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CLINICAL PHARMACY RESEARCH REPORT

Review and evaluation of the role of a psychiatric pharmacist on medication management in a gender health program

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Abstract

Introduction: People who identify as transgender experience a significant amount of mental health concerns compared to the general population. Gender health programs offer the opportunity to provide comprehensive care for this highly stigmatized population, with the potential for psychiatric pharmacists to assist other providers and serve this need. This study aimed to evaluate the number and type of interventions made by a psychiatric pharmacist within a gender health program.

Methods: A retrospective review of the electronic medical record was conducted analyzing mental health visits completed by psychiatric pharmacists within the Gender Health Program between May 1, 2020 and December 31, 2021. The primary outcome was number and type of interventions, defined as medication adjustments, laboratory monitoring, and completion of prior authorizations. Secondary outcomes included a description of medication regimens, number and type of patient education provided, and referrals to other healthcare professionals. Key subgroup analyses consisted of number of interventions based on gender identity, race identity, and insurance status.

Results: There were a total of 152 appointments among 93 patients. Sixty-one patients (66%) received at least one intervention [median (interquartile range, IQR) of 2 (2, 4)], which occurred across 81 pharmacist appointments (53%). Psychotropic medications were adjusted at 79 appointments (97%), with primarily medication initiations. Patient education was completed and documented at 102 appointments with a median (IQR) of 2 (1, 2) topics discussed per appointment. There was a statistically significant difference found between transmen and transwomen on number of interventions [31 (67%) vs 15 (45%), $P = 0.048$].

Conclusion: The pharmacist in this study had the opportunity to bridge gaps in access to care to healthcare providers by initiating and managing medications, providing thorough education, and referring patients to further resources. This study affirms the accessibility and role of a psychiatric pharmacist on the interdisciplinary team

caring for lesbian, gay, bisexual, transgender, queer or questioning, and more (LGBTQ+) patients.

KEYWORDS

mental health, pharmacists, psychiatry, transgender persons

1 | INTRODUCTION

The lesbian, gay, bisexual, transgender, queer or questioning, and more (LGBTQ+) population experiences a high degree of psychological distress due to numerous factors including discrimination, denial of civil and human rights, social isolation, and rejection.[1] This distress can quickly manifest as depression, anxiety, or other mental health concerns. The American Psychiatric Association found that individuals who identify as LGBTQ are more than twice as likely to have a mental health disorder in their lifetime compared to their cisgender heterosexual counterparts.[2] They were also found to be more likely to use mental health services. Many reports have found similar results, emphasizing a clear need for quality mental health services for the entire LGBTQ+ community.[2-5]

People who identify as transgender experience a significantly higher amount of mental health concerns compared to the general population. The 2015 United States (US) Transgender Survey found that 24% of respondents made plans to commit suicide in the year prior, compared to 1.1% of the general population.[6] Of these respondents, 7% attempted suicide in the past year, compared to only 0.6% of the US population, with 71% having attempted suicide more than once in their lifetime. Knowing this significant difference exists between groups begs the question: how is the US healthcare system measuring up to meet this need? To answer this, the US Transgender Survey asked respondents to share their experiences with healthcare providers. One-third of respondents who had seen a healthcare provider in the past year reported having at least one negative experience related to being transgender, such as verbal harassment, refusal of treatment, or having to teach the provider about transgender people to receive appropriate care. Twenty-three percent did not see a doctor when they needed to due to fear of being mistreated.[6] A 2018 survey by the Center for American Progress found additional disparities between the transgender and LGBQ populations.[7] Eight percent of LGBQ respondents were refused care because of their sexual orientation compared to 29% percent of transgender respondents who were denied care due to their gender identity. It is the duty of healthcare providers to provide inclusive, equitable care for all. Gender health programs offer the opportunity to provide comprehensive care for this highly stigmatized population. Many of these patients are seeking hormone therapy in addition to assistance with other medical and psychiatric needs. This opens the door for optimal medication management by pharmacists to assist other providers and serve this patient need.

