phase 2: Retrospective Data

Retrospective data was taken from randomly selected psychiatric patients at St. Peter's Medical Group during the month of July 2018. Of the 88 patients randomly selected, 3 were removed due to age under 18, 10 were removed due to either alcohol use disorder or substance use disorder as described in the exclusion criteria (see left). Retrospective data was based on a sample size of 67 patients. The number of psychological medications included antidepressants, z-hypnotics, benzodiazepines, mood stabilizers, antipsychotics, and stimulants regardless of the reason for use. Smoking cessation data was extracted from the patient's chart based on the most up to date entry. Twenty-nine patients from the sample size were taking a second generation antipsychotic medications. Lipid panel and second generation antipsychotic metabolic monitoring adherence data was taken form the 29 patients stated prior. Several medication interventions were observed from the retrospective data. Medication interventions included use of poly-pharmacy, prescribing above maximum recommended dose, inappropriate use of low dose antipsychotics for insomnia.

Table 2: Demographics

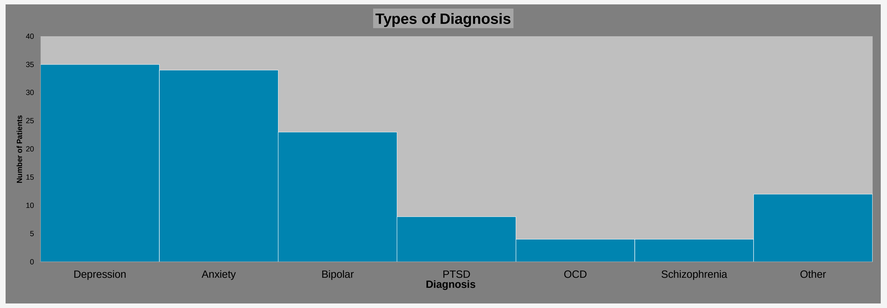
Female	53 (64%)
Male	24 (31%)
Average Age	47.4yrs (19-86)

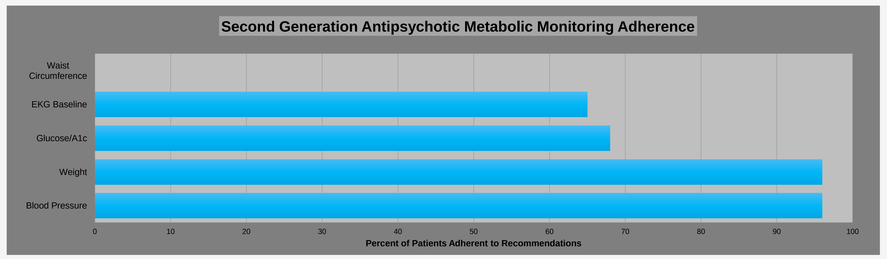
Table 3: Number of Psychiatric Medications per Patient

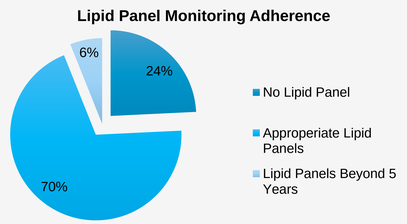
1-3 medications	31 patients (46.9%)
4-6 medications	31 patients (46.9%)
Greater than 7 medications	4 patients (6.06%)

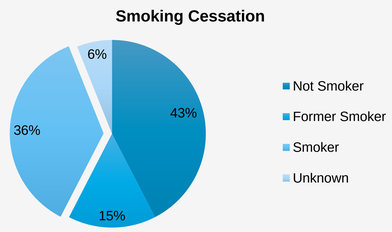
Table 4: Number of Antipsychotics per Patient

0 medications	35 patients (53%)
1 medications	36 patients (54%)
2 medications	5 patients (7%)









Medication Interventions

Table 5: Interventions in Care Found

Hypnotic Use Optimization
Adherence to Beers Criteria
Adverse Effects to Antipsychotics
Level Monitoring for Depakote and Lithium
ANC Monitoring with Clozapine
Benzodiazepine Use Optimization
Sleep Regimen Optimization
EKG Monitoring for Prolonged QTc
Reduction in the Use of Poly-Pharmacy
Lipid Intervention Follow-Through