Despite numerous sources highlighting the mental health disparities faced by the transgender community, there are still significant gaps in the literature. Currently, there is no evidence about the use of psychiatric medications in gender diverse people. Current literature describes the role a pharmacist may have in a gender health program, specifically with hormone therapy and management of medical comorbidities.[8] However, this study did not discuss mental healthcare, nor does it supply interventions data related to psychiatric medication management. To the best of our knowledge, this is the only study to provide intervention results for a psychiatric pharmacist in a gender health program. This study aimed to evaluate the role of a psychiatric pharmacist within a gender health program by delivering direct measurements of medication management.

2 | METHODS

2.1 | Practice setting

The Gender Health Program at this urban, safety net, academic medical center was started in March 2016 and provides primary and specialized care for transgender patients of all gender identities. To be enrolled in the program, patients must be 18 years of age or older, complete an initial intake assessment with a therapist, and have a diagnosis of gender dysphoria.

The interdisciplinary team is comprised of family medicine physicians, a psychiatrist, a family medicine nurse practitioner, nurses, therapists, care coordinators, victim advocates, and a psychiatric pharmacist, who joined the team in May of 2020. Referrals to the pharmacist can be made by any member of the interdisciplinary team. The pharmacist practices under a collaborative drug therapy management (CDTM) protocol focusing on management of psychiatric and neurologic disorders, which has since expanded to include gender-affirming hormone therapy and pre-exposure prophylaxis (PrEP) for human immunodeficiency virus (HIV). The pharmacist sees patients independently and provides mental health assessments and screenings; reviews psychiatric history; manages medications, including initiation, adjustments, and discontinuation; orders laboratory tests and monitors results; and makes referrals to other healthcare professionals. Referrals are made specifically to psychiatrists and psychiatry residents when the patient requires further diagnostic clarification or if the patient is acutely symptomatic (eg, psychosis, suicidal ideation with plan, etc.) Otherwise, the pharmacist manages psychiatric medications while the patient may continue to follow-up with other providers for other needs. The pharmacist will also see patients who are stable from a psychiatric standpoint and only require medication management. Patient visits are billable 30-min appointments and may

be completed in-person or via telehealth. The pharmacist will follow-up with the patient as needed, usually within 4 to 6 weeks.

2.2 | Study design

A retrospective review of the electronic medical record (EMR) was conducted analyzing mental health visits completed by psychiatric pharmacists within the Gender Health Program between May 1, 2020 and December 31, 2021. This study was deemed exempt by the local institutional review board. Patients were included if they had at least one documented visit with a pharmacist where mental health was assessed during the study time frame. Patients were excluded if they saw the pharmacist for non-psychiatric disease state management, such as pre-exposure prophylaxis or gender-affirming hormone therapy. If the patient was seen by the pharmacist more than once, data were collected from each appointment.

Each patient was assigned a unique study number. The progress notes completed by the pharmacist were assessed and data were collected by the corresponding author. Baseline demographics were collected from the first appointment with the pharmacist. The United States Department of Agriculture Economic Research Service was used for defining counties as rural vs urban based on the listed population size.[9] Distance from clinic was assessed using the patient's listed address in the EMR with the location of the program. Based on the two addresses, the distance between two points was measured utilizing Google Maps.[10]

Statistical tests were performed using Minitab 18 statistical software.[11] Parametric data were reported as mean (standard deviation [SD]) and non-parametric data were reported as median (interquartile rane [IQR]). Normality was tested using the Anderson-Darling test. The Chi-Square or Fisher's Exact tests were used to detect differences in nominal data. The significance level (alpha) was predetermined to be less than 0.05. An a priori power calculation was not performed as this was a convenience sample of all patients meeting inclusion criteria during the defined study period. Post-hoc subgroup analyses were performed during data analysis. The results of this study are presented in accordance with Enhancing the QUAlity and Transparency Of health Research (EQUATOR) and The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines.

2.3 | Study outcomes

The primary outcome of this study was number and type of interventions, defined as medication adjustments, laboratory monitoring, and completion of prior authorizations (PAs). Secondary outcomes included a description of the medication regimens being actively managed by the psychiatric pharmacist, number and type of patient education provided, and referrals to other healthcare professionals. Key subgroup analyses consisted of number of interventions based on gender identity, race identity, and insurance status.

3 | RESULTS

3.1 | Demographic and appointment details

A total of 106 patients had a visit with the psychiatric pharmacist during the study time frame. Thirteen patients were seen for pre-exposure prophylaxis or hormone adjustments and were excluded from analysis, leaving a total of 93 patients for analysis. Baseline demographics are listed in Table 1. Insurance status equates to >100% due to some people having more than one insurance type. Despite the median (IQR) distance from clinic being listed as 13 (6,43) miles, one patient's listed address was 492 miles away from the program. The majority of patients had depression and/or anxiety as documented mental health diagnoses (Table 2). Additionally, most patients were on gender-affirming hormone therapy at the first appointment with the pharmacist [n = 83 (89%)].

There were a total of 152 appointments among 93 patients. Most appointments were completed within the 30-min time frame [n = 142 (93%)] and the majority were completed via audio or visual visits [n = 134 (88%)]. Only 23 patients (25%) had seen a psychiatric provider at the facility within the 12 months prior to the first appointment with the psychiatric pharmacist.

3.2 | Primary outcome

Sixty-one patients (66%) received at least one intervention [median (IQR) of 2 (2, 4)], which occurred across 81 appointments (53%). The

TABLE 1 Baseline demographics (Total n = 93 patients)

Demographics		Results
Age, years, median (IQR)		25 (22,30)
Sex assigned at birth, n (%)	*Male*	36 (39%)
	Female	54 (58%)
	Unknown	3 (3%)
Gender identity, n (%)	*Male*	47 (51%)
	Female	33 (35%)
	Nonbinary	8 (9%)
	Agender	1 (1%)
	Unknown	4 (4%)
Race, n (%)	*White*	75 (81%)
	Black	11 (12%)
	Other	6 (6%)
Non-Hispanic/LatinX, n (%)		90 (97%)
Insurance, n (%)	*Commercial*	50 (54%)
	Medicaid	43 (46%)
	Medicare	3 (3%)
	None	1 (1%)
County of residence, n (%)	*Urban*	86 (92%)
	Rural	7 (8%)
Distance from clinic, miles, median (IQR)		13 (6,43)

maximum number of interventions for a patient during one appointment was seven. The pharmacist completed a PA for one patient and ordered laboratory monitoring for two patients. Psychotropic medications were adjusted at 79 of these 81 appointments (97%) and were primarily medication initiations with antidepressants, anxiolytics, and mood stabilizers (Figure 1). Thirty-one patients (33%) were not on any psychotropic medications prior to the first visit with the pharmacist, but 12 of these patients were started on a medication during the pharmacist appointment, all of which were antidepressants. Some examples of prevented adverse drug reactions included adding bupropion for sexual dysfunction and re-titration of lamotrigine following multiple days of missed doses.

3.3 | Secondary outcomes

During the study time frame, 74 patients (80%) were on a psychotropic medication [median (IQR) of 1 (1, 2)] managed by the psychiatric pharmacist, with most being antidepressants. Other frequent medication classes included anxiolytics (27%), antipsychotics (19%), mood stabilizers (14%), and stimulants (8%). Patient education was completed and documented at 102 appointments with a median (IQR) of 2 (1, 2) topics discussed per appointment, with up to four topics in some patients. The type of education provided is listed in Table 3. Fourteen patients had at least one referral made by the pharmacist, with a total of 29 referrals. A referral to psychiatry was made 17 times (74%) for further diagnostic clarification. Primary care, behavioral therapy, obstetrician-gynecologist, and outside facilities were referred to a lesser degree.

TABLE 2 Documented psychiatric and neurologic diagnoses per patient (Total n = 93 patients)

Psychiatric and neurologic diagnoses		Results
Total, per patient, median (IQR)		2 (2,3)
Diagnosis, n (%)	Depression	77 (83%)
	Anxiety	73 (78%)
	Attention-deficit/hyperactivity disorder	13 (14%)
	Bipolar disorder	6 (6%)
	Personality disorder	6 (6%)
	Schizophrenia	5 (5%)
	Post-traumatic stress disorder	5 (5%)
	Sleep disorders	5 (5%)
	Substance use disorder	4 (4%)
	Migraine	1 (1%)