Phase 3: Project Implementation

- Patients identified by their primary psychiatrist provider, behavioral health unit transitions of care providers, and care managers will be referred to a ambulatory care pharmacist.
- The pharmacist will contact the patient to schedule an appointment targeting time slots while the patient is already on St. Peter's Health Campus.
- Patient referred for an ambulatory care visit will be assessed for recommended metabolic monitoring while on a antipsychotic medication(s), interventions to reduce poly-pharmacy, and strategies to improve the patient's adherence to medication regimens.
- If warranted , follow-up appointments will occur for additional monitoring requirements based on the pharmacists' clinical decision or per patient's request.

Phase 4: Data Analysis

Any intervention made during the intervention phase of the study deemed as significant will be recorded and evaluated

Evaluation

Phase 1 and 2 of the project were spent on project development and completing the retrospective data. During project development, background research was completed to gain understanding on suggested metabolic monitoring while taking a second generation antipsychotic medication. Provider approval was also achieved and the referral process was started. In phase 2, retrospective data was collected and analyzed to develop a hypothesis for the greatest impact an ambulatory care pharmacist could have within the mental health patient population.

Discussion

During phase 3, the retrospective data will be used to guide the medication interventions including metabolic monitoring of patients on a second-generation antipsychotic. Initial findings from the retrospective data put enlightenment possible interventions such as reductions of poly-pharmacy, smoking cessation, benzodiazepine interventions, and lipid panel adherence. Other interventions are shown in table 5. An additional point of interest not found in the retrospective data will be patient education on both medications and disease states. The pharmacy hopes to fill in the gaps found in the retrospective data analysis. Data will be collected as the patient population is seen. Following phase 3 of the project, data analysis will be completed.

References and Disclosure

- Mental Health. (2018, January 26). *Center for Disease Control.* Retrieved from https://www.cdc.gov/mentalhealth/data_publications/index.htm
- Williams, T., & Purvis, T. L. (2012). Development of an outpatient pharmacist-managed clozapine clinic. *American Journal of Health-System Pharmacy*, 69(14), 1192-1195. doi:10.2146/ajhp110461
- Strand, L., (2012). Psychiatric Pharmacist Integration into the Medical Home Model: position statement. *Endorsed by: National Alliance on Mental Illness.* Available at: cpnp.org/about/position/medical-home-model
- Mckee, J. R., Lee, K. C., & Cobb, C. D. (2013). Psychiatric Pharmacist Integration Into the Medical Home. *The Primary Care Companion For CNS Disorders, 15(4).* doi:10.4088/pcc.13com01517bl
- Isetts, B. J., Schondelmeyer, S. W., Artz, M. B., Lenarz, L. A., Heaton, A. H., Wadd, W. B., et al Cipolle, R. J. (2008). Clinical and economic outcomes of medication therapy management services: The Minnesota experience. *Journal of the American Pharmacists Association, 48*(2), 203-214. doi:10.1331/japha.2008.07108
- American Diabetes Association, American Psychiatric Association, American Association of Clinical Endocrinologists, North American Association for the Study of Obesity. Consensus development conference on antipsychotic drugs and obesity and diabetes. *Diabetes Care*. 2004;27(2):596-601.
- Butler, P., Simonson, C., Goldie, C., Kennedy, A., Goldstone, L. (2013) Baseline metabolic monitoring of atypical antipsychotics in an inpatient setting, Mental Health Clinican: September 2013;3(3):122-128.
- Gill JS, Teong TJ, Gee LH, Wen TJ, Jawan R. Adherence to metabolic monitoring guidelines in atypical antipsychotic treated subjects: Do physicians comply? *Afr J Pharm Pharmacol.* 2012;6(1):13-6.

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Nothing to disclose: *Kellie Forrest, PharmD, Taylor Sandvick, PharmD BCPS, Pam Melton, PharmD, BCACP, CPP, Anne Daniels, PharmD, Brad Hornung, RPh, BCPS, Andrea Mow, D.O., Mark Mozer, M.D.*