3.4 | Subgroup analyses

The total number of interventions was assessed based on gender identity (transmen vs transwomen), race identity (White vs non-White), and insurance status (commercial vs Medicaid/Medicare). The number of interventions based on race identity and insurance status were not found to be statistically significant [44 (59%) vs 10 (59%), $P = 0.991$ and 30 (60%) vs 23 (55%), $P = 0.613$, respectively]. However, there was a statistically significant difference found between

TABLE 3 Number and type of documented patient education (Total n = 102 appointments)

Education type	Results, n (%)
Medication adverse drug reactions	61 (60%)
Medication administration techniques	42 (41%)
Time to medication response	28 (27%)
Medication options for symptom management	24 (24%)
Other healthcare resource needs	12 (12%)
Medication adherence	11 (11%)
Lifestyle modifications	6 (6%)
Medication accessibility	4 (4%)
Social determinants of health	1 (1%)

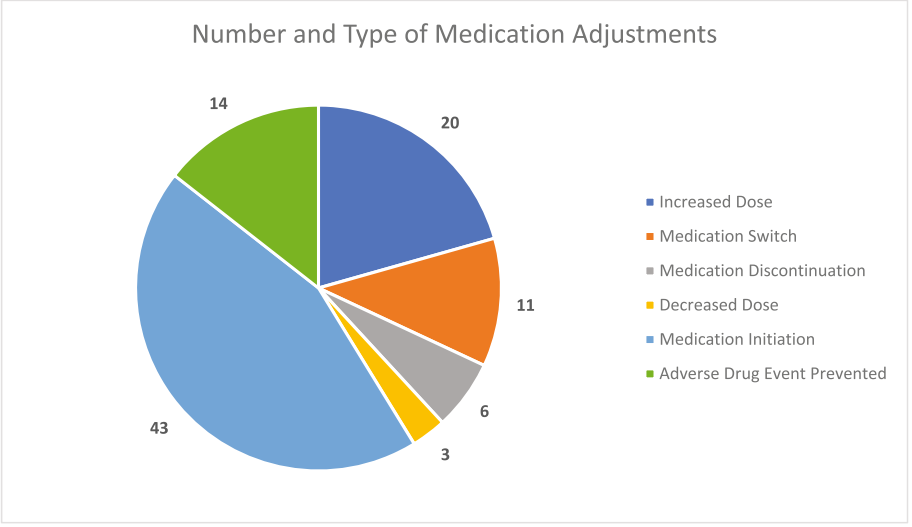

FIGURE 1 Number and type of medication adjustments

transmen and transwomen on number of interventions [31 (67%) vs 15 (45%), $P = 0.048$].

3.5 | Post-Hoc billing analysis

A sample of the pharmacist's visits were audited from the fourth quarter of 2021. These data demonstrated that >80% of visits were billed at Level One charges (Current Procedural Terminology Code 99211) and allowed the pharmacist to bill as an independent provider. Additionally, some visits were non-billable and were a combination of shared, in-person and telehealth visits, which were excluded from the post-hoc analysis.

4 | DISCUSSION

To our knowledge, this is the first study to provide intervention measures highlighting the benefit of adding a pharmacist to a gender health program. Current literature focuses on assessing pharmacist and patient perceptions, emphasizing the need for education within the pharmacy curriculum, or strictly describing the pharmacist's role.[8] Despite knowledge of the mental health disparities that transgender people face, no study assesses the potential benefit of adding a psychiatric pharmacist to the interdisciplinary team. This benefit has been previously described in various practice settings and with different patient populations, excluding the transgender population.[12]

The positive effect on medication management evident by this retrospective, observational study affirms the role of a psychiatric pharmacist on the interdisciplinary team. The pharmacist made numerous interventions during the study period, with an emphasis on depression and anxiety medication management, which is unsurprising given the previously described psychological distress experienced by this population.[6] With a vast majority of patients having depression and anxiety diagnoses, most medication adjustments were with antidepressants. Medication initiation occurred most frequently, which allows the patient to trial a medication prior to the provider visit. Thus, giving the provider more time to focus on non-medication related issues. Moreover, the psychiatric pharmacist is the most well-suited to assist with medication management given the extensive education and training, usually including two additional years of residency training following graduation from pharmacy school.

Currently, with the national psychiatrist shortage, it may take three months before a patient in the program can be seen by a psychiatrist and 8 weeks to be seen by a family medicine provider.[13] While data specific to time to available pharmacist appointment were not collected, these visits generally occurred within 3 weeks of referral. Additionally, most patients in this study (75%) had not seen a psychiatrist at the institution in the year prior; this pharmacist visit may have been their first encounter with a psychiatric provider in some time. With a more flexible schedule, shorter appointment durations, and potential for telehealth, the pharmacist may be more readily accessible to complete assessments, begin medication therapy, titrate doses, manage side effects, and/or follow-up with the patient prior to the first appointment with a provider. The addition of a pharmacist to the team allows for decreased time to first provider visit. Furthermore, the addition of a psychiatric pharmacist may also be sustainable and revenue generating for the institution. The numerous visit options conducted by the pharmacist in the fourth quarter of 2021 increases the overall flexibility of this sustainable billing model, allowing providers to bill at a higher level than they would have without the pharmacist's contributions. A more detailed pharmacoeconomic analysis of the pharmacist-billing model in this clinic could be an important area for future research; however, this was outside of the scope of the current study.

Although medication adjustments were the most common intervention, laboratory monitoring, completion of PAs, and referrals to other providers did not occur as frequently. The Gender Health Program is located within a large, safety-net health-system with the main payer source normally being Medicaid/Medicare. Interestingly, commercial insurance was primarily used by the individuals in this study (54%). With commercial insurance, we would expect to see more PAs to be completed by the pharmacist, as this state's programs do not currently have PAs relative to mental health drug or dosage form by statue. This discrepancy is likely due to the implementation of a dedicated medication access team who assists with a majority of the facility's PAs. Laboratory monitoring was likely not ordered frequently due to patients obtaining baseline labs at the initial intake appointment. Lastly, when members of the interdisciplinary team refer patients to the pharmacist, they also refer them to primary care and/or psychiatry providers to ensure continuity of care following the appointment with the pharmacist.

A key limitation of this study is its retrospective nature. Events that occurred during the appointment, but were not documented, could not be included in the review. This analysis, therefore, is likely an underestimate of interventions completed by the pharmacist. The study duration begins at the time the pharmacist first joined the program team, during a scheduled leave, and throughout the coronavirus disease 19 (COVID-19) pandemic, which all had an impact on the number of patients the pharmacist could have seen. The pharmacist's patient load has since increased, thus not capturing the entire reach. Despite these limitations, this study fills numerous gaps in literature involving the transgender population by providing insight on the positive role of a psychiatric pharmacist in the mental healthcare and psychiatric medication management for these patients.

Furthermore, the subgroup analysis found a statistically significant difference in the number of interventions based on gender identity, but not with racial identity or insurance status. Transgender males were more likely to have an intervention occur compared to transgender females in this study. As mentioned previously, there is currently no literature assessing the use or effects of psychotropic medications on gender diverse people. This study did not analyze this further as this was not the primary outcome. However, given the statistical significance, it may warrant further investigation.

This study provides additional insights into the mental healthcare of transgender people, but also leaves further unanswered questions. Future directions include assessing patient satisfaction with pharmacist vs provider appointments, analyzing potential mental health changes and differences in interventions based on hormone therapy,

conducting an in-depth pharmacoeconomic analysis of pharmacist-billing in this setting, and completing a further analysis of the differences in interventions based on the gender identity (eg, seeing which medications were involved, determining the specific intervention differences, and assessing potential follow-up differences).

5 | CONCLUSION

Psychiatric pharmacists have the potential to provide comprehensive mental healthcare for the transgender community. The pharmacist in this study had the opportunity to bridge gaps in access to care to healthcare providers by initiating and managing medications, providing thorough education, and referring patients to further resources. These results affirm the accessibility and role of the pharmacist on the interdisciplinary team caring for LGBTQ+ patients. The hope is that this study can be utilized as a road map for further implementation of mental healthcare in other healthcare settings, health-systems, and gender health programs.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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